United States Department of Agriculture

National Agricultural Statistics Service

Agricultural Chemical Usage
2001 Restricted Use Summary

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2001 Agricultural Chemical Use Estimates for Restricted Use Pesticides

Overview: As determined by the U.S. Environmental Protection Agency (EPA), a restricted use pesticide is a pesticide which is available for purchase and use only by certified pesticide applicators or persons under their direct supervision, and only for the uses covered by the applicator's certification. This group of pesticides is not available for use by the general public because of the very high toxicities or due to the environmental hazards associated with the materials. However, an active ingredient may be restricted for one crop but not for another. This report shows only those active ingredients which are restricted for each specific crop, based on the "Restricted Use Product (RUP) Report, July 2001" published by the EPA.

The agricultural chemical use estimates in this report are based on data compiled from the 2001 Agricultural Resource Management Survey, the Fruits Chemical Use Survey, the Dairy Cattle and Dairy Facilities Chemical Use Study, and the 2000 Nursery and Floriculture Chemical Use Survey. All targeted field and vegetable crop data refer to on-farm use of restricted use pesticides for the 2001 crop year. Data were collected late in the growing season or after the farm operator had indicated that planned applications were completed.

"Dairy Cattle and Dairy Facilities" restricted use pesticide data were collected in late 2001 through January 2002 and refer to the on-farm use of insecticides applied during the 2001 calendar year. Data for the 2000 Nursery and Floriculture includes pesticide use in calendar year 2000 related to the production of nursery and floriculture crops in six major producing states: California, Florida, Michigan, Oregon, Pennsylvania, and Texas. Trained enumerators personally interviewed farm operators or managers to obtain information on chemical applications made on sampled farm operations.

Highlights

Field Crops: Field crop data on restricted use pesticides were compiled from the Agricultural Resource Management Study (ARMS) in 19 Program States. Targeted crops in the 2001 ARMS included corn, fall potatoes, upland cotton, and soybeans. The Program States accounted for 71 to 93 percent of the U.S. acreage for these crops.

Atrazine was again the most widely used restricted use herbicide applied to program field crops, with 75 percent of the corn acres treated. Acetochlor was used on 26 percent of the corn acres. EPTC was applied on 20 percent of the fall potato planted acreage.

A wide range of restricted use insecticides was reported, particularly on upland cotton, which had 15 different active ingredients applied. Aldicarb, with 20 percent of the acres treated, was the primary restricted use insecticide used on upland cotton. Cyfluthrin, Esfenvalerate, and Phorate were the three primary active ingredients reported in the restricted insecticides class for fall potatoes.

Chlorothalonil was the only restricted use fungicide applied to any program field crop, with 61 percent of the fall potato acres reported as being treated. Paraquat, used as a defoliant, was used on 16 percent of the upland cotton acreage. Soybean acres in the selected Program States reported the least amount of restricted pesticides used for field crops, with 2 percent or less of the acres treated.

Fruit Crops: Growers in eight Program States were surveyed to obtain chemical use data on 28 selected fruit crops in 2001. The data on restricted use applications cover the period immediately following harvest of the 2000 crop through harvest of the 2001 crop.

A limited number of restricted use herbicides was applied to fruit crops in 2001. Paraquat was applied to nearly every targeted crop, in percentages ranging from 2 percent of the grapefruit and prune acreage to 65 percent of the raspberry acreage. Several restricted use insecticides were used extensively on fruit crops in the Program States. Azinphos-methyl was applied to 88 percent of the tart cherry acreage and to 72 percent of the apple acreage. Abamectin was used on 60 percent of the pears acreage. Other restricted use insecticides applied to more than 30 percent of planted acres were Azinphos-methyl on blueberries, sweet cherries and pears; Chlorpyrifos on apples; Ethion on grapefruit and tangelos; Esfenvalerate on apricots, nectarines and peaches; Bifenthrin and Diazinon on raspberries; and Abamectin on tangelos, and temples.

Chlorothalonil continues to be the most commonly used restricted use fungicide and was applied to 96 percent of the tart cherry acres. Other restricted use pesticides applied included Diphacinone, Strychnine, and Zinc phosphide.

Dairy Cattle and Dairy Cattle Facilities: The 2001 Dairy Cattle and Dairy Cattle Facilities Chemical Use Study collected information concerning chemicals applied to dairy cattle and dairy cattle facilities to control flies, mange, mites, lice, grubs, and other external pests. All data refer to the on-farm use of chemical active ingredients contained in insecticides. These were applied on dairy cattle and dairy facilities in the 21 Program States during the 2001 calendar year. The two major restricted active ingredients reported were Permethrin and Cyfluthrin.

Nursery and Floriculture: A wide variety of restricted use active ingredients were reported for all nursery and floriculture. Methyl bromide and Chloropicrin were the major restricted use active ingredients with rates of 228.76 and 96.41 pounds respectively, per acre reported in the selected Program States.

Corn: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Acetamide	3	1.0	0.43	0.43	893
Acetic acid	2	1.0	0.41	0.42	482
Acetochlor	26	1.0	1.69	1.71	31,941
Alachlor	2	1.0	1.81	1.82	3,145
Atrazine	75	1.1	1.07	1.18	62,262
Cyanazine	*	1.0	0.93	0.93	549
EPTC	1	1.0	3.56	3.56	3,157
Paraquat	2	1.0	0.47	0.47	511
Insecticides:					
Carbofuran	*	1.0	0.83	0.83	476
Chlorpyrifos	4	1.1	1.04	1.22	3,663
Cyfluthrin	4	1.0	0.01	0.01	16
Esfenvalerate	*	1.0	0.02	0.02	1
Fipronal	3	1.0	0.11	0.11	259
Lambda-cyhalothrin	2	1.0	0.02	0.02	23
Methyl parathion	1	1.3	0.40	0.53	386
Permethrin	3	1.0	0.10	0.11	236
Phorate	*	1.0	0.87	0.87	73
Tefluthrin	6	1.0	0.12	0.12	466
Terbufos	3	1.0	1.02	1.02	2,491

* Area applied is less than one percent.

