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Agricultural Chemical Usage 2006 Field Crops Summary

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Update Alert

Corrections on pages 71 and 72. Data and stubs were misaligned on Winter Wheat tables for Oregon and South Dakota.

Overview

The agricultural chemical use estimates in this report refer to on-farm use of commercial fertilizers and pesticides on targeted field crops for the 2006 crop year. Field crops include rice, organic soybeans, soybeans, durum wheat, other spring wheat, and winter wheat. Farm operators were enumerated late in the growing season after the farm operator had indicated that planned applications were completed. The chemical use data were not summarized for geographical areas other than by those States published in this report.

The data were compiled from 2 surveys, the Agricultural Resources Management Survey (ARMS) and Conservation Effects Assessment Project (CEAP). Data collection occurred primarily during the months of September to December of 2006. An example of the survey instrument used in data collection is included in the back of this publication.

The table below shows the number of States included in the survey, the number of summarized reports from the States, and the percent of the Program States' acres planted to that commodity compared with the U.S. total. Producers of soybeans, durum wheat, other spring wheat, and winter wheat were last surveyed using both ARMS and CEAP surveys in 2004. Rice producers were last surveyed in 2000.

Agricultural Chemical Use Survey Coverage, 2006 and 2004						
Crop	2006			2004		
	States Surveyed	Reports Summarized	U.S. Acreage Included in Survey	States Surveyed	Reports Summarized	U.S. Acreage Included in Survey
	-- Number --		Percent	-- Number --		Percent
Rice	6	710	100			
Soybeans	19	3,051	96	11	3,163	81
Soybeans	---	---	---	---	---	---
Organic	19	311				
Wheat	---	---	---	---	---	---
Durum	2	283	92	2	211	90
Other	---	---	---	---	---	---
Spring	6	760	99	7	953	81
Winter	14	1,828	87	14	2,087	85

Program States Surveyed for 2006 Field Crops

State	Rice	Soybeans	Organic Soybeans	Durum Wheat	Other Spring Wheat	Winter Wheat
Arkansas	X	X	X			
California	X					
Colorado						X
Idaho					X	X
Illinois		X	X			X
Indiana		X	X			
Iowa		X	X			
Kansas		X	X			X
Kentucky		X	X			
Louisiana	X	X	X			
Michigan		X	X			X
Minnesota		X	X		X	
Mississippi	X	X	X			
Missouri	X	X	X			X
Montana				X	X	X
Nebraska		X	X			X
North Carolina		X	X			
North Dakota		X	X	X	X	
Ohio		X	X			X
Oklahoma						X
Oregon						X
South Dakota		X	X		X	X
Tennessee		X	X			
Texas	X					X
Virginia		X	X			
Washington					X	X
Wisconsin		X	X			

Highlights

Rice: Nitrogen was applied to 97 percent of the 2006 rice planted acreage in the 6 Program States: Arkansas, California, Louisiana, Mississippi, Missouri, and Texas. Rice growers applied an average of 183 pounds of nitrogen per acre per crop year. Phosphate was applied to 67 percent of the rice planted acreage in the Program States at an average rate of 53 pounds per acre per crop year. Potash, applied at 65 pounds per acre per crop year, was applied to 54 percent of the acreage planted to rice. Sulfur was applied to 18 percent of the acres planted at an average rate of 26 pounds per acre per crop year.

Herbicides were applied to 95 percent of the Program States' rice planted acreage in 2006. Clomazone was the most widely applied herbicide with 50 percent of the planted acreage being treated. It was applied at an average rate of 0.437 pounds per acre per crop year. Propanil was applied to 46 percent of the planted acres at an average rate of 3.445 pounds per acre per crop year. Quinclorac was the third most commonly applied, with 24 percent of the planted acres treated. An average of 0.295 pounds per acre per year was applied.

In 2006, 21 percent of the rice planted acreage in the Program States was treated with insecticides. Lambda-cyhalothrin, Zeta-cypermethrin, and Methyl parathion were the most widely applied insecticides, at 9, 6, and 4 percent, respectively, to the acres planted to rice.

Fungicides were applied to 41 percent of the planted acres in the Program States. Azoxystrobin was applied to 27 percent of the acres at an average rate of 0.153 pounds per acre per year. Propiconazole was applied to 19 percent of the planted acres at an average rate of 0.118 pounds per acre per year. Trifloxystrobin was applied to 9 percent of the planted acres at an average rate of 0.118 pounds per acre per year.

Sodium chlorate was the only Other Chemical reported often enough to publish application data. It was applied to 4 percent of the planted acres at an average rate of 4.280 pounds per acre per year.

