

# WASHINGTON AGRICULTURAL CHEMICAL USAGE SWEET CHERRIES 2001 Crop



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

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## Sweet Cherries

Four states were surveyed for sweet cherries in 2001: California, Michigan, Oregon, and Washington. Surveyed acreage totaled 63,400 bearing acres. Washington was the second largest state surveyed for sweet cherries and accounted for 35 percent of the acreage.

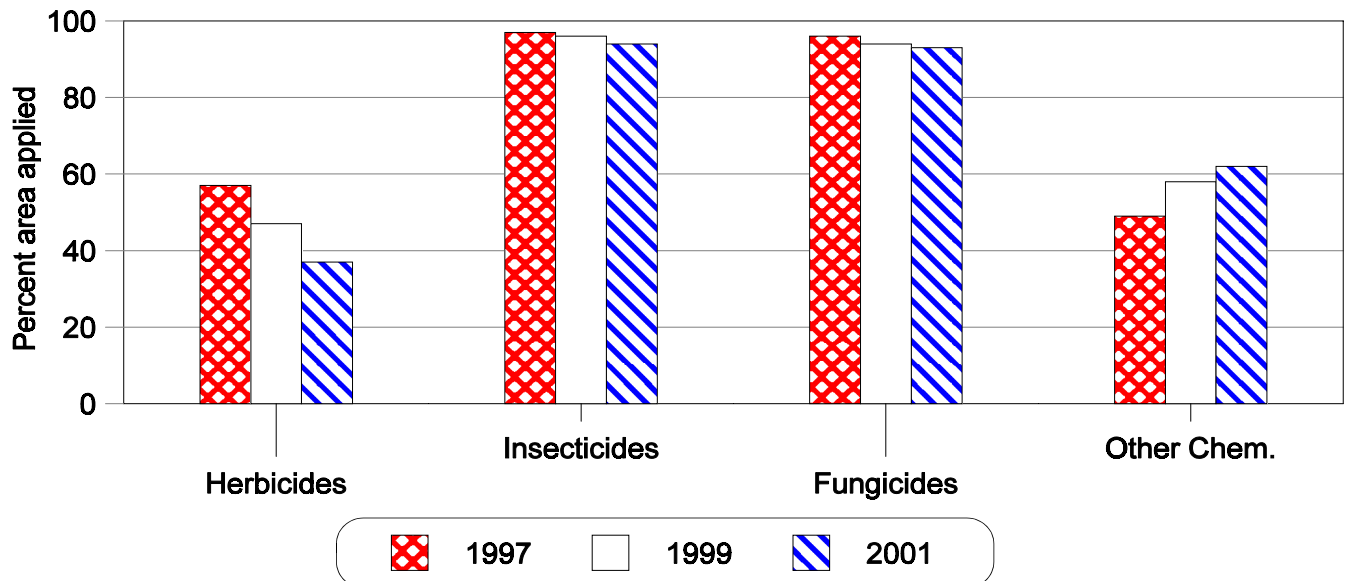
### Sweet Cherries: Pesticide Applications, Bearing Acreage and Percentage Receiving Applications, Major States and Total, 1999 and 2001

State	Bearing Acreage		Area Receiving 1/							
			Herbicide		Insecticide 2/		Fungicide		Other Chemicals	
	1999	2001	1999	2001	1999	2001	1999	2001	1999	2001
	Acres		Percent							
California	21,000	23,000	32	36	71	50	73	54	24	24
Michigan	8,100	7,400	49	60	96	99	99	99	66	70
Oregon	11,000	11,000	52	44	99	96	95	86	52	50
<b>Washington</b>	<b>18,000</b>	<b>22,000</b>	<b>47</b>	<b>37</b>	<b>96</b>	<b>94</b>	<b>94</b>	<b>93</b>	<b>58</b>	<b>62</b>
<b>TOTAL</b>	<b>58,100</b>	<b>63,400</b>	<b>43</b>	<b>41</b>	<b>87</b>	<b>79</b>	<b>87</b>	<b>79</b>	<b>46</b>	<b>47</b>