[1] Planted acres in 2001 for the 19 program states were 70.7 million acres. States included are CO, GA, IL, IN, IA, KS, KY, MI, MN, MO, NE, NY, NC, ND, OH, PA, SD, TX, and WI.

Cotton, Upland: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Cyanazine	5	1.1	0.76	0.85	533
Insecticides:					
Aldicarb	20	1.0	0.57	0.59	1,520
Bifenthrin	1	1.0	0.03	0.03	4
Carbofuran	3	1.2	0.22	0.27	116
Chlorpyrifos	1	1.0	0.64	0.64	108
Cyfluthrin	11	1.5	0.03	0.04	61
Cypermethrin	3	1.2	0.06	0.07	31
Dicrotophos	11	1.7	0.30	0.52	715
Esfenvalerate	*	1.4	0.03	0.04	3
Lambda-cyhalothrin	7	1.4	0.02	0.03	29
Methyl parathion	3	1.4	0.40	0.58	234
Oxamyl	4	1.9	0.36	0.70	326
Permethrin	*	1.1	0.05	0.05	6
Phorate	2	1.0	0.73	0.77	221
Tralomethrin	2	1.3	0.02	0.02	4
Ethyl Parathion					
Methyl bromide	16	1.0	0.23	0.25	494

* Area applied is less than one percent.

[1] Planted acres in 2001 for the 7 program states were 12.7 million acres. States included are AR, CA, GA, LA, MS, NC, and TX.

Potatoes, Fall: Agricultural Chemical Applications,
Restricted Use Pesticides
States Surveyed, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
EPTC	20	1.0	3.52	3.60	663
Insecticides:					
Aldicarb	9	1.0	2.93	2.93	244
Azinphos-methyl	1	1.3	0.66	0.91	8
Carbofuran	13	1.1	1.85	2.11	245
Cyfluthrin	22	2.0	0.03	0.05	10
Diazinon	5	1.2	2.24	2.86	140
Disulfoton	1	1.0	2.03	2.03	21
Esfenvalerate	20	1.6	0.04	0.06	9
Ethoprop	4	1.0	5.71	5.71	225
Methamidophos	11	1.7	0.92	1.58	163
Oxamyl	7	1.5	0.73	1.10	68
Permethrin	8	1.1	0.12	0.14	9
Phorate	20	1.0	2.67	2.69	476
Tralomethrin					
Fungicides:					
Chlorothalonil	61	3.8	1.06	4.07	2,215
Ethyl Parathion					
Chloropicrin	5	1.0	168.70	168.70	6,880
Dichloropropene	2	1.1	0.42	0.49	9
Paraquat	14	1.0	286.05	286.05	36,408

[1] Planted acres in 2001 for the 7 program states were 898,000 acres. States included are ID, ME, MN, ND, OR, WA, and WI.

Soybeans: Agricultural Chemical Applications,
Restricted Use Pesticides
Program States, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Acetamide	*	1.0	0.17	0.17	75
Acetic acid	*	1.0	0.47	0.47	242
Alachlor	*	1.0	1.72	1.72	495
Imazaquin	2	1.0	0.08	0.08	76
Insecticides:					
Chlorpyrifos	*	1.0	0.73	0.73	182
Lambda-cyhalothrin	*	1.1	0.02	0.02	5

* Area applied is less than one percent.

[1] Planted acres in 2001 for the 8 program states were 52.0 million acres. States included are AR, IL, IN, IA, MN, MO, NE, and OH.

Apples: Agricultural Chemical Applications,
Restricted Use Pesticides
States Surveyed, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	20	1.3	0.53	0.72	48.4
Insecticides:					
Abamectin	6	1.1	0.01	0.01	0.2
Azinphos-methyl	72	2.9	0.66	1.93	466.9
Chlorpyrifos	52	1.1	1.50	1.78	310.1
Clofentezine	8	1.1	0.13	0.14	3.7
Diazinon	5	1.6	0.64	1.08	17.4
Esfenvalerate	15	1.6	0.03	0.05	2.5
Fenbutatin-oxide	3	1.0	0.80	0.86	9.6
Methidathion	2	1.1	0.91	1.06	5.8
Methomyl	7	1.8	0.40	0.76	18.0
Oxamyl	1	1.3	0.41	0.56	2.6
Permethrin	4	1.2	0.11	0.14	1.7
Pyrethrins	*	1.6	0.03	0.04	0.1
Other Chemicals:					
Strychnine	*	1.4	0.02	0.02	([2])
Zinc phosphide	3	1.1	0.17	0.19	2.1

* Area applied is less than one percent.

[1] Bearing acres in 2001 for the 8 states surveyed were 337,600 acres. States included are CA, KS, MI, NY, NC, OR, PA, and WA.

[2] Total applied is less than 50 lbs.