Soybeans: Nineteen States were included in the 2006 survey: Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, North Carolina, North Dakota, Ohio, South Dakota, Tennessee, Virginia, and Wisconsin. Nitrogen was applied to 18 percent of the 2006 soybean planted acres in the Program States at an average rate of 16 pounds per acre per year. Phosphate was applied to 23 percent of the planted acres, at an average rate of 46 pounds per acre. An average of 80 pounds per acre of Potash was applied to 25 percent of the planted acreage. Sulfur was applied to 3 percent of the planted acres at an average rate of 11 pounds per acre.

Herbicides were applied to 98 percent of the soybean planted acreage in 2006 in the 19 Program States. Glyphosate isopropylamine salt was the most widely applied herbicide with 92 percent of planted acres treated at an average rate of 1.330 pounds per acre per crop year. The herbicide 2,4-D, 2-EHE was a distant second, in terms of percent of acres treated, with 7 percent of the acres receiving an application with an average rate of 0.503 pounds per acre per year.

Insecticides were applied to 16 percent of the 2006 soybean planted acreage. The three most common, Lambda-cyhalothrin, Chlorpyrifos, and Esfenvalerate, were applied to 6, 5, and 3 percent of the planted acres, respectively.

Fungicide were applied to 4 percent of the soybean planted acreage in the Program States. Pyraclostrobin and Azoxystrobin were the only two fungicides reported on more than one half of one percent of the planted acres. Pyraclostrobin was applied to 2 percent of the planted acres at an average rate of 0.112 pounds per acre per year. Azoxystrobin was applied to 1 percent of planted acres at an average rate of 0.106 pounds per acre per year.

Organic Soybeans: Nineteen States were included in the 2006 survey: Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, North Carolina, North Dakota, Ohio, South Dakota, Tennessee, Virginia, and Wisconsin. There were insufficient reports of organic pesticides applied to the organic soybean acreage in the 19 surveyed States to publish any usage data.

Durum Wheat: Two durum wheat producing States were included in the 2006 survey: Montana and North Dakota. Nitrogen applications averaged 62 pounds per acre per crop year and were applied to 92 percent these States' planted acres. An average of 23 pounds per acre of phosphate was applied to 74 percent of the durum wheat planted acres in the Program States. Potash was applied to 7 percent of the planted acreage at an average of 9 pounds per acre per year in the States surveyed. Sulfur was applied on 4 percent of the acres planted with an average application of 4 pounds per acre per year.

Herbicides were applied to 95 percent of the durum wheat acreage in 2006 in the Program States. Glyphosate isopropylamine salt was the most widely used herbicide, applied to 47 percent of the planted acreage at a rate of 0.396 pounds per acre per crop year. The next most commonly applied herbicide on a per acre basis was Fenoxaprop-p-ethyl. It was applied to 37 percent of the acres at an average rate of 0.052 pounds per acre per year. That was followed by MCPA, 2-ethylhexyl applied to 34 percent of the planted acreage for durum wheat with an average rate of 0.274 pounds per acre per year.

The fungicide Propiconazole was applied to 5 percent of the durum wheat planted acres with an average rate of 0.056 pounds per acre per crop year. This was the only fungicide reported often enough to provide usage data.

Other spring wheat: Six other spring wheat producing States were included in the 2006 survey: Idaho, Minnesota, Montana, North Dakota, South Dakota, and Washington. Nitrogen applications averaged 72 pounds per acre per crop year to 95 percent of these States' planted acres. An average of 32 pounds per acre per year of phosphate was applied to 85 percent of the other spring wheat planted acres in the Program States. Potash was applied to 27 percent of the planted acreage at an average of 18 pounds per acre per year in the Program States. Sulfur was applied on 13 percent of the acres planted at an average application rate of 13 pounds per acre per year.

Herbicides were applied to 93 percent of the Program State planted acreage. MCPA, 2ethylhexyl was the most commonly applied herbicide with 40 percent of the planted acres receiving one application. It was applied at an average rate of 0.281 pounds per acre per year. Bromoxynil octanoate was applied to 32 percent of the planted acres at an average rate of 0.241 pounds per acre per year. Glyphosate isopropylamine salt was used on 30 percent of all planted acres at an average application rate of 0.624 pounds was applied per acre per crop year.

Insecticides were applied to 1 percent of the Program State acres, but each individual active ingredient was applied to less than one half of one percent of the planted acres. Dimethoate and

Lambda-cyhalothrin were applied at an average rate of 0.384 and 0.023 pounds per acre per year, respectively.

Fungicides were applied to 15 percent of the other spring wheat planted acres in 2006. Propiconazole and Pyraclostrobin were each applied to 7 percent of the planted acreage at an average rate of 0.069 and 0.055 pounds per acre per year, respectively. Tebuconazole and Trifloxystrobin were each applied to 2 percent of the other spring wheat planted acres in 2006 with average rates per crop year of 0.101 and 0.074 pounds per acre, respectively.

