

# WASHINGTON AGRICULTURAL CHEMICAL USAGE APPLES 2001 Crop



U.S. Department of Agriculture  
Washington Agricultural Statistics Service  
P.O. Box 609, Olympia, WA 98507

August 2002

## Apples

Eight states were surveyed for apples in 2001: California, Kansas, Michigan, New York, North Carolina, Oregon, Pennsylvania, and Washington. Surveyed acreage totaled 337,600 bearing acres. Washington was the largest state surveyed for apples and accounted for 50 percent of the acreage.

### Apples: Pesticide Applications, Bearing Acreage & Percentage Receiving Applications, Major States and Total, 1999 and 2001

State	Bearing Acreage		Area Receiving 1/							
			Herbicide		Insecticide 2/		Fungicide 2/		Other Chemicals	
	1999	2001	1999	2001	1999	2001	1999	2001	1999	2001
Acres										
Arizona 4/	4,000	-	3/	-	96	-	3/	-	57	-
California	36,500	30,000	35	33	86	70	80	52	14	25
Georgia 4/	1,300	-	91	-	96	-	95	-	11	-
Kansas	-	400	-	21	-	84	-	78	-	26
Michigan	52,500	44,500	74	41	98	98	98	98	41	40
New Jersey 4/	3,300	-	26	-	84	-	86	-	42	-
New York	55,000	55,000	56	66	99	98	99	98	56	54
North Carolina	9,000	8,000	17	8	99	89	99	89	13	5
Oregon	8,700	8,700	68	54	97	91	95	86	70	56
Pennsylvania	23,000	23,000	65	61	97	96	98	95	44	56
South Carolina 4/	2,400	-	12	-	97	-	97	-	24	-
<b>Washington</b>	<b>172,000</b>	<b>168,000</b>	<b>66</b>	<b>54</b>	<b>99</b>	<b>98</b>	<b>88</b>	<b>82</b>	<b>86</b>	<b>86</b>
<b>TOTAL</b>	<b>367,700</b>	<b>337,600</b>	<b>60</b>	<b>52</b>	<b>97</b>	<b>95</b>	<b>85</b>	<b>85</b>	<b>62</b>	<b>65</b>

1/ Acreage in California includes non-bearing acres. Total applied may include applications of some active ingredients made only to non-bearing acres.

2/ Total applied excludes Bt's (*Bacillus thuringiensis*) and other biologicals. Quantities are not available because amounts of active ingredient are not comparable between products. 3/ Insufficient reports to publish data for one or more of the pesticide classes. 4/ Arizona, Georgia, New Jersey, and South Carolina were not surveyed in 2001.

### Apples: Agricultural Chemical Applications, Washington, 1999 and 2001 1/

Agricultural Chemical 2/	Area Applied		Applications		Rate Per Application		Rate Per Crop Year		Total Applied	
	1999	2001	1999	2001	1999	2001	1999	2001	1999	2001
<b>Herbicides:</b>										
2, 4-D	12	4	1.0	1.0	0.71	1.29	0.73	1.36	14.8	10.2
2, 4-D, Dimeth., salt	-	7	-	1.2	-	0.38	-	0.48	-	5.9
Diuron	4	1	1.0	1.0	1.08	1.53	1.18	1.56	8.0	2.7
Glyphosate	35	41	1.1	1.4	0.97	1.08	1.14	1.58	68.0	109.7
Norflurazon	16	15	1.0	1.0	0.98	1.35	1.06	1.41	28.6	35.6
Oryzalin	6	6	1.0	1.0	1.04	1.78	1.07	1.88	10.3	20.2
Oxyfluorfen	6	5	1.0	1.0	0.78	1.05	0.80	1.14	8.0	9.0
Paraquat	22	22	1.6	1.3	0.43	0.68	0.70	0.89	26.4	32.6
Simazine	12	9	1.0	1.0	0.80	2.19	0.84	2.28	17.3	35.0
Sulfosate	-	4	-	1.3	-	2.20	-	3.01	-	22.6
<b>Insecticides:</b>										
Abamectin	8	-	1.0	-	0.009	-	0.009	-	0.1	-
Azadirachtin	-	*	-	1.0	-	0.01	-	0.01	-	**
Azinphos-methyl	78	73	2.3	2.0	0.96	0.94	2.31	1.96	309.3	241.4
Benzoic acid	-	17	-	1.1	-	0.24	-	0.26	-	7.6
Bt ( <i>Bacillus thur.</i> ) 3/	19	12	2.0	1.6	-	-	-	-	-	-
Carbaryl	56	67	1.3	1.4	1.07	1.25	1.46	1.78	140.4	201.9
Chlorpyrifos	65	68	1.3	1.1	1.66	1.81	2.26	2.04	250.9	234.0
Clofentezine	6	9	1.0	1.0	0.14	0.15	0.14	0.17	1.5	2.6
Diazinon	-	2	-	1.0	-	1.95	-	2.05	-	5.7
Dimethoate	-	*	-	1.1	-	1.27	-	1.44	-	1.8
Endosulfan	18	6	1.2	1.1	0.92	1.98	1.19	2.36	36.5	25.7