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

2/ Total applied excludes Bt's (*Bacillus thuringiensis*). Quantities are not available because amounts of active ingredient are not comparable between products

### Sweet Cherries: Ag Chemical Applications, Washington



## Sweet Cherries: 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>	<b>Percent</b>		<b>Number</b>		<b>Pounds Per Acre</b>				<b>1,000 Lbs.</b>	
Glyphosate	35	26	1.9	1.7	1.05	1.15	1.99	2.03	12.5	11.8
Oryzalin	11	5	1.5	1.7	1.34	1.55	2.05	2.71	4.0	3.0
Paraquat	14	18	1.6	2.0	0.65	1.07	1.08	2.23	2.6	8.6
<b>Insecticides:</b>										
Azinphos-methyl	86	72	1.5	1.6	0.72	0.80	1.13	1.35	17.5	21.6
Bt (Bacillus thur.) 3/	9	5	1.6	1.0						
Carbaryl	63	70	1.5	1.7	1.78	1.67	2.78	2.88	31.4	44.3
Chlorpyrifos	59	48	1.1	1.0	1.78	1.93	1.96	2.04	20.6	21.6
Diazinon	-	8	-	1.0	-	1.86	-	2.01	-	3.4
Dimethoate	15	17	1.0	1.0	1.04	0.98	1.12	1.04	3.1	4.0
Endosulfan	10	12	1.1	1.2	1.74	1.77	2.04	2.20	3.8	5.7
Malathion	-	40	-	1.9	-	1.07	-	2.07	-	18.3
Petroleum distillate	63	68	1.2	1.4	27.61	23.76	34.16	33.27	389.1	500.0
Spinosad	-	36	-	1.2	-	0.08	-	0.10	-	0.8
<b>Fungicides:</b>										
Azoxystrobin	-	7	-	1.2	-	0.18	-	0.23	-	0.4
Basic copper sulfate	-	3	-	1.2	-	6.98	-	8.34	-	4.8
Benomyl	3	-	1.0	-	0.81	-	0.81	-	0.4	-
Calcium polysulfide	13	13	1.2	1.2	15.00	23.54	18.15	28.41	43.0	78.2
Copper chloride hyd.	-	3	-	2.2	-	5.45	-	12.01	-	7.8
Copper hydroxide	43	47	1.2	1.3	3.37	3.57	4.14	4.68	32.2	47.9
Copper sulfate	5	5	1.4	1.3	3.50	2.01	5.00	2.61	4.1	3.0
Fenarimol	27	-	1.2	-	0.08	-	0.10	-	0.5	-
Iprodione	2	-	1.5	-	1.00	-	1.57	-	0.6	-
Myclobutanil	69	76	2.1	1.9	0.12	0.12	120.27	0.24	3.3	3.9
Propiconazole	34	44	1.6	1.5	0.11	0.12	0.18	0.18	1.1	1.8
Sulfur	84	56	2.7	2.6	6.59	7.62	18.20	19.79	276.0	245.6
Tebuconazole	21	32	1.1	1.3	0.21	0.21	0.23	0.28	0.9	2.0
<b>Other Chemicals:</b>										
Cytokinins 4/	-	2	-	1.1	-		-		-	*
Gibberellic acid	54	54	1.2	1.3	0.05	0.06	0.06	0.08	0.6	0.9

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

1/ Bearing acres in 1999 and 2001 for Washington were 18,000 acres and 22,000 acres.