Winter Wheat: Fourteen winter wheat producing States were included in the 2006 survey: Colorado, Idaho, Illinois, Kansas, Michigan, Missouri, Montana, Nebraska, Ohio, Oklahoma, Oregon, South Dakota, Texas, and Washington. Nitrogen applications averaged 64 pounds per acre per crop year and were applied to 80 percent of the Program States' planted acres. An average of 34 pounds of phosphate per acre per year was applied to 57 percent of the winter wheat planted acres in the Program States. Potash was applied to 17 percent of the planted acreage at an average rate of 49 pounds per acre per year in the States surveyed. Sulfur was applied on 14 percent of the acres planted at an average of 14 pounds per acre per year.

Herbicides were applied to 49 percent of the winter wheat planted acreage in 2006 in the 14 Program States. Glyphosate isopropylamine salt was the most widely used herbicide, applied to 15 percent of the planted acreage at a rate of 0.963 pounds per acre per crop year. The two next most commonly applied herbicides, on a per acre basis were 2,4-D, 2-EHE and Metsulfuron-methyl, at 14 percent with average application rates of 0.440 and 0.002 pounds per acre per year, respectively.

Insecticides were applied to 3 percent of the 2006 winter wheat planted acreage. Chlorpyrifos, at 2 percent, was the only insecticide applied to more than one half of one percent of the planted acres. It was applied at an average rate of 0.378 pounds per acre per year.

Fungicide treatments were applied to 2 percent of the winter wheat acreage in the Program States. Azoxystrobin, Propiconazole, and Pyraclostrobin were each applied to 1 percent of the winter wheat planted acres. They were applied at 0.055, 0.082, and 0.078 pounds per acre per year respectively.

Rice: Fertilizer Use by State, 2006
Percent of Acres Treated and Total Applied

State	Planted Acreage	Percent of Acres Treated and Total Applied							
		Nitrogen		Phosphate		Potash		Sulfur	
	<i>1,000 Acres</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>
AR	1,406	97	281.2	68	54.7	60	64.9	9	6.0
CA	526	94	61.4	75	18.2	40	7.2	31	4.0
LA	350	99	52.8	78	14.6	75	16.2	4	0.3
MS	190	99	35.8	29	2.5	4	0.5	42	1.5
MO	216	100	45.2	47	5.5	42	5.7	29	0.7
TX	150	97	29.2	92	5.8	89	6.0	30	0.6
Total	2,838	97	505.6	67	101.2	54	100.4	18	13.1

Rice 2006: Number of Usable Reports
6 Program States Total - 710



**Rice: Fertilizer Primary Nutrient Applications,
Program States and Total, 2006**

Primary Nutrient	Planted Acreage	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>1,000 Acres</i>	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>Mil. lbs</i>
Arkansas	1,406					
Nitrogen		97	2.2	96	206	281.2
Phosphate		68	1.0	56	57	54.7
Potash		60	1.0	76	77	64.9
Sulfur		9	1.2	37	45	6.0
California	526					
Nitrogen		94	2.1	58	124	61.4
Phosphate		75	1.1	41	46	18.2
Potash		40	1.0	34	34	7.2
Sulfur		31	1.2	20	24	4.0
Louisiana	350					
Nitrogen		99	2.3	67	152	52.8
Phosphate		78	1.2	47	54	14.6
Potash		75	1.1	54	62	16.2
Sulfur		4	1.4	13	18	0.3
Mississippi	190					
Nitrogen		99	3.2	59	190	35.8
Phosphate		29	1.1	40	45	2.5
Potash		4	1.0	68	68	0.5
Sulfur		42	1.8	11	19	1.5
Missouri	216					
Nitrogen		100	2.2	94	209	45.2
Phosphate		47	1.0	51	54	5.5
Potash		42	1.0	63	63	5.7
Sulfur		29	1.0	11	11	0.7
Texas	150					
Nitrogen		97	3.9	52	201	29.2
Phosphate		92	1.2	37	42	5.8
Potash		89	1.1	40	45	6.0
Sulfur		30	1.1	12	13	0.6
Program States	2,838					
Nitrogen		97	2.3	79	183	505.6
Phosphate		67	1.1	49	53	101.2
Potash		54	1.0	62	65	100.4
Sulfur		18	1.3	21	26	13.1

