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Agricultural Chemical Usage
1991 Field Crops Summary

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Reference

Note: This is a reference cited in *AP 42, Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources.* AP42 is located on the EPA web site at www.epa.gov/ttn/chief/ap42/

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

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Corn: Agricultural Chemical Applications, Major States, 1991 1/

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		Mil Lbs
Fertilizers:					
Nitrogen	96	1.7	74	128	8,447.1
Phosphate	81	1.1	54	60	3,331.1
Potash	71	1.1	72	80	3,910.3
	Percent	Number	Pounds per Acre		1,000 Lbs
Herbicides:					
2,4-D	8	1.0	0.49	0.51	2,800
Alachlor	27	1.0	1.97	2.01	37,174
Ametryn	*	1.0	0.84	0.84	59
Atrazine	66	1.1	1.06	1.14	52,060
Bentazon	2	1.0	0.45	0.45	478
Bromoxynil	7	1.0	0.26	0.27	1,344
Butylate	3	1.0	3.93	4.00	8,478
Cyanazine	19	1.0	1.75	1.80	23,161
Dicamba	16	1.0	0.33	0.33	3,556
EPTC	5	1.0	4.25	4.25	14,355
Glyphosate	2	1.0	0.92	0.93	1,156
Linuron	*	1.0	0.67	0.67	93
Metolachlor	30	1.0	1.86	1.91	38,792
Nicosulfuron	4	1.0	0.03	0.03	76
Paraquat	1	1.0	0.42	0.42	201
Pendimethalin	3	1.0	1.15	1.15	2,745
Primisulfuron	1	1.0	0.03	0.03	29
Propachlor	1	1.0	1.74	1.74	1,456
Simazine	1	1.0	1.29	1.29	1,081
Tridiphane	1	1.0	0.57	0.57	264
Trifluralin	*	1.0	0.55	0.55	111
			Avg = 1.17		
Insecticides:					
Bifenthrin	*	1.0	0.06	0.06	14
Bt (Bacillus thur.)	*	1.0	4/7.66	4/7.66	5/2,094
Carbofuran	3	1.0	1.00	1.01	2,278
Chlorpyrifos	9	1.0	1.11	1.12	6,716
Diazinon	*	1.0	0.83	0.83	116
Dimethoate	*	1.7	0.40	0.68	78
Esfenvalerate	*	1.0	0.04	0.04	12
Flucythrinate	*	1.0	0.06	0.06	6
Fonofos	4	1.0	1.08	1.08	2,890
Methyl parathion	2	1.1	0.55	0.63	812

See footnote at end of table.

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Corn: Agricultural Chemical Applications,
Major States, 1991 1/ (Continued)

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		1,000 Lbs
Insecticides:					
Permethrin	2	1.0	0.13	0.14	207
Phorate	2	1.0	1.23	1.25	1,306
Propargite	*	1.0	1.20	1.20	146
Tefluthrin	2	1.0	0.15	0.15	244
Terbufos	8	1.0	1.10	1.10	5,986
Trimethacarb	*	1.0	1.04	1.04	121

Avr 0.67

* Applied on less than one percent of acres.
1/ Area planted in 1991 for the 17 major States was 68.6 million acres.
2/ Insufficient reports to publish data for the following agricultural chemicals: Herbicides: Clopyralid, Diuron, Imazaquin, Metribuzin, Oxyfluorfen, Thifensulfuron, Tribenuron-methyl. Insecticides: Carbophenothion, Ethoprop, Ethyl parathion, Methomyl.
3/ Refers to acres receiving one or more applications of a specific agricultural chemical.
4/ Unit is expressed in BIU (Billion International Units) per acre.
5/ Unit is expressed in 1,000 BIU (Billion International Units).

Note: Data may not multiply across due to rounding.
Source: **"Crop Production"** 1991 Summary and Agricultural Chemical Usage Survey. National Agricultural Statistics Service, USDA.

