

The Top Five Chemicals by Acres Treated in each County in 2023

[Text files](#) of data are available. The ranking of chemicals is determined by total cumulative acres treated. 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 (especially when ranked by acres treated where most nonagricultural uses are not required to be reported). For more information, see [Pesticide Use Annual Report Data Access](#), [References](#), and [Definitions](#) [Guide](#).

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Alameda	Sulfur	1	25,407	613	6,752
Alameda	Abamectin	2	78	28	4,857
Alameda	Glyphosate, isopropylamine salt	3	28,008	320	4,630
Alameda	Ammonium sulfate	4	1,499	121	3,392
Alameda	Glufosinate-ammonium	5	4,219	265	3,222
Alpine	Glyphosate, isopropylamine salt	1	101	0	10
Amador	Sulfur	1	61,536	769	9,157
Amador	Mineral oil	2	9,365	318	3,976
Amador	Tebuconazole	3	213	230	2,244
Amador	Glyphosate, dimethylamine salt	4	5,155	69	1,493
Amador	Ammonium sulfate	5	695	171	1,350
Butte	Mineral oil	1	269,415	2,058	140,199
Butte	Propanil	2	581,359	1,655	139,054
Butte	Ammonium sulfate	3	25,360	2,290	106,920
Butte	Azoxystrobin	4	20,520	1,267	103,691
Butte	Triclopyr, triethylamine salt	5	18,455	876	74,867
Calaveras	Sulfur	1	10,087	225	2,347
Calaveras	Glyphosate, dimethylamine salt	2	9,151	128	2,267

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Calaveras	Citric acid	3	110	207	1,756
Calaveras	Phosphoric acid	4	212	217	1,679
Calaveras	Tebuconazole	5	100	89	957
Colusa	Phosphoric acid	1	6,636	2,100	144,745
Colusa	Azoxystrobin	2	24,399	1,911	138,326
Colusa	Ammonium sulfate	3	39,721	2,125	135,262
Colusa	Propanil	4	582,465	1,589	120,233
Colusa	Citric acid	5	3,293	1,940	118,460
Contra costa	Isopropyl alcohol	1	429	809	21,683
Contra costa	Citric acid	2	2,131	697	16,387
Contra costa	Sulfur	3	209,519	592	12,403
Contra costa	Calcium chloride	4	626	511	11,921
Contra costa	Lambda-cyhalothrin	5	926	403	10,965
Del norte	Copper hydroxide	1	6,961	446	3,918
Del norte	Chlorothalonil	2	1,626	245	1,911
Del norte	Imazapyr, isopropylamine salt	3	944	98	1,765
Del norte	Iprodione	4	262	94	854
Del norte	Triclopyr, butoxyethyl ester	5	1,118	41	593
El dorado	Glyphosate, dimethylamine salt	1	46,450	576	13,728
El dorado	Potassium bicarbonate	2	532	396	9,197
El dorado	Alkyl (c10-16) dimethyl amine oxide	3	2,695	390	9,171
El dorado	Imazapyr, isopropylamine salt	4	4,718	358	9,042
El dorado	Clopyralid, monoethanolamine salt	5	2,170	179	7,224
Fresno	Sulfur	1	7,384,506	18,394	845,378
Fresno	Mineral oil	2	5,148,348	19,846	771,538
Fresno	Lambda-cyhalothrin	3	23,593	7,768	573,601
Fresno	Chlorantraniliprole	4	36,305	7,555	468,825