**Rice: Active Ingredients and
Publication Status
By Program States, 2006**

Active Ingredient	Program States						
	ALL	AR	CA	LA	MS	MO	TX
Herbicides							
2,4-D, 2-EHE	*	*		*			
2,4-D, dieth salt	*	*	*	*			*
2,4-D, dimeth. salt	P	P	*	P	P	*	*
2,4-DP, dimeth. salt	P		*		*		
Acifluorfen, sodium	P	P		*	P	*	
Bensulfuron-methyl	P	P	*	P	*		P
Bentazon	P	*					*
Bispyribac-sodium	P	P	P	P	*	*	P
Carfentrazone-ethyl	P	P	*	*	P	P	P
Clomazone	P	P	P	P	P	P	P
Cyhalofop-butyl	P	P	P	P	P	P	P
Fenoxaprop	P	P	*	P	*	P	*
Fenoxaprop-p-ethyl	*	*	*		*		
Flumioxazin	P	*		*	*		
Glyphosate amm. salt	*			*			
Glyphosate iso. salt	P	P	*	P	P	*	P
Halosulfuron	P	P		P	P	P	P
Imazamox	P	P		*	*	*	*
Imazethapyr	P	P		P	P	P	P
Molinate	P	P	P	P		P	P
Paraquat	*	*					
Pendimethalin	P	*	*	*	P	P	P
Penoxsulam	P	*	P	*			*
Propanil	P	P	P	P	P	P	P
Quinclorac	P	P		P	P	P	P
Sethoxydim	*						*
Sulfosate	P	*		*	*		
Thifensulfuron	P			*	*	*	P
Thiobencarb	P	*	P			*	*
Tribenuron-methyl	P			*	*	*	P
Triclopyr	P	P	P	*	*		P

See footnote(s) at end of table.

--continued

**Rice: Active Ingredients and
Publication Status
By Program States, 2006 (continued)**

Active Ingredient	Program States						
	ALL	AR	CA	LA	MS	MO	TX
Insecticides							
Carbaryl	*						*
Carbofuran	*	*					*
Chlorpyrifos	*						*
Diflubenzuron	*		*				
Gamma-cyhalothrin	P	*			*		
Lambda-cyhalothrin	P	P	P	P	P		P
Malathion	P	*		P	*		
Methyl parathion	P	*		P	*		P
Tebufenozide	*			*			
Zeta-cypermethrin	P	P	P	P	P		P
Fungicides							
Azoxystrobin	P	P	P	P	P	P	P
Copper sulfate	P		P				
Propiconazole	P	P	*	P	P	*	P
Trifloxystrobin	P	P	*	P	P	*	P
Other Chemicals							
Gibberellic acid	*	*					
Sodium chlorate	P	P		*	P	*	

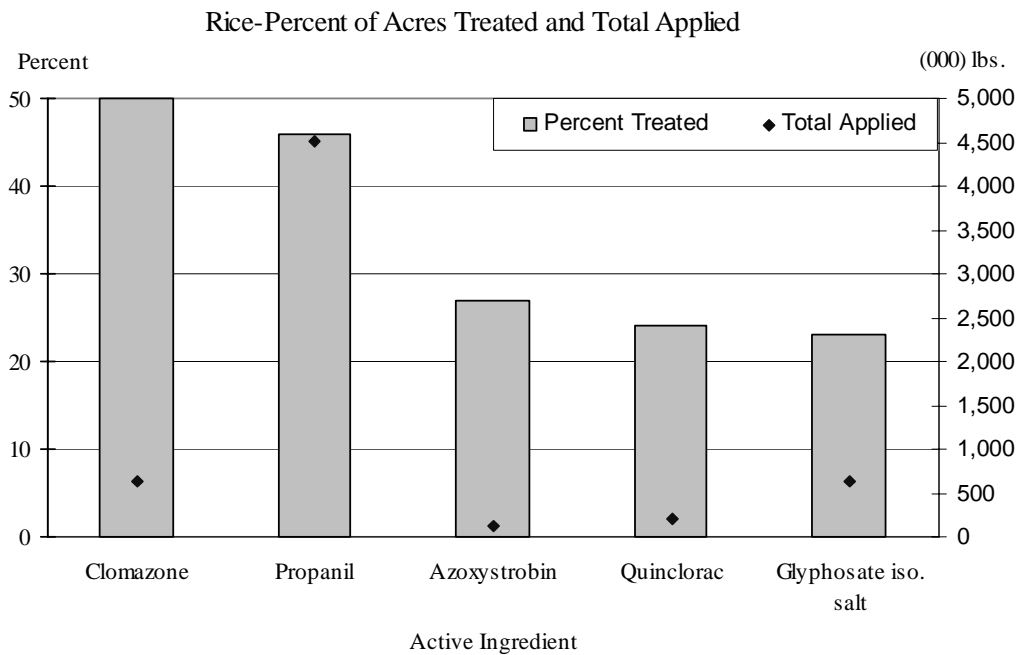
P Usage data are published for this active ingredient.