Corn: Agricultural Chemical Applications,
Georgia, 1991 1/

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		Mil Lbs
Fertilizers:					
Nitrogen	96	2.0	73	145	84.1
Phosphate	93	1.1	54	61	34.1
Potash	93	1.0	78	79	44.2
	Percent	Number	Pounds per Acre		1,000 Lbs
Herbicides:					
Atrazine	56	1.0	1.46	1.46	494
Pendimethalin	9	1.0	0.88	0.88	48

1/ Area planted in 1991 for Georgia was 600,000 acres.
2/ Insufficient reports to publish data for the following agricultural chemicals: Herbicides: 2,4-D, Alachlor, Butylate, Glyphosate, Linuron, Metolachlor, Nicosulfuron, Paraquat. Insecticides: Carbofuran, Chlorpyrifos, Methomyl, Terbufos.
3/ Refers to acres receiving one or more applications of a specific agricultural chemical.

Note: Data may not multiply across due to rounding.
Source: **"Crop Production"** 1991 Summary and Agricultural Chemical Usage Survey. National Agricultural Statistics Service, USDA.

Upland Cotton: Agricultural Chemical Applications, Major States, 1991 1/

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		Mil Lbs
Fertilizers:					
Nitrogen	81	1.7	54	91	796.4
Phosphate	52	1.1	44	47	264.9
Potash	34	1.1	45	48	178.5
	Percent	Number	Pounds per Acre		1,000 Lbs
Herbicides:					
Cyanazine	16	1.4	0.70	0.98	1,701
DSMA	4	1.1	1.59	1.71	761
Diuron	7	1.0	0.60	0.61	459
Fluazifop-P-butyl	6	1.1	0.12	0.14	83
Fluometuron	25	1.3	0.66	0.89	2,453
Glyphosate	3	1.1	0.64	0.68	226
Lactofen	3	1.1	0.11	0.11	39
MSMA	17	1.7	1.01	1.70	3,213
Methazole	5	1.2	0.48	0.58	335
Metolachlor	4	1.1	0.75	0.81	380
Norflurazon	16	1.2	0.62	0.73	1,258
Oxyfluorfen	2	1.2	0.15	0.17	29
Pendimethalin	17	1.1	0.80	0.86	1,551
Prometryn	23	1.1	0.65	0.72	1,821
Sethoxydim	2	1.0	0.21	0.22	42
Trifluralin	63	1.0	0.78	0.81	5,589
Insecticides:					
Abamectin	1	1.0	0.01	0.01	1
Acephate	10	1.5	0.35	0.54	583
Aldicarb	10	1.0	0.54	0.54	569
Azinphos-methyl	7	1.4	0.24	0.34	268
Chlorpyrifos	5	2.1	0.58	1.23	718
Cyfluthrin	8	2.0	0.03	0.07	61
Cypermethrin	11	1.3	0.05	0.06	72
Dicofol	5	1.0	0.73	0.75	423
Dicrotophos	13	1.3	0.24	0.31	440
Dimethoate	7	1.4	0.24	0.33	236
Esfenvalerate	11	1.6	0.03	0.05	57
Ethyl parathion	3	1.1	0.64	0.68	195
Lambdacyhalothrin	14	1.8	0.02	0.05	70
Methomyl	5	1.5	0.20	0.30	171
Methyl parathion	14	2.1	0.47	1.00	1,528
Oxamyl	5	1.4	0.21	0.31	157
Phorate	2	1.3	0.71	0.89	193
Profenofos	3	1.3	0.72	0.90	330
Thiodicarb	3	1.6	0.38	0.63	226
Tralomethrin	7	1.8	0.01	0.03	18

See footnote at end of table.

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Upland Cotton: Agricultural Chemical Applications, Major States, 1991 1/ (Continued)

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		1,000 Lbs
Fungicides:					
Etridiazole	3	1.1	0.18	0.19	62
PCNB	6	1.0	0.78	0.80	479
			Ans 0.45		
Other Chemicals:					
Arsenic acid	4	1.0	2.96	2.96	1,268
Cacodylic acid	2	1.1	0.82	0.93	203
Dimethipin	4	1.0	0.28	0.28	110
Endothall	5	1.3	0.07	0.08	48
Ethephon	21	1.1	0.89	0.97	2,179
Mepiquat chloride	23	1.6	0.02	0.03	64
Paraquat	12	1.1	0.26	0.28	372
Sodium chlorate	12	1.2	3.00	3.71	4,889
Thidiazuron	15	1.0	0.09	0.09	143
Tribufos	23	1.1	0.95	1.04	2,659