2/ Insufficient reports to publish data for the following agricultural chemicals: 1999; Herbicides: 2,4-D, Difenzoquat, Glufosinate-ammonium, Glyphosate, isopropy, Norflurazon, Oxyfluorfen, Pronamide, Simazine. 2001; Herbicides: 2,4-D, 2,4-D, Dimeth.salt, Diuron, Napropamide, Norflurazon, Oxyfluorfen, Pendimethalin, Prosulfuron, Sulfosate. 1999; Insecticides: Aldicarb, Clofentezine, Diazinon, Esfenvalerate, Ethion, Fenamiphos, Fenbutatin-oxide, Malathion, Methidathion, Methoxychlor, Methyl parathion, Piperonyl butoxide, Potassium salts, Propargite, Pyrethrins, Pyridaben, Rotenone, Soybean oil. 2001; Insecticides: Abamectin, Benzoic acid, Clofentezine, Ethyl parathion, Fenbutatin-oxide, Formetanate hydro., Imidacloprid, Phosmet, Piperonyl butoxide, Potassium salts, Propargite, Pyrethrins, Pyridaben, Thiamethoxam. 1999; Fungicides: Azoxystrobin, Basic copper sulfate, Captafol, Captan, Copper (metallic), Copper ammonium carb., Copper oxychlo. sul., Fenbuconazole, Fosetyl-al, Maneb, Oxytetracycline, Streptomycin. 2001; Fungicides: Bas copper zinc sulf, Benomyl, Captan, Chlorothalonil, Copper amm. complex, Copper oxychlo. sul., Copper resinate, Cresol, Dimethylphenol, Dodine, Fenarimol, Fenbuconazole, Fosetyl-al, Kresoxim-methyl, Mancozeb, Maneb, Mefenoxam, Metalaxyl, Oxytetracycline, Potassium bicarbon., Streptomycin, Thiophanate-methyl, Triflumizole, Vinclozolin, Ziram. 1999; Other Chemicals: Butenoic acid hydro., Cytokinins, Diphacinone, Ethephon, Lactic acid, Metam-sodium, Methyl anthranilate, NAD, Naphthaleneacetic ac., Strychnine, Z-8-Dodecenyl acetate, Zinc phosphide. 2001; Other Chemicals: Aluminum phosphide, Benzyladenine, Butenoic acid hydro., Chlorophacinone, Diphacinone, Dodecadien-1-ol, Dodecanol, Ethephon, Garlic oil, Gibberellins A4A7, Harpin protein, Indolebutyric acid, Lactic acid, Methyl anthranilate, Monocarbamide dihyd., NAA, NAD, Prohexadione calcium, Strychnine, Tetradecanol, Zinc phosphide.

3/ Rates and total applied are not available, amounts of active ingredient are not comparable between products.

4/ Rates and total applied are not available because amounts of active ingredient are too small.

**Sweet Cherries: 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>	<b>Percent</b>		<b>Number</b>		<b>Pounds Per Acre</b>				<b>1,000 Lbs.</b>	
2, 4-D	5	4	1.1	1.2	0.74	0.55	0.88	0.70	2.8	1.7
2, 4-D, Dimethylamine	2	4	1.9	1.2	0.50	0.96	0.98	1.22	1.1	3.1
Glyphosate	32	26	1.5	1.7	0.88	0.77	1.35	1.35	24.9	22.4
Napropamide	-	*	-	1.0	-	2.62	-	2.62	-	0.7
Norflurazon	1	1	1.0	1.3	1.79	1.50	1.80	1.96	1.0	1.8
Oryzalin	9	3	1.3	1.5	1.39	1.51	1.83	2.25	9.4	4.0
Oxyfluorfen	8	6	1.2	1.1	0.49	0.47	0.60	0.53	3.0	2.0
Paraquat	12	14	1.3	1.5	0.49	0.80	0.66	1.27	4.4	11.4
Pendimethalin	-	1	-	1.1	-	2.10	-	2.50	-	2.1
Simazine	4	2	1.1	1.0	1.08	1.30	1.26	1.33	2.6	1.9
Sulfosate	-	1	-	1.4	-	0.83	-	1.22	-	0.8
<b>Insecticides:</b>										
Azinphos-methyl	44	37	1.9	2.1	0.64	0.67	1.27	1.40	32.0	32.8
Bt (Bacillus thur.) 3/	14	10	1.4	1.2						
Carbaryl	27	31	1.4	1.6	1.87	1.73	2.70	2.79	42.7	55.3
Chlorpyrifos	33	29	1.0	1.0	1.91	1.88	2.03	2.02	38.9	36.5
Clofentezine	3	3	1.0	1.0	0.14	0.15	0.15	0.16	0.3	0.3
Diazinon	9	8	1.1	1.1	1.40	1.61	1.64	1.88	8.9	9.7
Dimethoate	9	11	1.0	1.0	0.93	0.85	0.97	0.89	5.2	6.2
Endosulfan	5	5	1.1	1.2	1.53	1.69	1.72	2.07	4.7	6.1
Esfenvalerate	19	10	1.5	1.5	0.04	0.04	0.06	0.06	0.7	0.4
Malathion	24	-	3.1	-	1.20	-	3.76	-	51.6	-
Methidathion	1	1	1.0	1.1	1.36	1.26	1.42	1.46	1.1	0.9
Methyl parathion	*	-	1.3	-	0.56	-	0.76	-	0.4	-
Permethrin	6	6	1.4	1.8	0.11	0.13	0.17	0.25	0.6	1.0
Petroleum distillate	49	-	1.2	-	27.52	-	33.84	-	966.4	-
Petroleum oil	-	3	-	1.7	-	16.86	-	28.69	-	61.3
Phosmet	3	3	1.1	1.6	0.91	1.52	1.04	2.43	1.6	4.7
Propargite	5	*	1.2	1.0	1.50	1.80	1.84	1.80	5.2	1.0
Pyrethrins	-	*	-	6.3	-	0.07	-	0.07	-	**
Pyridaben	-	*	-	1.0	-	0.16	-	0.16	-	**