*Usage data are not published for this active ingredient.

**Rice: Planted Acreage, Pesticide,
Percent of Area Receiving Applications and Total Applied,
Program States and Total, 2006**

State	Planted Acreage	Area Receiving and Total Applied							
		Herbicide		Insecticide		Fungicide		Other	
	<i>1,000 Acres</i>	<i>Percent</i>	<i>1,000 lbs</i>	<i>Percent</i>	<i>1,000 lbs</i>	<i>Percent</i>	<i>1,000 lbs</i>	<i>Percent</i>	<i>1,000 lbs</i>
AR	1,406	95	3,054	10	14	37	109	5	269
CA	526	93	2,500	14	2	50	738		
LA	350	96	475	42	49	46	30	(¹)	
MS	190	100	502	55	14	46	16	3	36
MO	216	100	454			25	12	(¹)	
TX	150	97	496	77	83	55	21		
Total	2,838	95	7,481	21	161	41	926	4	493

¹ Insufficient reports to publish data for pesticide class.



**Rice: Agricultural Chemical Applications,
Program States, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, dimeth. salt	12	1.1	0.772	0.863	289
2,4-DP, dimeth. salt	1	1.0	0.163	0.168	4
Acifluorfen, sodium	4	1.0	0.220	0.227	27
Bensulfuron-methyl	14	1.0	0.030	0.031	12
Bentazon	1	1.1	0.442	0.480	18
Bispyribac-sodium	8	1.0	0.026	0.026	5
Carfentrazone-ethyl	13	1.0	0.034	0.035	13
Clomazone	50	1.0	0.427	0.437	624
Cyhalofop-butyl	14	1.1	0.261	0.277	107
Fenoxaprop	3	1.0	0.060	0.060	6
Flumioxazin	1	1.0	0.061	0.061	1
Glyphosate iso. salt	23	1.2	0.773	0.959	630
Halosulfuron	18	1.0	0.029	0.030	15
Imazamox	2	1.0	0.047	0.049	3
Imazethapyr	23	1.7	0.068	0.118	77
Molinate	4	1.0	3.114	3.131	360
Pendimethalin	3	1.0	0.847	0.847	82
Penoxsulam	5	1.0	0.031	0.031	5
Propanil	46	1.1	3.194	3.445	4,518
Quinclorac	24	1.1	0.280	0.295	202
Sulfosate	1	1.0	0.733	0.733	17
Thifensulfuron	1	1.0	0.013	0.013	(²)
Thiobencarb	3	1.1	3.220	3.402	322
Tribenuron-methyl	1	1.0	0.006	0.006	(²)
Triclopyr	21	1.0	0.208	0.218	131
Insecticides					
Gamma-cyhalothrin	1	1.4	0.015	0.021	1
Lambda-cyhalothrin	9	1.1	0.023	0.025	7
Malathion	1	1.3	0.975	1.272	48
Methyl parathion	4	1.9	0.467	0.908	97
Zeta-cypermethrin	6	1.2	0.024	0.029	5
Fungicides					
Azoxystrobin	27	1.1	0.140	0.153	116
Copper sulfate	7	1.0	3.386	3.398	715
Propiconazole	19	1.0	0.118	0.118	64
Trifloxystrobin	9	1.0	0.117	0.118	31
Other Chemicals					
Sodium chlorate	4	1.0	4.280	4.280	493

¹ Planted acreage in 2006 for the 6 Program States was 2.8 million acres.

States included are AR, CA, LA, MS, MO, and TX.

² Total applied is less than 500 lbs.

**Rice: Agricultural Chemical Applications,
Arkansas, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, dimeth. salt	9	1.3	0.641	0.802	104
Acifluorfen, sodium	6	1.0	0.242	0.253	21
Bensulfuron-methyl	14	1.0	0.026	0.027	5
Bispyribac-sodium	7	1.0	0.024	0.024	3
Carfentrazone-ethyl	12	1.0	0.020	0.021	4
Clomazone	67	1.0	0.404	0.408	382
Cyhalofop-butyl	9	1.0	0.271	0.280	35
Fenoxaprop	4	1.0	0.055	0.055	3
Glyphosate iso. salt	28	1.3	0.800	1.020	398
Halosulfuron	19	1.1	0.031	0.032	9
Imazamox	4	1.0	0.050	0.052	3
Imazethapyr	23	1.8	0.064	0.112	37
Molinate	1	1.0	1.812	1.812	32
Propanil	45	1.1	2.508	2.818	1,767
Quinclorac	28	1.1	0.294	0.309	120
Triclopyr	21	1.1	0.275	0.291	84
Insecticides					
Lambda-cyhalothrin	5	1.0	0.020	0.020	1
Zeta-cypermethrin	3	1.0	0.023	0.024	1
Fungicides					
Azoxystrobin	28	1.1	0.137	0.157	62
Propiconazole	21	1.0	0.110	0.110	33
Trifloxystrobin	8	1.0	0.116	0.117	14
Other Chemicals					
Sodium chlorate	5	1.0	3.612	3.612	269

¹ Planted acreage in 2006 for Arkansas was 1.4 million acres.