Apricots: Agricultural Chemical Applications,
Restricted Use Pesticides
California, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	6	1.8	0.37	0.70	0.8
Insecticides:					
Diazinon	10	1.3	1.77	2.32	4.6
Esfenvalerate	49	1.7	0.04	0.07	0.7
Fungicides:					
Chlorothalonil	15	1.3	1.89	2.60	7.6

[1] Bearing acres in 2001 for California were 19,000 acres.

Blackberries: Agricultural Chemical Applications,
Restricted Use Pesticides
Oregon, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	29	1.3	0.40	0.54	1.0
Simazine	34	1.0	1.41	1.49	3.1
Insecticides:					
Azinphos-methyl	16	1.3	0.55	0.71	0.7
Diazinon	7	1.0	1.71	1.71	0.8
Esfenvalerate	17	1.1	0.05	0.05	0.1

[1] Bearing acres in 2001 for Oregon were 6,160 acres.

Blueberries: Agricultural Chemical Applications,

Restricted Use Pesticides

States Surveyed, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	10	1.3	0.28	0.37	1.2
Simazine	24	1.1	1.19	1.40	10.6
Insecticides:					
Azinphos-methyl	47	1.9	0.52	1.03	15.6
Diazinon	13	1.4	0.70	1.03	4.4
Esfenvalerate	9	1.3	0.04	0.06	0.2
Methomyl	33	1.8	0.72	1.31	14.1
Fungicides:					
Chlorothalonil	15	1.2	2.65	3.32	15.7

[1] Bearing acres in 2001 for the 4 states surveyed were 32,200 acres. States included are GA, MI, NJ, and OR.

Cherries, Sweet: Agricultural Chemical Applications,
Restricted Use Pesticides
States Surveyed, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	14	1.5	0.80	1.27	11.4
Insecticides:					
Azinphos-methyl	37	2.1	0.67	1.40	32.8
Chlorpyrifos	29	1.0	1.88	2.02	36.5
Clofentezine	3	1.0	0.15	0.16	0.3
Diazinon	8	1.1	1.61	1.88	9.7
Esfenvalerate	10	1.5	0.04	0.06	0.4
Methidathion	1	1.1	1.26	1.46	0.9
Permethrin	6	1.8	0.13	0.25	1.0
Pyrethrins	*	6.3	0.01	0.07	([2])
Fungicides:					
Chlorothalonil	10	1.7	1.98	3.40	20.7
Other Chemicals:					
Strychnine	1	1.0	0.01	0.01	([2])
Zinc phosphide	1	1.3	0.08	0.11	0.1

* Area applied is less than one percent.

[1] Bearing acres in 2001 for the 4 states surveyed were 63,400 acres. States included are CA, MI, OR, and WA.

[2] Total applied is less than 50 lbs.

Cherries, Tart: Agricultural Chemical Applications,

Restricted Use Pesticides

States Surveyed, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	23	1.0	0.28	0.29	2.0
Insecticides:					
Azinphos-methyl	88	2.7	0.50	1.35	35.1
Chlorpyrifos	8	1.1	0.69	0.82	1.8
Esfenvalerate	40	1.5	0.03	0.05	0.5
Permethrin	17	2.2	0.14	0.32	1.6
Fungicides:					
Chlorothalonil	96	2.3	1.77	4.09	115.9

[1] Bearing acres in 2001 for the 2 states surveyed were 29,600 acres. States included are MI and NY.

Grapes, All: Agricultural Chemical Applications,

Restricted Use Pesticides

States Surveyed, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Simazine	19	1.2	1.00	1.23	251.0
Trifluralin	1	1.0	1.62	1.73	18.3
Insecticides:					
Abamectin	6	1.3	0.01	0.01	0.9
Azinphos-methyl	*	1.4	0.59	0.86	4.9
Carbofuran	*	1.1	2.16	2.56	18.8
Chlorpyrifos	3	1.1	0.53	0.63	21.6
Diazinon		1.2	0.96	1.18	5.1
Oxydemeton methyl	1	1.5	1.60	2.51	28.3
Fenbutatin-oxide	*	1.1	0.97	1.13	7.9
Methomyl	4	1.3	0.67	0.93	37.5
Other Chemicals:					
Dichloropropene	*	1.0	314.79	319.23	327.1
Strychnine	1	1.5	0.01	0.02	0.3

* Area applied is less than one percent.

[1] Bearing acres in 2001 for the 5 states surveyed were 1.05 million acres. States included are CA, KS, MI, NY, and WA.

Grapes, Raisin: Agricultural Chemical Applications,

Restricted Use Pesticides

California, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	8	1.5	0.35	0.56	9.2
Simazine	35	1.2	0.86	1.04	77.9
Insecticides:					
Abamectin	4	1.3	0.01	0.01	0.1
Fepropathrin	4	1.0	0.18	0.19	1.6

[1] Bearing acres in 2001 for California were 202,000 acres.

Grapes, Table: Agricultural Chemical Applications,

Restricted Use Pesticides

California, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	19	1.1	0.57	0.68	13.9
Simazine	14	1.3	0.74	0.99	15.4
Insecticides:					
Abamectin	14	1.4	0.01	0.02	0.3
Methomyl	27	1.3	0.66	0.90	26.9

[1] Bearing acres in 2001 for California were 109,000 acres.

Grapes, Wine: Agricultural Chemical Applications,

Restricted Use Pesticides

California, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	7	1.8	0.41	0.78	29.9
Simazine	13	1.3	1.11	1.44	96.4
Insecticides:					
Abamectin	5	1.3	0.01	0.01	0.4
Carbofuran	1	1.1	2.16	2.56	16.9
Diazinon	*	1.1	0.87	0.98	0.7
Methomyl	2	1.3	0.74	0.99	9.0

* Area applied is less than one percent.