See footnotes at end of table (next page).

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# Apples: Agricultural Chemical Applications, Washington, 1999 and 2001 1/ (continued)

Agricultural Chemical 2/	Area Applied		Applications		Rate Per Application		Rate Per Crop Year		Total Applied	
	1999	2001	1999	2001	1999	2001	1999	2001	1999	2001
<b>Insecticides (continued):</b>	Percent		Number		Pounds Per Acre		1,000 Lbs.			
Fenbutatin-oxide	5	5	1.0	1.0	0.87	0.87	0.89	0.88	8.2	8.0
Formetanate hydro.	17	13	1.0	1.0	0.53	0.74	0.56	0.81	15.9	17.0
Imidacloprid	50	38	1.2	1.2	0.06	0.06	0.07	0.08	6.1	4.8
Kaolin	*	8	1.3	1.2	32.72	29.48	43.69	36.65	21.4	509.4
Malathion	12	1	1.1	1.1	0.92	0.75	1.04	0.84	22.3	1.6
Methoxychlor	12	-	1.3	-	0.79	-	1.06	-	21.0	-
Methyl parathion	5	-	1.1	-	1.64	-	1.92	-	17.1	-
Oxamyl	2	-	1.1	-	0.39	-	0.44	-	1.6	-
Petroleum distillate	69	79	1.8	1.6	19.09	21.90	34.73	36.47	4,119.9	4,858.4
Phosmet	7	18	2.0	1.5	1.79	3.06	3.74	4.57	46.0	138.3
Pyridaben	16	7	1.0	1.2	0.18	0.22	0.18	0.27	5.1	3.3
Pyriproxyfen	-	*	-	1.2	-	0.11	-	0.14	-	0.2
Spinosad	39	50	1.4	1.3	0.10	0.10	0.15	0.14	10.2	12.0
<b>Fungicides:</b>										
Calcium polysulfide	5	14	1.0	1.2	19.00	20.82	19.93	25.34	167.0	613.9
Captan	1	-	1.0	-	2.87	-	3.01	-	5.8	-
Copper hydroxide	15	13	1.1	1.1	1.73	1.33	2.01	1.50	51.3	31.5
Dodine	*	-	1.3	-	0.41	-	0.54	-	0.2	-
Fenarimol	21	17	1.2	1.1	0.06	0.07	0.07	0.08	2.7	2.4
Fosetyl-al	12	6	1.1	1.2	1.52	1.51	1.73	1.88	36.3	19.7
Kresoxim-methyl	11	14	1.0	1.1	0.18	0.15	0.19	0.17	3.5	3.9
Mancozeb	9	13	1.1	1.2	3.36	3.18	3.93	3.82	57.9	82.1
Mefenoxam	8	4	1.1	1.2	0.37	0.63	0.43	0.76	5.9	4.8
Myclobutanil	31	36	1.3	1.3	0.13	0.12	0.18	0.16	9.4	9.9
Oxytetracycline	6	17	1.7	1.2	0.10	0.18	0.17	0.22	1.8	6.4
Pseudomonas fluores.	9	-	1.0	-	0.22	-	0.22	-	3.4	-
Streptomycin	9	-	1.0	-	0.13	-	0.14	-	2.1	-
Sulfur	42	48	1.3	1.4	6.84	6.52	9.05	9.32	652.4	756.5
Thiram	4	-	1.0	-	4.58	-	4.69	-	31.4	-
Triadimefon	1	6	1.0	1.0	0.11	0.18	0.11	0.18	0.2	1.9
Trifloxystrobin	-	9	-	1.2	-	0.06	-	0.07	-	1.1
Triflumizole	27	42	1.1	1.3	0.25	0.27	0.28	0.36	12.9	25.6
Ziram	6	3	1.1	1.0	4.58	3.86	5.05	4.10	52.3	21.0
<b>Other Chemicals:</b>										
Benzyladenine	4	32	1.3	1.1	0.04	0.03	0.05	0.03	0.3	1.9
Butenic Acid Hydro.	12	8	1.0	1.0	0.08	0.10	0.08	0.10	1.6	1.4
Chlorophacinone	3	1	1.0	1.0	0.13	0.06	0.13	0.06	0.7	0.1
Cytokinins 4/	32	3	1.1	1.0	0.03	-	0.03	-	1.6	**
Dodecadien-1-ol	-	26	-	1.0	-	0.06	-	0.06	-	2.8
Dodecanol	10	21	1.0	1.0	0.03	0.03	0.03	0.04	0.5	1.2
E, E-8, 10-Dodecadien	11	-	1.0	-	0.05	-	0.06	-	1.0	-
Ethephon	19	31	1.1	1.2	0.60	0.59	0.68	0.70	22.0	36.6
Gibberellic acid	35	3	1.2	1.2	0.02	0.03	0.03	0.04	1.8	0.2
Gibberellins A4A7	3	32	1.3	1.1	0.03	0.03	0.05	0.03	0.3	1.8
Monocarbamide dihy.	2	2	1.1	1.0	6.01	5.10	6.92	5.12	26.7	13.3
NAA	-	40	-	1.2	-	0.03	-	0.03	-	2.1
NAA, Potassium salt	-	7	-	1.1	-	0.04	-	0.05	-	0.6
NAD	10	13	1.1	1.1	0.05	0.05	0.06	0.06	1.0	1.3
Naphthaleneacetic ac.	41	-	1.2	-	0.03	-	0.04	-	2.8	-
Pelargonic acid	-	*	-	1.0	-	0.96	-	1.00	-	0.7
Prohexadione calcium	-	5	-	1.4	-	0.24	-	0.34	-	2.6
Tetradecanol	10	21	1.0	1.0	0.006	0.007	0.006	0.007	0.1	0.2
Tetradecen-1-OL (z)	2	-	1.1	-	0.04	-	0.05	-	0.2	-
Zinc phosphide	*	4	1.0	1.0	0.17	0.19	0.17	0.20	0.3	1.4