**Rice: Agricultural Chemical Applications,
California, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
Bispyribac-sodium	10	1.0	0.019	0.019	1
Clomazone	26	1.0	0.573	0.576	78
Cyhalofop-butyl	19	1.0	0.247	0.255	26
Molinate	8	1.0	4.381	4.381	188
Penoxsulam	15	1.0	0.034	0.034	3
Propanil	77	1.0	4.410	4.529	1,843
Thiobencarb	15	1.1	3.468	3.695	301
Triclopyr	51	1.0	0.124	0.128	35
Insecticides					
Lambda-cyhalothrin	8	1.0	0.025	0.025	1
Zeta-cypermethrin	5	1.0	0.040	0.040	1
Fungicides					
Azoxystrobin	22	1.0	0.166	0.166	19
Copper sulfate	40	1.0	3.386	3.398	715

¹ Planted acreage in 2006 for California was 526,000 acres.

**Rice: Agricultural Chemical Applications,
Louisiana, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, dimeth. salt	35	1.0	1.056	1.077	132
Bensulfuron-methyl	39	1.0	0.038	0.038	5
Bispyribac-sodium	8	1.0	0.036	0.036	1
Clomazone	16	1.0	0.465	0.486	27
Cyhalofop-butyl	16	1.0	0.259	0.260	15
Fenoxaprop	3	1.0	0.075	0.075	1
Glyphosate iso. salt	11	1.0	0.797	0.829	31
Halosulfuron	20	1.0	0.019	0.020	1
Imazethapyr	38	1.6	0.078	0.127	17
Molinate	6	1.0	2.690	2.771	58
Propanil	16	1.0	2.643	2.701	153
Quinclorac	19	1.0	0.264	0.264	18
Insecticides					
Lambda-cyhalothrin	22	1.1	0.021	0.022	2
Malathion	7	1.5	1.053	1.559	38
Methyl parathion	5	1.3	0.323	0.427	8
Zeta-cypermethrin	9	1.2	0.025	0.030	1
Fungicides					
Azoxystrobin	34	1.0	0.149	0.149	18
Propiconazole	17	1.0	0.122	0.122	7
Trifloxystrobin	12	1.0	0.117	0.117	5

¹ Planted acreage in 2006 for Louisiana was 350,000 acres.

**Rice: Agricultural Chemical Applications,
Mississippi, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, dimeth. salt	29	1.1	0.788	0.851	46
Acifluorfen, sodium	14	1.0	0.174	0.174	5
Carfentrazone-ethyl	26	1.0	0.020	0.021	1
Clomazone	44	1.1	0.562	0.611	51
Cyhalofop-butyl	28	1.1	0.267	0.299	16
Glyphosate iso. salt	75	1.2	0.749	0.918	130
Halosulfuron	20	1.0	0.029	0.030	1
Imazethapyr	42	1.8	0.063	0.115	9
Pendimethalin	13	1.0	0.805	0.805	20
Propanil	30	1.1	3.083	3.522	199
Quinclorac	31	1.0	0.246	0.251	15
Insecticides					
Lambda-cyhalothrin	23	1.1	0.024	0.026	1
Zeta-cypermethrin	12	1.1	0.016	0.018	(²)
Fungicides					
Azoxystrobin	11	1.0	0.120	0.120	2
Propiconazole	37	1.0	0.112	0.112	8
Trifloxystrobin	26	1.0	0.111	0.111	6
Other Chemicals					
Sodium chlorate	3	1.0	5.980	5.980	36

¹ Planted acreage in 2006 for Mississippi was 190,000 acres.

² Total applied is less than 500 lbs.

**Rice: Agricultural Chemical Applications,
Missouri, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
Carfentrazone-ethyl	38	1.1	0.020	0.021	2
Clomazone	54	1.0	0.424	0.424	50
Cyhalofop-butyl	5	1.0	0.290	0.290	3
Fenoxaprop	5	1.0	0.073	0.073	1
Halosulfuron	21	1.0	0.030	0.031	1
Imazethapyr	34	1.8	0.079	0.140	10
Molinate	12	1.0	2.776	2.776	72
Pendimethalin	4	1.0	0.971	0.971	9
Propanil	35	1.0	3.244	3.304	248
Quinclorac	46	1.0	0.287	0.287	29
Fungicides					
Azoxystrobin	17	1.1	0.154	0.173	6

¹ Planted acreage in 2006 for Missouri was 216,000 acres.