1/ Area planted in 1991 for the 6 major States was 10.9 million acres.
2/ Insufficient reports to publish data for the following agricultural chemicals: Herbicides: Alachlor, DCPA, Linuron. Insecticides: Amitraz, Bifenthrin, Bt (Bacillus thur.), Carbaryl, Diazinon, Disulfoton, Endosulfan, Flucythrinate, Malathion, Methamidophos, Methidathion, Oxydemeton-methyl, Permethrin, Phosphamidon, Propargite, Sulfur, Sulprofos. Fungicides: Mancozeb, Metalaxyl. Other Chemicals: Cytokinins, Dichloropropene, Metam-sodium.
3/ Refers to acres receiving one or more applications of a specific agricultural chemical.

Note: Data may not multiply across due to rounding.
Source: "Crop Production" 1991 Summary and Agricultural Chemical Usage Survey. National Agricultural Statistics Service, USDA.

Peanuts: Agricultural Chemical Applications, Major States, 1991 1/

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		Mil Lbs
Fertilizers:					
Nitrogen	69	1.1	21	23	23.3
Phosphate	79	1.0	43	44	52.2
Potash	79	1.0	68	69	80.9
	Percent	Number	Pounds per Acre		1,000 Lbs
Herbicides:					
2,4-DB	37	1.2	0.23	0.28	152
Acifluorfen	9	1.1	0.25	0.27	39
Benefin	17	1.0	0.96	0.98	252
Bentazon	38	1.1	0.49	0.52	294
Chlorimuron-ethyl	10	1.0	0.007	0.008	1
Ethalfluralin	33	1.0	0.71	0.72	357
Fluazifop-P-butyl	2	1.0	0.17	0.17	5
Imazethapyr	3	1.2	0.05	0.06	3
Metolachlor	37	1.2	1.62	1.91	1,045
Paraquat	42	1.1	0.15	0.16	102
Pendimethalin	25	1.1	0.83	0.89	331
Sethoxydim	13	1.0	0.21	0.22	42
Trifluralin	10	1.0	0.47	0.49	71
Vernolate	20	1.0	1.77	1.77	529
Insecticides:					
Acephate	3	1.2	0.55	0.65	26
Aldicarb	31	1.1	1.04	1.09	502
Carbaryl	4	1.1	0.97	1.11	71
Chlorpyrifos	17	1.0	1.78	1.80	460
Disulfoton	2	1.0	1.04	1.04	23
Esfenvalerate	9	1.1	0.03	0.03	4
Fenamiphos	1	1.0	2.15	2.15	34
Fonofos	3	1.0	1.89	1.89	79
Methomyl	11	1.3	0.38	0.48	76
Phorate	7	1.0	1.07	1.10	117
			Avg 0.78		
Fungicides:					
Basic copper sulfate	2	1.5	0.31	0.46	15
Benomyl	2	1.3	0.18	0.24	7
Chlorothalonil	88	4.3	0.99	4.32	5,641
Copper hydroxide	7	1.5	0.96	1.47	154
Copper resinate	2	1.4	0.17	0.23	7
Iprodione	1	1.1	0.92	0.99	15
Mancozeb	2	1.3	0.97	1.27	31
PCNB	2	1.1	1.86	2.02	67
Sulfur	27	2.6	1.47	3.84	1,569

See footnotes at end of table.

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Peanuts: Agricultural Chemical Applications,
Major States, 1991 1/ (Continued)

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		1,000 Lbs
Other Chemicals:					
Metam-sodium	4	1.0	31.25	31.25	1,917

1/ Area planted in 1991 for the 4 major States was 1.49 million acres.
2/ Insufficient reports to publish data for the following agricultural chemicals: Herbicides: Alachlor, Bromoxynil, Fenoxaprop-ethyl, Glyphosate, Lactofen, Naptalam. Insecticides: Bt (Bacillus thur.), Carbofuran, Ethoprop, Ethyl parathion, Propargite. Fungicides: Carboxin, Copper ammonium, Etridiazole, Maneb, Metalaxyl, Thiophanate-methyl. Other Chemicals: Dichloropropene, Methyl isothiocya.
3/ Refers to acres receiving one or more applications of a specific agricultural chemical.

Note: Data may not multiply across due to rounding.
Source: "Crop Production" 1991 Summary and Agricultural Chemical Usage Survey. National Agricultural Statistics Service, USDA.