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Fresno	Methoxyfenozide	5	144,087	6,763	440,692
Glenn	Azoxystrobin	1	20,424	1,611	107,844
Glenn	Propanil	2	428,482	1,466	90,743
Glenn	Ammonium sulfate	3	31,853	2,305	88,041
Glenn	Chlorantraniliprole	4	4,968	1,202	75,885
Glenn	Triclopyr, triethylamine salt	5	14,178	1,070	66,281
Humboldt	Imazapyr, isopropylamine salt	1	3,547	346	7,067
Humboldt	Triclopyr, butoxyethyl ester	2	3,100	123	2,454
Humboldt	Glyphosate, dimethylamine salt	3	1,672	66	1,551
Humboldt	Clopyralid, monoethanolamine salt	4	232	72	1,416
Humboldt	Sulfometuron-methyl	5	68	53	1,061
Imperial	Mineral oil	1	574,368	5,223	285,138
Imperial	Lambda-cyhalothrin	2	7,015	4,731	246,324
Imperial	Pendimethalin	3	357,468	2,981	192,752
Imperial	Clethodim	4	28,743	2,396	130,682
Imperial	Flupyradifurone	5	13,319	2,051	109,853
Inyo	Hexazinone	1	155	11	412
Inyo	Diuron	2	148	10	292
Inyo	Trinexapac-ethyl	3	19	0	271
Inyo	Glyphosate, isopropylamine salt	4	1,560	4	265
Inyo	Ammonium sulfate	5	33	4	265
Kern	Sulfur	1	5,027,044	13,444	777,657
Kern	Mineral oil	2	5,513,761	12,375	704,678
Kern	Glyphosate, potassium salt	3	952,342	9,723	485,332
Kern	Ammonium sulfate	4	269,860	6,967	357,263
Kern	Chlorantraniliprole	5	25,395	3,607	311,800
Kings	Propionic acid	1	24,077	1,799	325,967

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Kings	Glyphosate, potassium salt	2	372,408	2,889	204,141
Kings	Citric acid	3	9,407	2,805	202,055
Kings	Pyraflufen-ethyl	4	532	2,007	182,387
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	Myclobutanil	3	665	184	5,852
Lake	Streptomycin sulfate	4	764	217	5,661
Lake	Cyflufenamid	5	161	149	5,659
Lassen	Imazethapyr, ammonium salt	1	1,112	110	11,197
Lassen	Metribuzin	2	6,164	127	11,042
Lassen	Ammonium sulfate	3	931	112	9,487
Lassen	Citric acid	4	54	90	9,338
Lassen	Phosphoric acid	5	217	78	7,965
Los angeles	Fluazifop-p-butyl	1	2,092	19	107,809
Los angeles	Sulfur	2	19,177	178	8,931
Los angeles	Imidacloprid	3	10,529	465	5,805
Los angeles	Mefenoxam	4	1,613	141	5,619
Los angeles	Pendimethalin	5	4,080	216	3,499
Madera	Sulfur	1	2,710,518	5,202	319,907
Madera	Mineral oil	2	966,294	4,068	212,501
Madera	Glufosinate-ammonium	3	186,344	4,875	211,057
Madera	Methoxyfenozide	4	60,148	2,825	181,740
Madera	Glyphosate, isopropylamine salt	5	274,785	3,517	170,559
Marin	Aminopyralid, triisopropanolamine salt	1	224	22	1,037
Marin	Sulfur	2	2,810	58	508
Marin	Mineral oil	3	5,218	43	295

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Marin	Clopyralid, monoethanolamine salt	4	112	3	240
Marin	Diquat dibromide	5	1,427	8	177
Mariposa	Copper ethanolamine complexes, mixed	1	327	0	129
Mariposa	Triclopyr, triethylamine salt	2	349	21	78
Mariposa	Mineral oil	3	67	14	71
Mariposa	Glyphosate, isopropylamine salt	4	1,532	40	68
Mariposa	Glyphosate, potassium salt	5	38	3	38
Mendocino	Sulfur	1	407,507	1,857	54,290
Mendocino	Mineral oil	2	236,103	731	21,743
Mendocino	Copper hydroxide	3	2,828	176	6,703
Mendocino	Copper oxychloride	4	5,284	182	6,344
Mendocino	Cyprodinil	5	945	186	5,785
Merced	Mineral oil	1	826,913	4,005	216,707
Merced	Citric acid	2	15,476	4,457	211,700
Merced	Glyphosate, potassium salt	3	365,591	4,508	203,845
Merced	Ammonium sulfate	4	49,168	4,065	181,816
Merced	Abamectin	5	2,782	2,925	165,484
Modoc	Lambda-cyhalothrin	1	437	242	16,140
Modoc	Metribuzin	2	8,646	225	15,620
Modoc	Citric acid	3	237	186	14,093
Modoc	Ammonium sulfate	4	1,241	144	10,927
Modoc	2,4-d, dimethylamine salt	5	6,502	88	7,130
Mono	Diuron	1	825	11	655
Mono	Hexazinone	2	294	10	553
Mono	Lambda-cyhalothrin	3	6	5	327
Mono	Clethodim	4	52	7	299
Mono	2,4-db, dimethylamine salt	5	173	4	294