**Rice: Agricultural Chemical Applications,
Texas, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
Bensulfuron-methyl	15	1.0	0.026	0.026	1
Bispyribac-sodium	9	1.0	0.028	0.028	(²)
Carfentrazone-ethyl	14	1.0	0.017	0.017	(²)
Clomazone	66	1.2	0.312	0.360	35
Cyhalofop-butyl	24	1.3	0.253	0.316	12
Glyphosate iso. salt	35	1.3	0.668	0.863	45
Halosulfuron	53	1.0	0.033	0.033	3
Imazethapyr	22	1.7	0.059	0.102	3
Molinate	5	1.0	1.277	1.277	9
Pendimethalin	18	1.0	0.885	0.885	25
Propanil	59	1.0	3.304	3.457	307
Quinclorac	46	1.2	0.242	0.295	20
Thifensulfuron	7	1.0	0.013	0.013	(²)
Tribenuron-methyl	7	1.0	0.006	0.006	(²)
Triclopyr	11	1.1	0.285	0.301	5
Insecticides					
Lambda-cyhalothrin	19	1.6	0.029	0.046	1
Methyl parathion	41	2.5	0.503	1.268	78
Zeta-cypermethrin	28	1.5	0.021	0.031	1
Fungicides					
Azoxystrobin	46	1.1	0.107	0.115	8
Propiconazole	50	1.0	0.132	0.132	10
Trifloxystrobin	15	1.0	0.127	0.127	3

¹ Planted acreage in 2006 for Texas was 150,000 acres.

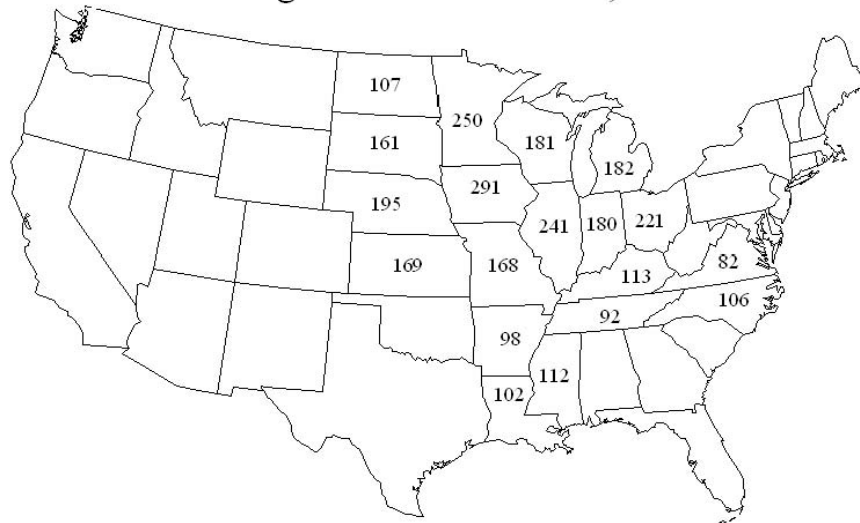
² Total applied is less than 500 lbs.

Soybeans: Fertilizer Use by State, 2006
Percent of Acres Treated and Total Applied

State	Planted Acreage	Percent of Acres Treated and Total Applied							
		Nitrogen		Phosphate		Potash		Sulfur	
	<i>1,000 Acres</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>
AR	3,110	3	0.9	34	60.4	36	94.4	(¹)	
IL	10,100	11	18.1	16	96.0	31	290.2	(¹)	
IN	5,700	16	15.2	20	54.6	32	177.4	(¹)	
IA	10,150	7	10.8	12	64.4	20	172.6	1	0.9
KS	3,150	21	10.5	25	32.0	8	8.8	(¹)	
KY	1,380	28	14.6	40	35.3	41	44.5	(¹)	
LA	870	4	0.4	13	4.9	16	9.3	(¹)	
MI	2,000	28	5.9	28	19.5	56	96.7	3	0.2
MN	7,350	16	15.3	18	53.2	16	57.4	(¹)	
MS	1,670	6	1.0	14	9.0	19	25.6	(¹)	
MO	5,150	12	10.9	19	45.7	22	76.2	(¹)	
NE	5,050	32	20.2	32	70.4	12	15.8	12	8.0
NC	1,370	39	11.0	42	25.6	44	50.8	(¹)	
ND	3,900	43	22.6	42	58.3	3	1.9	(¹)	
OH	4,650	19	11.9	20	40.5	40	171.4	2	1.7
SD	3,950	29	19.7	31	49.4	8	8.6	(¹)	
TN	1,160	42	12.0	48	28.1	63	63.8	8	0.7
VA	520	32	3.9	34	7.4	39	15.1	4	0.3
WI	1,650	31	7.4	33	18.0	55	74.2	10	2.3
Total	72,880	18	212.4	23	772.8	25	1,454.7	3	20.0

¹ Insufficient reports to publish data for the fertilizer primary nutrient.