[1] Bearing acres in 2001 for California were 530,000 acres.

Grapefruit: Agricultural Chemical Applications,
Restricted Use Pesticides
States Surveyed, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	2	1.0	0.33	0.34	0.8
Insecticides:					
Abamectin	51	1.0	0.01	0.01	1.0
Aldicarb	8	1.0	3.03	3.08	28.9
Chlorpyrifos	19	1.1	2.27	2.65	60.5
Diflubenzuron	19	1.0	0.35	0.35	8.4
Ethion	36	1.2	2.61	3.25	142.3
Fenbutatin-oxide	20	1.0	0.95	0.96	23.7

[1] Bearing acres in 2001 for the 2 states surveyed were 123,300 acres. States included are CA and FL.

Lemons: Agricultural Chemical Applications,
Restricted Use Pesticides
States Surveyed, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Insecticides:					
Abamectin	26	1.8	0.01	0.02	0.3
Other Chemicals:					
Diphacinone	6	1.8			([2])

[1] Total acres in 2001 for California were 52,000 acres.

[2] Total applied is less than 50 lbs.

Nectarines: Agricultural Chemical Applications,

Restricted Use Pesticides

California, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	23	1.3	0.57	0.74	7.0
Insecticides:					
Azinphos-methyl	3	1.4	1.86	2.62	3.4
Chlorpyrifos	20	1.3	1.75	2.30	19.4
Clofentezine	7	1.1	0.12	0.14	0.4
Diazinon	24	1.5	1.75	2.68	26.7
Esfenvalerate	59	1.3	0.04	0.05	1.3
Fenbutatin-oxide	10	1.4	0.73	1.06	4.5
Methomyl	7	1.5	0.74	1.17	3.2
Fungicides:					
Chlorothalonil	1	1.0	2.46	2.60	1.5
Other Chemicals:					
Strychnine	4	1.4	0.01	0.01	([2])

[1] Total acres in 2001 for California were 41,500 acres.

[2] Total applied is less than 50 lbs.

Olives: Agricultural Chemical Applications,

Restricted Use Pesticides

California, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	5	1.2	0.45	0.55	1.0

[1] Total acres in 2001 for California were 37,500 acres.

Oranges excluding Temples: Agricultural Chemical Applications,

Restricted Use Pesticides

States Surveyed, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	8	1.0	0.44	0.48	33
Insecticides:					
Abamectin	14	1.1	0.01	0.01	1
Aldicarb	10	1.0	2.78	2.78	235
Chlorpyrifos	9	1.7	1.40	2.38	165
Cyfluthrin	4	1.1	0.06	0.07	2
Ethion	7	1.0	2.61	2.71	152
Oxydemeton methyl	1	1.0	2.05	2.09	15
Fenbutatin-oxide	2	1.0	0.95	0.99	18

[1] Bearing acres in 2001 for the 2 states surveyed were 806,500 acres. States included are CA and FL.

Peaches: Agricultural Chemical Applications,
Restricted Use Pesticides
States Surveyed, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	28	1.9	0.53	1.04	35.3
Insecticides:					
Azinphos-methyl	17	4.4	0.62	2.74	57.4
Chlorpyrifos	20	1.2	1.20	1.51	35.3
Clofentezine	8	1.1	0.12	0.14	1.3
Diazinon	11	1.4	1.65	2.43	32.0
Esfenvalerate	35	1.9	0.04	0.07	3.1
Oxydemeton methyl	*	1.0	2.61	2.64	0.9
Fenbutatin-oxide	13	1.3	0.69	0.91	14.0
Methidathion	2	1.3	1.40	1.82	5.2
Methomyl	3	3.2	0.59	1.93	7.4
Permethrin	23	2.5	0.22	0.57	15.6
Fungicides:					
Chlorothalonil	13	1.2	1.78	2.20	36.0

* Area applied is less than one percent.

[1] Bearing acres in 2001 for the 5 states surveyed were 119,500 acres. States included are CA, GA, MI, NJ, and SC.

Pears: Agricultural Chemical Applications,

Restricted Use Pesticides

States Surveyed, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	12	1.4	0.42	0.62	4.7
Insecticides:					
Abamectin	60	1.3	0.02	0.03	0.9
Amitraz	4	1.0	1.24	1.28	3.2
Azinphos-methyl	44	1.7	1.05	1.88	50.6
Chlorpyrifos	28	1.1	1.78	2.05	34.9
Clofentezine	2	1.1	0.16	0.17	0.2
Diazinon	3	1.0	1.82	1.83	3.8
Esfenvalerate	24	1.1	0.07	0.08	1.2
Fenbutatin-oxide	*	1.0	0.65	0.66	0.2
Methidathion	1	1.0	1.44	1.50	1.3
Permethrin	4	1.4	0.17	0.25	0.6
Other Chemicals:					
Strychnine	*	1.0	0.01	0.01	([2])
Zinc phosphide	2	1.0	0.12	0.12	0.1

* Area applied is less than one percent.

[1] Bearing acres in 2001 for the 3 states surveyed were 60,800 acres. States included are CA, OR, and WA.

[2] Total applied is less than 50 lbs.

Plums: Agricultural Chemical Applications,

Restricted Use Pesticides

California, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	18	3.8	0.36	1.38	10.2
Insecticides:					
Chlorpyrifos	21	1.4	1.98	2.88	24.3
Diazinon	14	1.1	1.91	2.23	12.7
Esfenvalerate	41	1.6	0.04	0.06	1.0
Methidathion	3	1.3	1.71	2.36	2.6

[1] Total acres in 2001 for California were 40,000 acres.