Note: Data may not multiply across due to rounding. \* Area applied is less than one percent. \*\* Total applied is less than 50 pounds.

1/ Bearing acres in 1999 in Washington were 172,000 acres and bearing acres in 2001 in Washington were 168,000 acres. 2/ Insufficient reports to publish data for the following agricultural chemicals: 1999; **Herbicides:** Atrazine, Dichlobenil, Difenzoquat, EPTC, Glufosinate-ammonium, Glyphosate, Isopropyl, Hexazinone, Napropamide, Pendimethalin, Pronamide, Prosulfuron, Sulfosate, Terbacil. 2001; **Herbicides:** 2, 4-DP, Dimeth. salt, Dinoseb, Glufosinate-ammonium, Hexazinone, Napropamide, Pendimethalin, Pronamide, Prosulfuron, Terbacil. 1999; **Insecticides:** Amitraz, Cypermethrin, Diazinon, Dimethoate, Ethion, Hexythiazox, Methomyl, Oxydemeton-methyl, Oxythioquinox, Phosphamidon, Potassium salts, Ryana. 2001; **Insecticides:** Abamectin, Carbophenothion, Cyd-X Granulo. Virus, Dicofol, Esfenvalerate, Ethion, Ethyl parathion, Fenpropothrin, Hexythiazox, Indoxacarb, Methidathion, Methomyl, Methoxychlor, Oxamyl, Oxythioquinox, Permethrin, Phosphamidon, Potassium salts, Pyrethrins, Tebufenozone, Thiamethoxam. 1999; **Fungicides:** Basic copper sulfate, Benomyl, Captafol, Copper (metallic), Copper ammonium carb., Copper chloride hydr., Copper oxychlo.sul., Copper sulfate, Cyprodinil, Maneb, Metalaxyl, Metiram, Potassium bicarbonate, Propiconazole, Thiophanate-methyl, Triforine. 2001; **Fungicides:** Azoxystrobin, Benomyl, Captan, Copper chloride hydr., Copper sulfate, Cyprodinil, Dichlone, Dodine, Maneb, Potassium bicarbon., Propiconazole, Pseudomonas fluores., Streptomycin, Tebuconazole, Thiophanate-methyl, Thiram, Vinclozolin. 1999; **Other Chemicals:** Aluminum phosphide, Chloropicrin, Diphacinone, Lactic Acid, Metaldehyde, Metam-sodium, Methyl bromide, Pelargonic Acid, Strychnine. 2001; **Other Chemicals:** Aluminum phosphide, Chloropicrin, Dichloropropene, Diphacinone, E-8-Dodecenyl acetat, Garlic oil, Gossyplure, Harpin protein, Indolebutyric acid, Lactic acid, Metam-sodium, Strychnine, Tetradeцен-1-OL (Z), Tetradeцен-1-yl (E), Z-8-Dodecanol, Z-8-Dodecen acetate.