Fall Potatoes: Agricultural Chemical Applications, Major States, 1991 1/

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		Mil Lbs
Fertilizers:					
Nitrogen	99	2.1	91	195	217.6
Phosphate	98	1.4	111	158	174.0
Potash	87	1.4	109	148	146.0
	Percent	Number	Pounds per Acre		1,000 Lbs
Herbicides:					
EPTC	30	1.1	3.31	3.48	1,192
Glyphosate	2	1.0	1.29	1.33	26
Linuron	6	1.1	0.78	0.84	53
Metolachlor	11	1.0	1.85	1.88	243
Metribuzin	60	1.1	0.45	0.47	321
Pendimethalin	17	1.0	0.90	0.91	175
Sethoxydim	3	1.1	0.21	0.24	7
Trifluralin	4	1.0	0.58	0.58	29
Insecticides:					
Azinphos-methyl	9	1.5	0.41	0.61	61
Carbaryl	2	1.4	0.82	1.11	27
Carbofuran	13	1.3	0.57	0.74	108
Cryolite	1	1.3	9.05	11.48	165
Diazinon	1	1.0	2.50	2.57	41
Dimethoate	2	1.5	0.34	0.50	10
Disulfoton	7	1.1	2.69	2.96	238
Endosulfan	13	1.4	0.66	0.94	141
Esfenvalerate	29	1.2	0.04	0.04	15
Ethoprop	9	1.0	4.19	4.19	408
Ethyl parathion	3	2.4	0.47	1.10	31
Fonofos	1	1.0	2.63	2.63	42
Methamidophos	23	1.5	0.84	1.24	322
Methyl parathion	1	1.1	0.50	0.56	7
Mevinphos	1	1.2	0.23	0.27	4
Oxamyl	2	1.7	0.69	1.15	25
Permethrin	11	1.3	0.11	0.15	19
Phorate	33	1.0	2.98	2.99	1,119
Phosmet	3	1.4	0.89	1.24	38
Phosphamidon	6	1.1	0.75	0.80	56
Piperonyl butoxide	*	2.6	0.37	0.97	5
Propargite	1	1.1	1.92	2.17	25
Rotenone	*	1.9	0.21	0.40	1

See footnote at end of table.

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Fall Potatoes: Agricultural Chemical Applications, Major States, 1991 1/ (Continued)

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		1,000 Lbs
Fungicides:					
Basic copper sulfate	1	1.0	* 2.69	2.69	21
Chlorothalonil	16	1.8	0.87	1.55	272
Copper hydroxide	5	1.7	0.53	0.91	54
DCNA	1	1.0	2.86	2.86	28
Iprodione	5	1.1	0.88	0.98	51
Mancozeb	32	3.5	1.14	3.95	1,415
Maneb	17	2.8	1.06	2.99	587
Metalaxyl	7	1.8	0.15	0.27	23
Metiram	3	1.8	1.01	1.78	50
Sulfur	1	1.6	2.59	4.23	40
Triphenyltin hydrox.	13	2.1	0.15	0.31	47
Other Chemicals:			Avg 1.14		
Dichloropropene	4	1.1	172.04	181.16	8,431
Diquat	26	1.2	0.28	0.34	101
Endothall	1	1.1	0.73	0.81	12
Maleic hydrazide	7	1.0	2.28	2.30	174
Metam-sodium	7	1.0	149.76	149.76	12,351
Paraquat	2	1.1	0.38	0.43	11
Sulfuric acid	6	1.0	243.45	243.45	15,570

* Applied on less than one percent of acres.
1/ Area planted in 1991 for the 11 major States was 1.13 million acres.
2/ Insufficient reports to publish data for the following agricultural chemicals: Herbicides: DCPA, Diallate, Propachlor. Insecticides: Bt (Bacillus thur.), Malathion, Methomyl. Fungicides: Anilazine, Copper ammonium, PCNB, Thiabendazole. Other Chemicals: Ametryn, Cytokinins.
3/ Refers to acres receiving one or more applications of a specific agricultural chemical.

Note: Data may not multiply across due to rounding.
Source: "Crop Production" 1991 Summary and Agricultural Chemical Usage Survey. National Agricultural Statistics Service, USDA.