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Monterey	Spirotetramat	1	20,881	22,058	254,407
Monterey	Lambda-cyhalothrin	2	8,059	26,012	253,480
Monterey	Mineral oil	3	1,245,031	10,349	231,273
Monterey	Spinetoram	4	11,747	22,254	208,646
Monterey	Sulfur	5	844,076	9,090	204,660
Napa	Sulfur	1	868,348	8,547	152,417
Napa	Mineral oil	2	218,075	2,572	38,075
Napa	Lavandulyl senecioate	3	1,568	1,319	24,887
Napa	Quinoxifen	4	1,917	1,239	20,008
Napa	Cyflufenamid	5	484	1,152	17,496
Nevada	Sulfur	1	25,134	112	1,380
Nevada	Aminopyralid, triisopropanolamine salt	2	64	1	470
Nevada	Chlorsulfuron	3	1	0	469
Nevada	Polybutene	4	9	2	376
Nevada	Trinexapac-ethyl	5	38	6	315
Orange	Propiconazole	1	954	24	104,486
Orange	Chlorothalonil	2	12,412	53	67,447
Orange	Trinexapac-ethyl	3	805	0	3,440
Orange	Glyphosate, isopropylamine salt	4	43,696	568	1,255
Orange	Mineral oil	5	61,444	94	1,094
Placer	Mineral oil	1	37,952	274	14,152
Placer	Propanil	2	42,290	165	9,458
Placer	Ammonium sulfate	3	3,316	182	7,912
Placer	Lambda-cyhalothrin	4	316	101	5,401
Placer	Glyphosate, potassium salt	5	14,833	150	4,960
Plumas	Imazapyr, isopropylamine salt	1	7,486	174	16,771
Plumas	Glyphosate, dimethylamine salt	2	43,337	215	16,299

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Plumas	Potassium bicarbonate	3	575	153	13,590
Plumas	Alkyl (c10-16) dimethyl amine oxide	4	3,450	153	13,590
Plumas	Hexazinone	5	13,833	107	12,363
Riverside	Citric acid	1	1,115	3,383	88,525
Riverside	Glyphosate, potassium salt	2	141,819	2,853	73,165
Riverside	Urea dihydrogen sulfate	3	2,522	1,971	68,301
Riverside	Sulfur	4	330,267	2,430	66,331
Riverside	Mineral oil	5	293,928	2,470	59,359
Sacramento	Sulfur	1	3,275,206	4,086	252,152
Sacramento	Mineral oil	2	682,917	3,652	78,228
Sacramento	Ammonium sulfate	3	16,571	1,319	40,547
Sacramento	Glufosinate-ammonium	4	35,404	1,335	37,933
Sacramento	Abamectin	5	668	790	36,693
San benito	Propylene glycol	1	1,338	1,352	20,795
San benito	Mineral oil	2	69,599	1,550	18,036
San benito	Lambda-cyhalothrin	3	459	1,417	14,813
San benito	Imidacloprid	4	2,162	1,726	14,542
San benito	Phosphoric acid	5	336	2,020	12,743
San bernardino	Glyphosate, isopropylamine salt	1	67,507	447	5,705
San bernardino	Glyphosate, potassium salt	2	17,116	288	4,130
San bernardino	Mineral oil	3	24,513	305	2,886
San bernardino	Strychnine	4	33	260	2,534
San bernardino	Rimsulfuron	5	81	40	1,366
San diego	Glyphosate, isopropylamine salt	1	78,422	4,710	20,618
San diego	Mineral oil	2	226,592	2,806	17,785
San diego	Glyphosate, potassium salt	3	22,150	1,565	10,513
San diego	Abamectin	4	244	2,569	10,200