3/ Rates and total applied are not available because amounts of active ingredients are not comparable between products. 4/ Rates and total applied are not available because amounts of active ingredient are too small.

# Apples: Agricultural Chemical Applications, Major States, 1999 and 2001 1/

Agricultural Chemical 2/	Area Applied		Applications		Rate Per Application		Rate Per Crop Year		Total Applied	
	1999	2001	1999	2001	1999	2001	1999	2001	1999	2001
<b>Herbicides:</b>	Percent		Number		Pounds Per Acre		1,000 Lbs.			
2, 4-D	14	5	1.1	1.1	0.74	0.91	0.84	1.00	42.8	16.3
2, 4-D, Dimeth. salt	-	8	-	1.2	-	0.52	-	0.65	-	16.9
Diuron	11	8	1.3	1.0	0.65	1.06	0.91	1.12	35.3	31.3
Glufosinate-ammonium	*	*	1.0	1.2	0.39	0.45	0.39	0.58	0.6	1.9
Glyphosate	36	34	1.4	1.4	0.77	0.95	1.10	1.34	144.8	153.4
Norflurazon	8	10	1.0	1.0	0.98	1.35	1.07	1.43	32.0	47.9
Oryzalin	3	3	1.0	1.0	1.35	1.79	1.41	1.88	17.7	20.9
Oxyfluorfen	3	-	1.0	-	0.78	-	0.80	-	9.8	-
Paraquat	22	20	1.4	1.3	0.43	0.53	0.63	0.72	51.3	48.4
Pendimethalin	*	*	1.1	1.0	1.17	0.62	1.28	0.65	2.3	1.2
Simazine	16	14	1.0	1.0	1.00	1.41	1.08	1.48	61.7	71.5
Sulfosate	-	6	-	1.1	-	1.90	-	2.15	-	44.3
Terbacil	2	2	1.0	1.0	0.48	0.55	0.50	0.57	4.1	4.6
<b>Insecticides:</b>										
Abamectin	9	6	1.2	1.1	0.008	0.01	0.01	0.01	0.3	0.2
Azadirachtin	-	*	-	1.1	-	0.01	-	0.01	-	**
Azinphos-methyl	73	72	3.0	2.9	0.71	0.66	2.15	1.93	572.8	466.9
Benzoic acid	-	19	-	1.8	-	0.16	-	0.29	-	18.1
Bt (Bacillus thur.) 3/	21	13	2.0	1.5	-	-	-	-	-	-
Carbaryl	45	56	1.3	1.3	1.07	1.17	1.40	1.63	230.0	305.8
Chlorpyrifos	60	52	1.5	1.1	1.30	1.50	1.97	1.78	433.1	310.1
Clofentezine	9	8	1.1	1.1	0.11	0.13	0.13	0.14	4.4	3.7
Cyd-X-Granulo. Viru. 3/	-	1	-	2.6	-	-	-	-	-	-
Diazinon	4	5	1.4	1.6	0.72	0.64	1.02	1.08	13.6	17.4
Dicofol	*	*	1.2	1.1	1.42	1.38	1.75	1.59	2.7	2.6
Dimethoate	3	3	1.2	1.7	0.81	0.77	1.01	1.33	10.5	12.6
Endosulfan	15	11	1.3	1.2	0.88	1.28	1.19	1.58	66.6	57.3
Esfenvalerate	18	15	1.6	1.6	0.03	0.03	0.05	0.05	3.2	2.5
Fenbutatin-oxide	3	3	1.0	1.0	0.90	0.80	0.94	0.86	11.6	9.6