Prunes: Agricultural Chemical Applications,

Restricted Use Pesticides

California, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	2	1.5	0.45	0.67	1.4
Insecticides:					
Diazinon	12	1.1	1.50	1.73	21.0
Esfenvalerate	22	1.2	0.05	0.06	1.3
Fenbutatin-oxide	7	1.1	0.64	0.73	5.1

[1] Total acres in 2001 for California were 100,000 acres.

Raspberries: Agricultural Chemical Applications,

Restricted Use Pesticides

States Surveyed, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	65	1.8	0.39	0.72	6.2
Simazine	47	1.1	1.02	1.16	7.3
Insecticides:					
Azinphos-methyl	3	1.0	0.50	0.50	0.2
Bifenthrin	64	1.3	0.11	0.14	1.2
Diazinon	50	1.1	1.18	1.37	9.3

[1] Bearing acres in 2001 for the 2 states surveyed were 13,400 acres. States included are OR and WA.

Tangelos: Agricultural Chemical Applications,
Restricted Use Pesticides
Florida, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	12	1.0	0.33	0.33	0.4
Insecticides:					
Abamectin	39	1.0	0.01	0.01	([2])
Chlorpyrifos	10	1.4	1.41	1.99	2.1
Diflubenzuron	15	1.0	0.32	0.33	0.5
Ethion	39	1.2	2.28	2.80	11.7
Fenbutatin-oxide	25	1.0	0.99	1.07	2.9

[1] Bearing acres in 2001 for Florida were 10,800 acres.

[2] Total applied is less than 50 lbs.

Tangerines: Agricultural Chemical Applications,
Restricted Use Pesticides
States Surveyed, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides:					
Paraquat	9	1.0	0.36	0.37	1.3
Insecticides:					
Chlorpyrifos	9	1.1	1.12	1.34	4.5
Diflubenzuron	16	1.1	0.25	0.29	1.7
Ethion	25	1.0	2.49	2.62	23.6
Fenbutatin-oxide	21	1.0	1.00	1.06	8.0
Fepropathrin	1	1.0	0.33	0.33	0.2

[1] Bearing acres in 2001 for the 2 states surveyed were 36,500 acres. States included are CA, and FL.

Temples: Agricultural Chemical Applications,

Restricted Use Pesticides

Florida, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Insecticides:					
Abamectin	33	1.0	0.01	0.01	([2])
Chlorpyrifos	6	2.3	1.26	2.89	1.0
Diflubenzuron	5	1.2	0.33	0.41	0.1
Ethion	12	1.2	2.32	2.94	2.0
Fenbutatin-oxide	11	1.0	0.99	1.05	0.7

[1] Bearing acres in 2001 for Florida were 5,500 acres.

[2] Total applied is less than 50 lbs.

Dairy Cattle: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001 [1] [2]

Agricultural Chemical	Rate per Head per Application	Rate per Head per Year	Total Applied
	Grams	*Grams*	*1,000 lbs*
Amitraz	1.5	3.7	0.1
Chlorpyrifos	0.3	0.8	*
Cyfluthrin	0.9	3.3	5.5
Diazinon	0.7	5.9	0.2
Ethion	3.1	4.3	0.1
Fenthion	1.8	3.5	0.2
Fenvalerate	2.5	21.3	1.7
Flucythrinate	0.7	0.7	*
Lambda-cyhalothrin	1.2	1.6	0.1
Permethrin	0.9	8.3	47.3
Pyrethrins	0.03	1.4	2.0

* Total applied is less than 50 lbs.

[1] States included are CA, CO, FL, ID, IL, IN, IA, KY, MI, MN, MO, NM, NY, OH, PA, TN, TX, VT, VA, WA, and WI.

[2] Insufficient reports to publish data for bendiocarb, bomyl, butoxpolylene, glycol, carbaryl, cypermethrin, diflubenzuron, methomyl, phosmet, ronnel, sulfur, and toxaphene.

Dairy Cattle Facilities: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001 [1] [2]

Agricultural Chemical	Rate per Head per Application
	1,000 lbs
Insecticides:	
Chlorpyrifos	0.2
Coumaphos	1.0
Cyfluthrin	5.6
Diazinon	1.1
Lambda-cyhalothrin	1.1
Methomyl	1.0
Permethrin	19.2
Pyrethrins	3.8

[1] States included are CA, CO, FL, ID, IL, IN, IA, KY, MI, MN, MO, NM, NY, OH, PA, TN, TX, VT, VA, WA, and WI.

[2] Insufficient reports to publish data for bendiocarb, bomyl, butoxpolylene, glycol, carbaryl, cypermethrin, diflubenzuron, methomyl, phosmet, ronnel, sulfur, and toxaphene.

All Nursery and Floriculture: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Herbicides:		
Atrazine	2.49	40.0
Dichlobenil	3.02	2.8
Paraquat	0.77	3.2
Pronamide	1.37	0.6
Insecticides:		
Aldicarb	2.50	0.7
Azinphos-methyl	0.58	1.4
Carbofuran	1.69	1.1
Clofentezine	0.10	0.1
Cyfluthrin	0.04	0.9
Diazinon	0.65	17.7
Diflubenzuron	0.09	6.6
Disulfoton	3.06	3.7
Esfenvalerate	0.03	0.2
Ethoprop	4.99	7.1
Oxydemeton methyl	4.20	5.3
Lambda-cyhalothrin	0.06	0.5
Lindane	0.42	4.2
Methiocarb	0.79	4.1
Methomyl	0.78	0.8
Nicotine	0.49	0.1
Oxydemeton methyl	0.36	2.1
Permethrin	0.18	9.5
Pyrethrins	0.06	0.2
Sulfotepp	0.97	0.4
Other Chemicals:		
Chloropicrin	96.41	189.5
Dichloropropene	([1])	71.3
Methyl bromide	228.76	1,076.2

[1] Insufficient number of reports to publish rate data.