Rice: Agricultural Chemical Applications, Major States, 1991 1/

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		Mil Lbs
Fertilizers:					
Nitrogen	99	2.4	52	126	231.4
Phosphate	32	1.1	42	46	27.2
Potash	34	1.0	45	47	29.4
	Percent	Number	Pounds per Acre		1,000 Lbs
Herbicides:					
2,4-D	8	1.0	0.83	0.84	130
Acifluorfen	5	1.1	0.21	0.23	21
Bensulfuron-methyl	2	1.0	0.04	0.04	1
Bentazon	4	1.0	0.84	0.84	67
Bromoxynil	7	1.1	0.23	0.26	31
Fenoxaprop-ethyl	18	1.0	0.19	0.20	68
Glyphosate	3	1.1	0.54	0.58	32
Molinate	39	1.1	3.08	3.47	2,515
Pendimethalin	6	1.0	0.89	0.89	107
Propanil	80	1.3	3.37	4.50	6,696
Thiobencarb	15	1.1	2.34	2.54	717
Triclopyr	2	1.0	0.35	0.35	12
Insecticides:					
Carbofuran	8	1.0	0.50	0.50	72
Methyl parathion	10	1.0	0.47	0.48	91
			Avr. 0.99		
Fungicides:					
Benomyl	15	1.2	0.58	0.69	196
Iprodione	5	1.1	0.48	0.53	52
Propiconazole	6	1.0	0.26	0.27	27

1/ Area planted in 1991 for the 2 major States was 1.86 million acres.
2/ Insufficient reports to publish data for the following agricultural chemicals: Herbicides: MCPA, Quinclorac, Trifluralin. Insecticides: Malathion. Other Chemicals: Sodium chlorate.
3/ Refers to acres receiving one or more applications of a specific agricultural chemical.

Note: Data may not multiply across due to rounding.
Source: "Crop Production" 1991 Summary and Agricultural Chemical Usage Survey. National Agricultural Statistics Service, USDA.

Sorghum: Agricultural Chemical Applications,
Major States, 1991 1/

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		Mil Lbs
Fertilizers:					
Nitrogen	86	1.3	60	76	527.1
Phosphate	44	1.0	33	34	117.9
Potash	11	1.0	22	22	20.1
	Percent	Number	Pounds per Acre		1,000 Lbs
Herbicides:					
2,4-D	9	1.1	0.35	0.38	269
Alachlor	8	1.1	1.58	1.68	1,146
Atrazine	68	1.1	0.91	0.97	5,249
Bromoxynil	2	1.0	0.21	0.21	40
Cyanazine	2	1.0	0.77	0.77	96
Dicamba	2	1.0	0.23	0.23	45
Glyphosate	4	1.1	0.52	0.59	173
Metolachlor	20	1.0	1.34	1.36	2,195
Propachlor	6	1.0	2.05	2.05	1,042
Insecticides:					
Carbofuran	5	1.0	0.93	0.93	339
Chlorpyrifos	3	1.0	0.53	0.53	130
Ethyl parathion	2	1.0	0.77	0.77	106
Methomyl	2	1.3	0.30	0.39	48
Terbufos	2	1.0	0.78	0.78	144

Ak 0.81

1/ Area planted in 1991 for the 3 major States was 8.05 million acres.
2/ Insufficient reports to publish data for the following agricultural chemicals: Herbicides: Bentazon, Diuron, Linuron, Paraquat, Pendimethalin, Picloram, Propazine, Trifluralin. Insecticides: Aldicarb, Carbaryl, Cyfluthrin, Diazinon, Dicrotophos, Dimethoate, Disulfoton, Esfenvalerate, Malathion, Methoxychlor, Phorate, Propargite.
3/ Refers to acres receiving one or more applications of a specific agricultural chemical.

Note: Data may not multiply across due to rounding.
Source: "Crop Production" 1991 Summary and Agricultural Chemical Usage Survey. National Agricultural Statistics Service, USDA.