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
San diego	Propionic acid	5	1,692	4,479	9,036
San francisco	Trinexapac-ethyl	1	132	0	1,465
San francisco	Chlorothalonil	2	3,153	0	507
San francisco	Propiconazole	3	225	0	457
San francisco	Paclobutrazol	4	93	0	418
San francisco	Ethephon	5	1,043	0	310
San joaquin	Sulfur	1	5,853,018	11,389	475,807
San joaquin	Abamectin	2	4,275	5,416	230,135
San joaquin	Glyphosate, isopropylamine salt	3	440,013	6,301	198,136
San joaquin	Citric acid	4	18,097	6,207	183,168
San joaquin	Mineral oil	5	646,324	5,227	173,890
San luis obispo	Sulfur	1	596,431	3,736	144,502
San luis obispo	Propylene glycol	2	3,507	2,365	61,547
San luis obispo	Mineral oil	3	336,935	2,247	61,029
San luis obispo	Citric acid	4	4,452	1,989	39,059
San luis obispo	Ammonium sulfate	5	14,855	1,910	37,124
San mateo	Lambda-cyhalothrin	1	83	84	936
San mateo	Spinetoram	2	50	81	916
San mateo	Spirotetramat	3	51	68	638
San mateo	Emamectin benzoate	4	9	53	635
San mateo	Imidacloprid	5	1,756	69	585
Santa barbara	Sulfur	1	912,956	4,154	168,250
Santa barbara	Propylene glycol	2	7,926	5,193	105,432
Santa barbara	Citric acid	3	8,146	2,952	69,152
Santa barbara	Mineral oil	4	308,358	3,532	68,299
Santa barbara	Captan	5	113,917	1,793	64,171
Santa clara	Paclobutrazol	1	396	1,300	63,637

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Santa clara	Daminozide	2	531	710	31,681
Santa clara	Propylene glycol	3	951	1,286	18,848
Santa clara	Spirotetramat	4	587	809	15,298
Santa clara	Lambda-cyhalothrin	5	764	1,151	13,418
Santa cruz	Spinetoram	1	668	706	9,140
Santa cruz	Bacillus thuringiensis subsp. kurstaki strain: abts-351	2	5,277	903	8,331
Santa cruz	Azadirachtin	3	253	1,268	7,766
Santa cruz	Lambda-cyhalothrin	4	293	717	6,643
Santa cruz	Pyraclostrobin	5	1,148	602	6,548
Shasta	Glyphosate, dimethylamine salt	1	36,197	561	14,144
Shasta	Imazapyr, isopropylamine salt	2	2,972	249	5,945
Shasta	2,4-d, dimethylamine salt	3	4,904	147	5,461
Shasta	Oxyfluorfen	4	4,331	165	3,890
Shasta	Glyphosate, isopropylamine salt	5	16,447	133	3,367
Sierra	Glyphosate, isopropylamine salt	1	2,103	2	247
Sierra	Zeta-cypermethrin	2	5	2	195
Sierra	Imazethapyr, ammonium salt	3	17	2	170
Sierra	Chlorsulfuron	4	16	0	150
Sierra	Aminopyralid, triisopropanolamine salt	5	18	0	150
Siskiyou	Lambda-cyhalothrin	1	426	189	13,364
Siskiyou	Metribuzin	2	6,124	204	12,293
Siskiyou	Citric acid	3	292	205	11,018
Siskiyou	Ammonium sulfate	4	2,051	126	8,120
Siskiyou	Sulfur	5	23,373	199	7,868
Solano	Sulfur	1	593,635	1,356	44,524
Solano	Glyphosate, potassium salt	2	83,230	1,086	43,216
Solano	Ammonium sulfate	3	13,313	899	41,298