All Nursery: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Herbicides:		
Atrazine	2.49	40.0
Dichlobenil	3.02	2.8
Paraquat	0.59	1.9
Pronamide	1.37	0.6
Insecticides:		
Azinphos-methyl	0.58	1.4
Carbofuran	([1])	1.1
Clofentezine	0.10	*
Cyfluthrin	0.04	0.6
Diazinon	0.63	9.4
Diflubenzuron	0.12	1.1
Disulfoton	3.05	3.7
Esfenvalerate	0.03	0.2
Fluvalinate	0.14	1.4
Lambda-cyhalothrin	0.06	0.4
Lindane	0.42	4.2
Methiocarb	0.83	2.6
Methomyl	0.79	0.7
Oxydemeton methyl	0.39	1.9
Permethrin	0.20	3.9
Pyrethrins	0.06	0.1
Rotenone	0.01	*
Other Chemicals:		
Chloropicrin	110.73	137.7
Methyl bromide	251.85	670.3

* Total applied is less than 50 lbs.

[1] Insufficient number of reports to publish rate data.

Transplants for Commercial Truck Crop Prod: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Insecticides:		
Diazinon	0.67	0.3
Permethrin	0.21	0.2
Other Chemicals:		
Methyl bromide	226.54	165.7

Nursery Propagation or Lining Out Stock: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Herbicides:		
Paraquat	([1])	0.2
Insecticides:		
Cyfluthrin	0.06	
Diazinon	0.81	0.3
Diflubenzuron	0.08	
Fluvalinate	0.22	0.1
Other Chemicals:		
Methyl bromide	262.31	164.6

* Total applied is less than 50 lbs.

[1] Insufficient number of reports to publish rate data.

Broadleaf Evergreens: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Herbicides:		
Dichlobenil	([1])	0.9
Simazine	1.36	0.6
Trifluralin	1.91	1.4
Insecticides:		
Azinphos-methyl	([1])	0.2
Cyfluthrin	0.04	*
Diazinon	0.42	2.3
Permethrin	0.20	3.5

* Total applied is less than 50 lbs.

[1] Insufficient number of reports to publish rate data.

Coniferous Evergreens: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Herbicides:		
Atrazine	3.75	15.8
Dichlobenil	2.60	0.6
Insecticides:		
Diazinon	0.27	0.3
Diflubenzuron	([1])	0.2
Lambda-cyhalothrin	0.06	0.2
Lindane	0.42	0.7
Oxydemeton methyl	0.40	*
Other Chemicals:		
Methyl bromide	([1])	27.7

* Total applied is less than 50 lbs.

[1] Insufficient number of reports to publish rate data.

Deciduous Shade Trees: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Herbicides:		
Dichlobenil	1.94	0.2
Paraquat	0.65	0.8
Insecticides:		
Chlorpyrifos	0.54	2.3
Cyfluthrin	0.03	*
Diazinon	0.97	1.4
Lindane	0.28	0.2
Oxydemeton methyl	([1])	0.1
Permethrin	0.14	0.1

* Total applied is less than 50 lbs.

[1] Insufficient number of reports to publish rate data.

Deciduous Flowering Trees: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Herbicides:		
Paraquat	([1])	0.1
Insecticides:		
Cyfluthrin	([1])	0.1
Diazinon	0.66	0.1
Esfenvalerate	0.02	*
Oxydemeton methyl	([1])	0.2

* Total applied is less than 50 lbs.

[1] Insufficient number of reports to publish rate data.

Deciduous Shrubs and Other Ornamentals: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Herbicides:		
Dichlobenil	3.15	1.0
Pronamide	1.62	0.3
Insecticides:		
Cyfluthrin	0.03	*
Diazinon	0.75	3.2
Diflubenzuron	0.14	0.8
Lambda-cyhalothrin	0.05	0.2
Lindane	0.64	0.1
Methiocarb	0.77	1.6
Permethrin	0.14	*
Pyrethrins	0.04	*

* Total applied is less than 50 lbs.

Fruits and Nut Plants: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Herbicides:		
Paraquat	0.57	0.7
Insecticides:		
Diazinon	0.60	0.7
Esfenvalerate	0.04	0.1
Fenbutatin-oxide	0.75	0.3
Permethrin	0.05	*
Fungicides:		
Chlorothalonil	0.85	2.3

* Total applied is less than 50 lbs.

Christmas Trees: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Herbicides:		
Atrazine	2.04	24.0
Insecticides:		
Azinphos-methyl	0.57	0.7
Cyfluthrin	0.05	0.4
Diazinon	1.72	0.8
Diflubenzuron	0.06	0.1
Esfenvalerate	0.03	*
Lindane	0.42	2.9
Oxydemeton methyl	0.42	1.3

* Total applied is less than 50 lbs.