Soybeans: Agricultural Chemical Applications, Major States, 1991 1/

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		Mil Lbs
Fertilizers:					
Nitrogen	16	1.1	23	25	211.4
Phosphate	22	1.0	46	47	538.2
Potash	23	1.0	74	76	948.0
	Percent	Number	Pounds per Acre		1,000 Lbs
Herbicides:					
2,4-DB	1	1.1	0.15	0.17	133
Acifluorfen	9	1.0	0.19	0.20	946
Alachlor	12	1.0	2.01	2.04	12,835
Bentazon	12	1.0	0.63	0.64	4,243
Chloramben	*	1.0	0.94	0.94	242
Chlorimuron-ethyl	17	1.1	0.02	0.02	217
Clomazone	6	1.0	0.58	0.58	1,948
Ethalfluralin	3	1.0	0.83	0.83	1,368
Fluazifop-P-butyl	5	1.0	0.13	0.14	373
Fomesafen	2	1.0	0.24	0.25	260
Glyphosate	5	1.0	0.80	0.83	2,358
Imazaquin	15	1.0	0.09	0.09	772
Imazethapyr	24	1.0	0.06	0.06	718
Lactofen	1	1.0	0.12	0.12	58
Linuron	3	1.0	0.58	0.59	979
Metolachlor	8	1.0	1.78	1.80	7,625
Metribuzin	16	1.0	0.31	0.31	2,715
Paraquat	2	1.0	0.53	0.55	452
Pendimethalin	17	1.0	0.82	0.86	7,908
Quizalofop-ethyl	3	1.0	0.07	0.07	122
Sethoxydim	5	1.0	0.20	0.20	488
Thifensulfuron	5	1.0	0.004	0.004	10
Trifluralin	35	1.0	0.86	0.87	16,324
Insecticides:					
Methomyl	*	1.1	0.32	0.34	26
Methyl parathion	1	1.2	0.47	0.56	205
Permethrin	*	1.1	0.11	0.12	22
Thiodicarb	*	1.0	0.55	0.56	115

* Applied on less than one percent of acres. Ac 0.50

1/ Area planted in 1991 for the 16 major States was 53.2 million acres.

2/ Insufficient reports to publish data for the following agricultural chemicals: Herbicides: 2,4-D, Benefin, Bifenox, Chlorpropham, EPTC, Fenoxaprop-ethyl, Naptalam, Norflurazon, Oryzalin, Propachlor, Tribenuron-methyl, Vernolate. Insecticides: Acephate, Aldicarb, Bt (Bacillus thur.), Carbaryl, Carbofuran, Chlorpyrifos, Dimethoate, Esfenvalerate, Malathion, Phorate, Tralomethrin. Fungicides: Benomyl, Metalaxyl, Thiophanate-methyl.

3/ Refers to acres receiving one or more applications of a specific agricultural chemical.

Note: Data may not multiply across due to rounding.

Source: "Crop Production" 1991 Summary and Agricultural Chemical Usage Survey. National Agricultural Statistics Service, USDA.

Winter Wheat: Agricultural Chemical Applications, Major States, 1991 1/

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		Mil Lbs
Fertilizers:					
Nitrogen	84	1.5	43	65	1,871.0
Phosphate	50	1.0	39	40	677.2
Potash	19	1.0	52	54	359.7
	Percent	Number	Pounds per Acre		1,000 Lbs
Herbicides:					
2,4-D	13	1.0	0.34	0.35	1,540
Bromoxynil	2	1.0	0.25	0.25	153
Chlorsulfuron	9	1.0	0.01	0.01	45
Dicamba	3	1.0	0.10	0.10	106
Glyphosate	1	1.1	0.47	0.54	217
MCPA	3	1.0	0.35	0.36	413
Metsulfuron-methyl	6	1.0	0.004	0.004	7
Thifensulfuron	3	1.0	0.01	0.01	13
Tribenuron-methyl	3	1.0	0.007	0.007	7
Insecticides:					
Permethrin	4	1.0	0.10	0.10	145
Fungicides:					
Propiconazole	1	1.0	0.12	0.12	22

1/ Area harvested in 1991 for the 15 major States was 34.1 million acres.
2/ Insufficient reports to publish data for the following agricultural chemicals: Herbicides: Atrazine, Barban, Clopyralid, Cyanazine, Diclofop-methyl, Difenzoquat, Diuron, Imazamethabenz, Metribuzin, Paraquat, Picloram, Terbutryn, Triallate, Trifluralin. Insecticides: Carbofuran, Chlorpyrifos, Dimethoate, Disulfoton, Ethyl parathion, Methomyl, Methyl parathion, Phorate. Fungicides: Benomyl, Mancozeb, Thiabendazole, Thiophanate-methyl, Triadimefon.
3/ Refers to acres receiving one or more applications of a specific agricultural chemical.