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Solano	Lambda-cyhalothrin	4	1,407	860	41,175
Solano	Bifenthrin	5	5,114	739	37,083
Sonoma	Sulfur	1	1,534,767	11,956	243,521
Sonoma	Mineral oil	2	372,334	3,860	69,831
Sonoma	Cyprodinil	3	10,081	2,036	39,686
Sonoma	Fluopyram	4	3,773	1,563	35,786
Sonoma	Quinoxifen	5	3,273	1,701	34,040
Stanislaus	Mineral oil	1	1,143,710	3,598	188,603
Stanislaus	Oxyfluorfen	2	57,635	5,055	186,809
Stanislaus	Glyphosate, isopropylamine salt	3	372,369	4,952	178,741
Stanislaus	Abamectin	4	3,322	3,337	175,649
Stanislaus	Methoxyfenozide	5	49,871	3,335	164,932
Sutter	Mineral oil	1	333,995	1,974	110,438
Sutter	Propanil	2	490,726	1,171	108,685
Sutter	Ammonium sulfate	3	53,010	2,275	108,639
Sutter	Lambda-cyhalothrin	4	2,891	1,501	81,006
Sutter	Azoxystrobin	5	12,031	1,038	65,012
Tehama	Ammonium sulfate	1	10,329	2,618	38,474
Tehama	Glyphosate, isopropylamine salt	2	71,850	1,567	33,186
Tehama	Chlorantraniliprole	3	2,132	548	31,924
Tehama	Oxyfluorfen	4	8,639	1,303	31,436
Tehama	Copper hydroxide	5	124,468	919	30,581
Trinity	Glyphosate, dimethylamine salt	1	6,260	101	4,222
Trinity	Imazapyr, isopropylamine salt	2	1,788	58	3,157
Trinity	Glyphosate, isopropylamine salt	3	2,775	21	1,203
Trinity	Indaziflam	4	92	23	1,101
Trinity	Clopyralid, monoethanolamine salt	5	872	27	1,054

County	Chemical	Rank	Pounds Applied	Apps	Acres Treated
Tulare	Mineral oil	1	5,742,977	28,360	596,185
Tulare	Sulfur	2	1,895,104	8,694	340,718
Tulare	Glyphosate, isopropylamine salt	3	463,779	9,204	255,058
Tulare	Glufosinate-ammonium	4	215,569	9,932	251,542
Tulare	Glyphosate, potassium salt	5	335,982	7,152	188,752
Tuolumne	Glyphosate, isopropylamine salt	1	11,419	102	2,253
Tuolumne	Glyphosate, dimethylamine salt	2	8,203	91	1,862
Tuolumne	Imazapyr, isopropylamine salt	3	552	51	1,003
Tuolumne	Strychnine	4	2	8	883
Tuolumne	Phosphoric acid	5	19	23	607
Ventura	Mineral oil	1	1,101,108	6,049	117,801
Ventura	Captan	2	148,583	1,930	88,400
Ventura	Captan, other related	3	2,278	1,301	59,677
Ventura	Propionic acid	4	7,455	1,527	48,734
Ventura	Abamectin	5	886	2,608	46,689
Yolo	Sulfur	1	1,752,152	3,074	135,308
Yolo	Ammonium sulfate	2	33,622	2,278	106,144
Yolo	Citric acid	3	6,375	1,573	82,881
Yolo	Glyphosate, isopropylamine salt	4	145,372	1,704	80,147
Yolo	Phosphoric acid	5	3,396	1,285	72,185
Yuba	Mineral oil	1	137,121	985	38,507
Yuba	Propanil	2	160,495	547	36,096
Yuba	Lambda-cyhalothrin	3	1,256	745	33,918
Yuba	Glyphosate, potassium salt	4	41,929	677	22,506
Yuba	Halosulfuron-methyl	5	1,051	350	21,424