Fenpropatrin	-	14	-	1.8	-	0.19	-	0.34	-	16.4
Formetanate hydro.	8	6	1.0	1.0	0.61	0.74	0.65	0.80	20.4	17.4
Hexythiazox	3	2	1.1	1.1	0.10	0.11	0.11	0.12	1.2	0.9
Imidacloprid	46	37	1.4	1.3	0.05	0.05	0.07	0.07	12.7	9.1
Indoxacarb	-	2	-	1.8	-	0.06	-	0.11	-	0.7
Kaolin	*	5	1.4	1.2	32.06	30.39	44.94	38.44	22.9	610.3
Malathion	6	*	1.1	1.4	0.91	0.72	1.05	1.01	22.8	2.4
Methidathion	*	2	1.5	1.1	0.93	0.91	1.42	1.06	2.7	5.8
Methomyl	10	7	1.5	1.8	0.45	0.40	0.70	0.76	25.8	18.0
Methoxychlor	6	*	1.3	1.2	0.79	0.74	1.07	0.90	21.8	1.7
Methyl parathion	12	-	2.4	-	0.55	-	1.34	-	60.8	-
Oxamyl	4	1	1.2	1.3	0.51	0.41	0.61	0.56	8.3	2.6
Permethrin	5	4	1.1	1.2	0.11	0.11	0.13	0.14	2.3	1.7
Petroleum distillate	59	61	1.6	1.6	19.34	20.06	32.13	32.69	6,976.5	6,769.4
Phosmet	28	35	2.3	2.2	1.36	1.47	3.25	3.37	330.7	398.4
Phosphamidon	*	-	1.2	-	0.49	-	0.63	-	0.7	-
Potassium salts	*	-	1.1	-	2.70	-	2.96	-	3.7	-
Pyrethrins	-	*	-	1.6	-	0.03	-	0.04	-	0.1
Pyridaben	18	17	1.0	1.2	0.16	0.14	0.17	0.18	11.5	10.4
Pyriproxyfen	-	*	-	1.3	-	0.10	-	0.13	-	0.3
Spinosad	28	36	1.6	1.4	0.09	0.10	0.14	0.14	14.7	16.6
Tebufenozide	5	4	2.0	1.3	0.13	0.19	0.27	0.25	5.1	3.7
Thiamethoxam	-	4	-	1.0	-	0.06	-	0.06	-	0.8
<b>Fungicides:</b>										
Bacillus subtilis 3/	-	*	-	1.5	-	-	-	-	-	-
Bas copper zinc sulf.	*	*	1.0	1.0	0.10	0.14	0.11	0.15	**	**
Basic copper sulfate	*	4	1.1	1.3	1.96	0.65	2.21	0.89	4.7	11.6
Benomyl	11	9	2.4	1.9	0.23	0.20	0.56	0.38	22.9	11.3
Calcium polysulfide	3	8	1.2	1.2	16.99	19.28	20.34	24.34	253.9	681.0
Captan	37	33	5.0	4.9	1.63	1.49	8.27	7.36	1,128.8	824.9
Chlorothalonil	*	-	1.8	-	0.78	-	1.46	-	5.1	-
Copper chloride hyd.	-	*	-	1.7	-	3.60	-	6.45	-	11.2
Copper hydroxide	17	16	1.2	1.1	2.03	1.97	2.46	2.24	152.4	118.8
Copper oxychloride	-	3	-	1.2	-	1.87	-	2.37	-	24.8
Copper oxychlo. sul.	7	3	1.3	1.2	1.87	2.50	2.48	3.05	65.3	33.4
Copper resinate	*	-	1.0	-	0.26	-	0.26	-	0.3	-

See footnotes at end of table (next page).

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# Apples: Agricultural Chemical Applications, Major States, 1999 and 2001 1/ (cont.)