Note: Data may not multiply across due to rounding.
Source: **"Crop Production"** 1991 Summary and Agricultural Chemical Usage Survey. National Agricultural Statistics Service, USDA.

Durum Wheat: Pesticide Applications,
Total Acreage and Percentage Receiving Applications,
North Dakota, 1991

State	Area Planted	Area Receiving 1/			
		Herbicide	Insecticide	Fungicide	Other Chemical
	1,000 Acres	Percent			
ND	2,900	94	6	*	*

* Applied on less than one percent of acres.
1/ Refers to acres receiving one or more applications of a specific pesticide class.

Source: "Crop Production" 1991 Summary and Agricultural Chemical Usage Survey. National Agricultural Statistics Service, USDA.

Durum Wheat: Agricultural Chemical Applications,
North Dakota, 1991 1/

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		Mil Lbs
Fertilizers:					
Nitrogen	72	1.5	30	47	97.9
Phosphate	63	1.0	27	28	50.6
Potash	7	1.0	8	8	1.7
	Percent	Number	Pounds per Acre		1,000 Lbs
Herbicides:					
2,4-D	56	1.0	0.32	0.33	533
Dicamba	31	1.0	0.07	0.07	61
MCPA	30	1.1	0.38	0.40	347
Metsulfuron-methyl	10	1.0	0.004	0.004	1
Triallate	16	1.0	0.87	0.87	416
Tribenuron-methyl	15	1.0	0.008	0.008	3
Trifluralin	34	1.0	0.36	0.36	348

1/ Area planted in 1991 for North Dakota was 2.9 million acres.
2/ Insufficient reports to publish data for the following agricultural chemicals: Herbicides: Bromoxynil, Diclofop-methyl, Difenzoquat, Glyphosate, Imazamethabenz, Thifensulfuron. Insecticides: Carbaryl, Dimethoate, Ethyl parathion, Malathion.
3/ Refers to acres receiving one or more applications of a specific agricultural chemical.

Note: Data may not multiply across due to rounding.
Source: "Crop Production" 1991 Summary and Agricultural Chemical Usage Survey. National Agricultural Statistics Service, USDA.

Other Spring Wheat: Agricultural Chemical Applications, Major States, 1991 1/

Agricultural Chemical 2/	Area Applied 3/	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		Mil Lbs
Fertilizers:					
Nitrogen	72	1.4	39	55	534.1
Phosphate	63	1.0	29	29	250.2
Potash	23	1.1	19	20	62.4
	Percent	Number	Pounds per Acre		1,000 Lbs
Herbicides:					
2,4-D	56	1.0	0.31	0.31	2,361
Bromoxynil	9	1.0	0.22	0.22	267
Dicamba	25	1.0	0.07	0.08	257
Diclofop-methyl	2	1.0	0.75	0.75	242
Fenoxaprop-ethyl	9	1.0	0.10	0.10	117
Imazamethabenz	3	1.0	0.33	0.33	118
MCPA	38	1.0	0.31	0.33	1,663
Thifensulfuron	9	1.0	0.01	0.01	15
Triallate	3	1.0	1.05	1.05	385
Tribenuron-methyl	16	1.0	0.007	0.007	16
Trifluralin	5	1.0	0.38	0.38	281
			Ave 0.32		
Fungicides:					
Propiconazole	2	1.0	0.11	0.11	31

1/ Area planted in 1991 for the 4 major States was 13.5 million acres.
2/ Insufficient reports to publish data for the following agricultural chemicals: Herbicides: Chlorsulfuron, Clopyralid, Difenzoquat, Diuron, Glyphosate, Metsulfuron-methyl, Picloram, Propanil. Insecticides: Carbaryl, Carbofuran, Ethyl parathion, Malathion, Methyl parathion. Fungicides: Mancozeb.
3/ Refers to acres receiving one or more applications of a specific agricultural chemical.

Note: Data may not multiply across due to rounding.
Source: "Crop Production" 1991 Summary and Agricultural Chemical Usage Survey. National Agricultural Statistics Service, USDA.