All Floriculture: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Insecticides:		
Clofentezine	0.11	*
Cyfluthrin	0.04	0.3
Diazinon	0.69	8.2
Diflubenzuron	0.08	5.5
Ethoprop	([1])	6.4
Oxydemeton methyl	4.19	5.1
Lambda-cyhalothrin	0.05	*
Methiocarb	0.69	1.6
Methomyl	0.71	0.1
Nicotine	0.50	0.1
Oxamyl	1.36	0.5
Permethrin	0.16	5.6
Pyrethrins	0.07	0.1
Sulfotepp	0.97	0.4
Other Chemicals:		
Chloropicrin	71.79	51.8
Methyl bromide	198.64	405.9

* Total applied is less than 50 lbs.

[1] Insufficient number of reports to publish rate data.

Cut Flowers: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Insecticides:		
Diazinon	0.46	1.4
Methiocarb	0.65	0.3
Permethrin	0.19	1.4
Pyrethrins	0.06	0.1
Other Chemicals:		
Chloropicrin	65.53	16.3
Methyl bromide	190.92	352.7

Flowering Plants: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001 [1]

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Insecticides:		
Cyfluthrin	0.10	0.1
Diazinon	1.29	1.3
Diflubenzuron	0.32	0.1
Methiocarb	0.61	0.5
Nicotine	([1])	0.1
Permethrin	0.17	0.3
Pyrethrins	0.09	*
Sulfotepp	1.33	0.2

* Total applied is less than 50 lbs.

[1] Insufficient number of reports to publish rate data.

Bedding Plants: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Herbicides:		
Paraquat	([1])	0.5
Insecticides:		
Cyfluthrin	0.05	*
Diazinon	0.78	0.4
Diflubenzuron	0.22	*
Methiocarb	1.05	0.2
Nicotine	([1])	0.1
Oxamyl	1.35	*
Permethrin	0.20	0.6
Pyrethrins	0.14	*
Sulfotepp	([1])	0.2

* Total applied is less than 50 lbs.

[1] Insufficient number of reports to publish rate data.

Foliage Plants: Agricultural Chemical Applications,

Restricted Use Pesticides

Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Insecticides:		
Cyfluthrin	0.05	*
Diazinon	0.42	1.7
Diflubenzuron	0.23	*
Methiocarb	0.88	0.4
Oxamyl	1.41	0.4
Pyrethrins	0.02	*

* Total applied is less than 50 lbs.

Floriculture Propagation Material: Agricultural Chemical Applications,
Restricted Use Pesticides
Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Insecticides:		
Methiocarb	0.73	0.1

Cut Cultivated Greens: Agricultural Chemical Applications,
Restricted Use Pesticides
Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Insecticides:		
Diflubenzuron	0.07	4.4
Ethoprop	([1])	6.4
Permethrin	0.13	3.1

[1] Insufficient number of reports to publish rate data.

Herbaceous Perennials: Agricultural Chemical Applications,
Restricted Use Pesticides
Program States, 2001

Agricultural Chemical	Rate per Acre	Total Applied
	Pounds	*1,000 pounds*
Insecticides:		
Diazinon	1.61	3.2
Diflubenzuron	0.39	0.8
Permethrin	([1])	0.1
Pyrethrins	0.08	*

* Total applied is less than 50 lbs.

[1] Insufficient number of reports to publish rate data.

Estimation Procedures: The chemical applications data, reported by product name or trade name, are reviewed within state and across states for reasonableness and consistency. This review compares reported data with manufacturer's recommendations and with data from other farm operators using the same product. Following this review, product information are converted to an active ingredient level. The chemical usage estimates in this publication consist of survey estimates of those active ingredients.

Estimates of the total amount of active ingredient applied are based on the acreage estimates published in the annual NASS report "**Crop Production - 2001 Summary**" [Cr Pr 2-1(02)] for corn, upland cotton, fall potatoes, and soybeans. Cotton acreage estimates and summary calculations are based on preliminary upland cotton acreage for crop year 2001. The 2001 upland cotton acreage in Georgia was revised in May 2002, from 1.5 million acres to 1.49 million acres, less than 1 percent. Estimates of the total amount of active ingredient applied for fruits are based on the acreage estimates published in the annual NASS report "**Citrus Fruits - 2001 Summary**"[Fr Nt 3-1(01)] released on September 20,2001 and **"Noncitrus Fruits and Nuts - 2001 Summary"** [Fr Nt 1-3 (01)] released on July 8, 2002. The estimates for total amount applied will not be revised even if there are subsequent revisions to acreage for a given crop. Estimates of the total amount of active ingredient applied to dairy and dairy facilities are based on expanded values of summarized data.

Detailed data within a table may not multiply across or add down due to independent rounding of the published values.

In the nursery and floriculture industry, the use of agricultural chemicals is very different when compared with other sectors of agriculture (field crop, fruit, livestock, vegetable, etc.). Chemical applications to nursery and floriculture commodities are predominately made on a "spot" (small area) basis. Chemical applications are frequently made by chemigation, foggers, aerosols, misters, smokers, root dipping, or drenching of soil. Application rates can be based on teaspoon(s) per pot, per 1,000 cubic feet of greenhouse space, per length of row, or per cubic yard of soil. To provide statistically sound estimates on chemical rates of application, all applications reported as being made by foggers-aerosols-misters-electrostatic sprayers-smokers-rotary atomizers, chemigation, cutting-bulb-flower dip, or growing media drench-douse, were excluded in calculating estimates of rate per acre. Estimates of total pounds of active ingredient applied for all nursery and floriculture included all methods of application. The same production area can be used to produce different types of plant material, or multiple "turns" of the same plant material within the calendar year. Trees may be planted in rows with significant row widths which receive none of the chemicals applied. Due to these, and other unique circumstances, estimates on "percent of area applied", "number of applications", and "rate per crop year", are not available.