See footnotes at the end of the table.

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**Sweet Cherries: 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
	Percent		Number		Pounds Per Acre				1,000 Lbs.	
<b>Fungicides:</b>										
Azoxystrobin	1	4	1.3	1.2	0.19	0.20	0.26	0.23	0.2	0.5
Basic copper sulfate	1	2	1.0	1.1	3.99	5.62	4.03	6.39	3.5	7.1
Benomyl	5	6	1.3	1.3	0.54	0.66	0.71	0.90	2.1	3.3
Calcium polysulfide	6	6	2.4	1.2	6.58	28.09	16.36	35.87	55.6	146.6
Captan	7	5	1.8	1.6	1.78	1.73	3.31	2.85	12.7	8.5
Chlorothalonil	8	10	1.5	1.7	2.08	1.98	3.25	3.40	14.7	20.7
Copper chloride hyd.	-	1	-	2.1	-	5.39	-	11.49	-	7.9
Copper hydroxide	26	26	1.2	1.3	3.36	3.41	4.29	4.62	64.3	77.0
Copper oxychlor. sul.	4	1	1.3	1.1	4.21	3.85	5.57	4.46	14.1	4.0
Copper sulfate	3	3	1.3	1.3	4.11	1.96	5.36	2.55	9.3	4.4
Dodine	2	1	1.6	1.3	0.78	0.69	1.27	0.94	1.4	0.7
Fenarimol	11	11	1.3	1.3	0.07	0.07	0.10	0.09	0.6	0.7
Fenbuconazole	15	10	2.6	2.8	0.07	0.08	0.19	0.22	1.6	1.4
Ferbam	4	4	1.7	2.3	2.09	1.96	3.69	4.67	8.3	12.9
Fosetyl-al	2	*	1.7	1.3	2.47	1.57	4.34	2.07	5.2	1.2
Iprodione	15	15	1.5	1.1	0.73	0.71	1.10	0.84	9.6	7.8
Mancozeb	-	*	-	1.0	-	2.74	-	2.76	-	0.4
Myclobutanil	35	37	1.8	1.7	0.12	0.12	0.21	0.21	4.3	4.9
Propiconazole	19	25	1.5	1.6	0.11	0.11	0.16	0.18	1.9	2.9
Sulfur	52	36	2.7	2.9	6.04	6.42	16.54	19.02	503.1	429.3
Tebuconazole	32	26	1.4	1.9	0.18	0.17	0.26	0.33	4.8	5.5
Thiophanate-methyl	-	1	-	1.0	-	0.90	-	0.90	-	0.6
Vinclozolin	5	-	1.0	-	0.66	-	0.71	-	1.9	-
Ziram	2	3	1.7	1.9	2.75	2.12	4.82	4.14	5.9	8.5
<b>Other Chemicals:</b>										
Cyanamid	*	3	1.0	1.1	15.16	1.26	15.63	1.47	8.8	2.5
Cytokinins 4/	-	*	-	1.1	-	-	-	-	-	**
Ethephon	11	9	1.0	1.1	0.39	0.45	0.42	0.50	2.5	2.8
Gibberellic acid	30	32	1.1	1.4	0.05	0.05	0.06	0.08	1.0	1.5
Methyl anthranilate	*	*	1.4	1.5	1.67	1.76	2.35	2.75	0.7	0.2
Strychnine	-	*	-	1.0	-	0.01	-	0.01	-	**
Zinc phosphide	1	*	2.6	1.3	0.07	0.08	0.19	0.11	0.1	0.1