Agricultural Chemical 2/	Area Applied		Applications		Rate Per Application		Rate Per Crop Year		Total Applied	
	1999	2001	1999	2001	1999	2001	1999	2001	1999	2001
<b>Fungicides (continued):</b>	Percent		Number		Pounds Per Acre				1,000 Lbs.	
Copper sulfate	*	2	1.4	1.1	1.23	1.72	1.75	2.03	5.5	15.6
Cyprodinil	9	8	1.8	1.6	0.10	0.12	0.19	0.21	6.0	5.4
Dodine	3	1	1.4	1.4	0.96	0.80	1.40	1.20	14.5	4.7
Fenarimol	22	17	1.9	1.6	0.06	0.06	0.11	0.10	8.5	5.7
Ferbam	*	*	5.8	1.0	2.60	1.40	15.09	1.46	3.2	0.3
Fosetyl-al	8	4	1.1	1.2	1.50	1.58	1.67	1.95	49.6	23.4
Kresoxim-methyl	9	18	1.2	1.7	0.16	0.12	0.19	0.22	6.1	13.6
Mancozeb	34	33	3.2	2.9	2.04	2.08	6.72	6.11	830.5	679.3
Maneb	1	*	3.8	5.3	2.21	0.95	8.49	5.03	32.4	2.9
Mefenoxam	4	2	1.1	1.2	0.37	0.60	0.43	0.74	6.2	5.0
Metiram	17	11	3.4	3.6	2.61	1.88	9.06	6.80	573.9	251.4
Myclobutanil	42	37	2.3	2.0	0.10	0.09	0.23	0.19	35.0	23.6
Oxytetracycline	5	9	1.4	1.2	0.11	0.19	0.17	0.24	2.9	7.4
Pseudomonas fluores.	5	1	1.1	1.0	0.23	0.19	0.26	0.20	4.5	0.8
Streptomycin	19	19	1.5	1.7	0.15	0.18	0.22	0.31	15.4	20.0
Sulfur	35	36	2.4	2.1	5.23	4.94	12.67	10.38	1,653.3	1,274.3
Thiophanate-methyl	11	11	2.7	3.4	0.30	0.22	0.84	0.76	33.1	27.8
Thiram	4	4	1.6	3.2	2.85	1.35	4.66	4.35	72.4	61.4
Triadimefon	4	7	1.8	1.6	0.07	0.10	0.14	0.17	2.2	3.8
Trifloxystrobin	-	19	-	1.8	-	0.05	-	0.10	-	6.5
Triflumizole	17	24	1.4	1.5	0.21	0.23	0.30	0.36	19.5	29.5
Triforine	*	-	1.9	-	0.39	-	0.75	-	0.2	-
Ziram	13	13	2.2	2.8	2.50	1.94	5.72	5.47	268.8	237.2
<b>Other Chemicals:</b>										
Aluminum phosphide	-	1	-	1.0	-	0.42	-	0.43	-	1.9
Benzyladenine	3	20	1.3	1.1	0.03	0.03	0.05	0.03	0.6	2.3
Butenic Acid Hydro.	6	5	1.0	1.0	0.08	0.09	0.08	0.10	1.7	1.6
Chlorophacinone	1	*	1.0	1.0	0.13	0.04	0.13	0.04	0.5	0.1
Cytokinins 4/	17	2	1.1	1.0	0.02	-	0.03	-	1.7	**
Dodecadien-1-OL	-	14	-	1.0	-	0.06	-	0.06	-	2.9
Dodecanol	6	11	1.0	1.0	0.03	0.03	0.03	0.04	0.7	1.3
E-8-Dodecetyl acetat.	-	*	-	1.0	-	0.002	-	0.002	-	**
E, E-8, 10-Dodecadien	6	-	1.1	-	0.05	-	0.06	-	1.3	-
Ethephon	10	18	1.1	1.2	0.56	0.51	0.64	0.64	24.3	39.6
Gibberellic acid	20	3	1.2	1.5	0.02	0.02	0.03	0.03	2.0	0.3
Gibberellins A4A7	1	20	1.3	1.1	0.03	0.03	0.05	0.03	0.2	1.9
Harpin protein	-	*	-	1.1	-	0.003	-	0.003	-	**
Monocarbamide dihyd.	1	*	1.1	1.0	5.84	5.15	6.56	5.17	31.0	13.9
NAA	-	32	-	1.2	-	0.02	-	0.03	-	3.3
NAA, Potassium salt	-	7	-	1.1	-	0.03	-	0.04	-	0.9
NAD	6	8	1.1	1.1	0.05	0.05	0.05	0.06	1.2	1.5
Naphthaleneacetic ac.	34	-	1.2	-	0.04	-	0.04	-	5.4	-
Pelargonic acid	-	*	-	1.0	-	0.96	-	1.00	-	0.7
Prohexadione calcium	-	3	-	1.4	-	0.23	-	0.33	-	3.8
Strychnine	*	*	1.0	1.4	0.02	0.02	0.02	0.02	0.1	**
Tetradecanol	6	11	1.0	1.0	0.007	0.007	0.007	0.007	0.2	0.3
Tetradecen-1-OL (z)	*	*	1.1	1.6	0.05	0.08	0.05	0.13	**	0.1
Z-8-Dodecanol 4/	-	*	-	1.0	-	-	-	-	-	**
Z-8-Dodecen acetate	-	*	-	1.0	-	0.03	-	0.03	-	0.1
Zinc phosphide	3	3	1.0	1.1	0.13	0.17	0.13	0.19	1.4	2.1