Terms and Definitions

Active ingredient: The active ingredient is the specific chemical which kills or controls the target pests. Usage data are reported by pesticide product and are converted to an amount of active ingredient. A single method of conversion has been chosen for active ingredients having more than one way of being converted. For example in this report, copper compounds are expressed in their metallic copper equivalent, and others such as 2,4-D and glyphosate are expressed in their acid equivalent.

Agricultural chemicals: The phrase agricultural chemicals refers to the active ingredients in pesticides.

Application Rates: The application rates refer to the average number of pounds of a pesticide active ingredient applied to an acre of land. Rate per acre is the average number of pounds applied in one application. Rate per crop year is the average number of pounds applied counting multiple applications. Number of applications is the average number of times a treated acre receives a specific agricultural chemical. For dairy cattle rate per application is the average number of grams applied in one application. Rate per year is the average number of grams applied counting multiple applications.

Area applied: The area that represents the percentage of crop acres receiving one or more applications of a specific agricultural chemical. This report does not contain acre treatments. However, acre treatments can be calculated by multiplying the acres planted by the percent of area applied and the average number of applications.

Common name: The common name is an officially recognized name for an active ingredient. This report shows active ingredient by common name.

Crop year: A crop year refers to the period immediately following harvest for the previous crop through harvest of the current crop.

Pesticides: As defined by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), pesticides include any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest, and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

Trade Name, Common Name, and Pesticide Class

The following is a list of the common name, associated class and trade name of active ingredients in this publication. The classes are Herbicides (H), Insecticides (I), Fungicides (F), and Other chemicals (O). This list is provided as an aid in reviewing pesticide data. Pre-mixes are not cataloged. The list is not complete for all pesticides used on field crops, vegetable crops or sheep, and NASS does not mean to imply the use of any specific trade name.

Class	Common Name	Trade Name
I	abamectin	Agri-Mek, Zephyr, Avid
H	acetamide	Axiom
H	acetochlor	Harness, Topnotch
H	alachlor	Lasso
I	aldicarb	Temik
O	aluminum phosphide	Fumitoxin
I	amitraz	Ovasyn
H	atrazine	AAtrex
I	azinphos-methyl	Guthion
I	bendiocarb	Ficam
I	bifenthrin	Capture
I	benomyl	Benlate
H	butylate	Genate, Sutan
I	carbofuran	Furadan
I	chlorethoxyfos	Fortress
O	chloropicrin	several
F	chlorothalonil	Bravo
I	chlorpyrifos	Lorsban, Dursban
I	clofentezine	Apollo
I	coumaphos	Co-Ral
H	cyanazine	Bladex
I	cyfluthrin	Baythroid
I	cypermethrin	Ammo, Cymbush
I	deltamethrin	Decis
I	diazinon	several

-- continued

Class	Common Name	Trade Name
O	dichloropropene	Telone
H	diclofop-methyl	Hoelon
I	dicrotophos	Bidrin
I	diflubenzuron	Dimilin
I	dioxathion	Del-Tox
I	disulfoton	Di-Syston
F	emamectin benzoate	Denim, Proclaim
H	EPTC	Eptam, Eradicane, Genep
I	esfenvalerate	Asana
I	ethion	Ethion
I	ethoprop	Mocap
I	ethyl parathion	several
I	fenamiphos	Nemacur
I	fenbutatin-oxide	Vendex
I	fenpropathrin	Danitol
I	fenthion	Lysoff, Tiguvon
I	fenvalerate	Ectrin, Pydrin
I	fipronil	Regent
I	flucythrinate	Guardian Tags
I	fonofos	Dyfonate
H	imazaquin	Scepter
I	lambda-cyhalothrin	Karate, Warrior
I	lindane	Isotox, Lindane
O	metam-sodium	Vapam
I	methamidophos	Monitor
I	methidathion	Supracide
I	methomyl	Lannate
O	methyl bromide	several
I	methyl parathion	several
I	oxamyl	Vydate
I	oxydemeton-methyl	Metasystox-RH,

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Class	Common Name	Trade Name
O	paraquat	Gramoxone, Cyclone, Starfire
I	permethrin	Ambush, Pounce
I	phorate	Thimet
I	phosphamidon	phosphamidon
H	picloram	Tordon
I	profenofos	Curacron
H	pronamide	Kerb
I	pyrethrins	several
I	rotenone	Rotenone
H	simazine	Princep
O	strychine	several
O	sulfuric acid	sulfuric acid
I	sulprofos	Bolstar
I	tefluthrin	Force
I	terbufos	Counter
I	toxaphene	Stock Tox
I	tralomethrin	Scout
H	trifluralin	Treflan, Trilin, Trific
F	triphenyltin hydroxide	several
O	zinc phosphide	several

Report Features

Released October 2, 2002, by the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, U.S. Department of Agriculture. For information on "Agricultural Chemical Usage" call (202) 720-6146, office hours 7:30 a.m. to 4:00 p.m. ET.

The next "Agricultural Chemical Usage" report will be released March 12, 2003. This report will cover agricultural chemical use for postharvest applications on apples and pears in off farm storage facilities.

The next “Agricultural Chemical Usage” report for restricted use pesticides will be released on October 1, 2003. This report will cover the use of restricted agricultural chemicals for 2002 on field crops, vegetables and livestock for major states.

Listed below are persons within the National Agricultural Statistics Service to contact for additional information.

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