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 for the 4 major states were 58,100 acres. Bearing acres in 2001 for the 4 major states were 63,400 acres. States included both years were CA, MI, OR, & WA. Acreage in CA includes nonbearing acres. Application of some active ingredients may refer only to nonbearing acres.

2/ Insufficient reports to publish data for the following agricultural chemicals: 1999; Herbicides: Clethodim, Dichlobenil, Difenzoquat, Diuron, Glufosinate-ammonium, Glyphosate, isopropyl, Napropamide, Pendimethalin, Pronamide, Sulfosate, Triclopyr. 2001; Herbicides: 2,4-DP, Dimeth. salt, Clethodim, Fluazifop-P-butyl, Prosofuron, Terbacil. 1999; Insecticide: Aldicarb, Carbofuran, Dicofof, Diflubenzuron, Ethion, Fenamiphos, Fenbutatin-oxide, Lindane, Methoxychlor, Piperonyl butoxide, Potassium salts, Pyrethrins, Pyridaben, Rotenone, Soybean oil. 2001; Insecticides: Abamectin, Azadirachtin, Benzoic acid, Dicofof, Diflubenzuron, Ethion, Ethyl parathion, Fenamiphos, Fenbutatin-oxide, Formetanate hydro., Hexythiazox, Imidacloprid, Malathion, Methoxychlor, Oxythioquinox, Petroleum distillate, Piperonyl butoxide, Potassium salts, Spinosad, Thiamethoxam. 1999; Fungicides: Basic cupric zinc su., Captafol, Copper (metallic), Copper ammonium carb., Cresol, Dimethylphenol, Mancozeb, Maneb, Mefenoxam, Metiram, Oxytetracycline, Streptomycin, Triforine. 2001; Fungicides: Bas copper zinc sulf, Copper amm. complex, Copper oxide, Copper oxychloride, Copper resinate, Cresol, Cyprodinil, Kresoxim-methyl, Maneb, Mefenoxam, Metalaxyl, Oxytetracycline, PCNB, Potassium bicarbon., Streptomycin, Triadimefon, Trifloxystrobin, Triflumizole, Vinclozolin, Xylenol. 1999; Other Chemicals: Aluminum phosphide, Butenoic acid hydro. Chloropicrin, Cytokinins, Diphacinone, Dodecanol, E, E-8, 10-Dodecadien, Garlic oil, Lactic acid, Metaldehyde, Metam-sodium, Methyl bromide, NAD, Naphthaleneacetic ac., Strychnine, Tetradecanol, Z-8-Dodecenyl acetate. 2001; Other Chemicals: Aluminum phosphide, Benzyladenine, Butenoic acid hydro., Chlorophacinone, Chloropicrin, Dichloropropene, Diphacinone, Dodecadien-1-ol, Dodecanol, Garlic oil, Gibberellins A4A7, Harpin protein, indolebutyric acid, Lactic acid, Methyl bromide, Monocarbamide dihyd., NAA, NAD, Octadecadien (E, Z), Octadecadien (Z, Z), Prohexadione calcium, Sodium tetrathiocarb, Tetradecanol.

3/ Rates and total applied are not available, amounts of active ingredient are not comparable between products.

4/ Rates and total applied are not available because amounts of active ingredient are too small.