Note: Data may not multiply across due to rounding. \* Applied on less than one percent of acres. \*\* Total applied is less than 50 pounds.

1/ Bearing acres in 1999 for the 11 major states were 367,700 acres. States included are AZ, CA, GA, NC, MI, NJ, NY, OR, PA, SC, & WA. Acreage in California and Arizona includes nonbearing acres. Acres in 2001 for the 8 major states were 337,600 acres. States included were CA, KS, MI, NY, NC, OR, PA, & WA. Applications of some active ingredients may refer only to nonbearing acres. 2/ Insufficient reports to publish data for the following agricultural chemicals: 1999; Herbicides: Dimethylamine, Atrazine, Clopyralid, DCPA, Dichlobenil, Disoproxil, EPTC, Fluazifop-P-butyl, Glyphosate, isopropyl, Hexazinone, Metolachlor, Napropamide, Pronamide, Prosulfuron, Sethoxydim, Sulfosate, Triclopyr. 2001; Herbicides: 2, 4-DP, Dimeth. salt, Dinoesb, Glyphosate, is. salt, Hexazinone, MCPA, Napropamide, Oxyfluorfen, Pronamide, Prosulfuron, Thiazopyr. 1999; Insecticides: Amitraz, Azadirachtin, Carbofuran, Cypermethrin, Disulfoton, Ethion, Ethyl parathion, Fenamiphos, Hydro. Ext. Neem oil, Methiocarb, Other Cube Resin, Oxydemeton-methyl, Oxythioquinox, Propargite, Pyrethrins, Rotenone, Ryania. 2001; Insecticides: Carbophenothion, Cyfluthrin, Ethion, Ethyl parathion, Fenamiphos, Methyl parathion, Oxythioquinox, Petroleum oil, Phosphamidon, Potassium salts, Propargite, Rotenone. 1999 Fungicides: Captafol, Copper (metallic), Copper ammonium carb., Copper chloride hydr., Copper oxide, Dinocap, Fenbuconazole, Glyodin, Iprodione, Metalaxyl, Potassium bicarbonate, Propiconazole. 2001; Fungicides: Azoxystrobin, Chlorothalonil, Copper oxide, Copper resinate, Dichlone, Fenbuconazole, Fludioxonil, Glyodin, Iprodione, Metalaxyl, Potassium bicarbon., Propiconazole, Tebuconazole, Triforine, Vinclozolin. 1999; Other Chemicals: Aluminum phosphide, Chloropicrin, Cholecalciferol, Diphenacone, Garlic oil, Gliocladium v. GL-21, Lactic Acid, Maleic hydrazide, Metaldehyde, Metam-sodium, Methyl bromide, Pelargonic acid. 2001; Other Chemicals: Chloropicrin, Dichloropropene, Diphacinone, Garlic oil, Gossypure, Indoleburyric acid, Lactic acid, Metam-sodium, Tetradecen-1-yl (E). 3/ Rates and total applied are not available because amounts of active ingredient are not comparable between products. 4/ Rates and total applied are not available because amounts of ingredients are too small.