Soybeans 2006: Number of Usable Reports
19 Program States Total - 3,051



**Soybeans: Fertilizer Primary Nutrient Applications,
Program States and Total, 2006**

Primary Nutrient	Planted Acreage	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>1,000 Acres</i>	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>Mil. lbs</i>
Arkansas	3,110					
Nitrogen		3	1.5	7	11	0.9
Phosphate		34	1.0	57	57	60.4
Potash		36	1.0	85	85	94.4
Sulfur ¹						
Illinois	10,100					
Nitrogen		11	1.1	15	16	18.1
Phosphate		16	1.1	53	58	96.0
Potash		31	1.0	91	94	290.2
Sulfur ¹						
Indiana	5,700					
Nitrogen		16	1.0	16	17	15.2
Phosphate		20	1.1	44	47	54.6
Potash		32	1.0	96	98	177.4
Sulfur ¹						
Iowa	10,150					
Nitrogen		7	1.0	14	14	10.8
Phosphate		12	1.0	54	54	64.4
Potash		20	1.0	85	85	172.6
Sulfur		1	1.0	7	7	0.9
Kansas	3,150					
Nitrogen		21	1.1	14	16	10.5
Phosphate		25	1.0	40	41	32.0
Potash		8	1.0	35	35	8.8
Sulfur ¹						
Kentucky	1,380					
Nitrogen		28	1.2	32	38	14.6
Phosphate		40	1.0	63	64	35.3
Potash		41	1.0	75	78	44.5
Sulfur ¹						
Louisiana	870					
Nitrogen		4	1.0	13	13	0.4
Phosphate		13	1.0	44	44	4.9
Potash		16	1.0	67	67	9.3
Sulfur ¹						

See footnote(s) at end of table.

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**Soybeans: Fertilizer Primary Nutrient Applications,
Program States and Total, 2006 (continued)**

Primary Nutrient	Planted Acreage	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>1,000 Acres</i>	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>Mil. lbs</i>
Michigan	2,000					
Nitrogen		28	1.2	9	11	5.9
Phosphate		28	1.2	30	35	19.5
Potash		56	1.2	75	87	96.7
Sulfur		3	1.0	3	3	0.2
Minnesota	7,350					
Nitrogen		16	1.0	13	13	15.3
Phosphate		18	1.0	40	40	53.2
Potash		16	1.0	48	49	57.4
Sulfur ¹						
Mississippi	1,670					
Nitrogen		6	1.0	10	10	1.0
Phosphate		14	1.0	37	37	9.0
Potash		19	1.0	83	83	25.6
Sulfur ¹						
Missouri	5,150					
Nitrogen		12	1.0	18	18	10.9
Phosphate		19	1.0	46	46	45.7
Potash		22	1.0	67	67	76.2
Sulfur ¹						
Nebraska	5,050					
Nitrogen		32	1.0	12	13	20.2
Phosphate		32	1.0	43	43	70.4
Potash		12	1.0	25	25	15.8
Sulfur		12	1.1	13	13	8.0
North Carolina	1,370					
Nitrogen		39	1.0	20	21	11.0
Phosphate		42	1.0	43	44	25.6
Potash		44	1.0	82	84	50.8
Sulfur ¹						
North Dakota	3,900					
Nitrogen		43	1.1	12	13	22.6
Phosphate		42	1.0	36	36	58.3
Potash		3	1.0	15	15	1.9
Sulfur ¹						
Ohio	4,650					
Nitrogen		19	1.0	13	14	11.9
Phosphate		20	1.0	43	43	40.5
Potash		40	1.0	93	93	171.4
Sulfur		2	1.1	16	17	1.7

See footnote(s) at end of table.

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**Soybeans: Fertilizer Primary Nutrient Applications,
Program States and Total, 2006 (continued)**

Primary Nutrient	Planted Acreage	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>1,000 Acres</i>	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>Mil. lbs</i>
South Dakota	3,950					
Nitrogen		29	1.0	17	17	19.7
Phosphate		31	1.0	40	40	49.4
Potash		8	1.0	27	27	8.6
Sulfur ¹						
Tennessee	1,160					
Nitrogen		42	1.0	25	25	12.0
Phosphate		48	1.0	50	51	28.1
Potash		63	1.0	86	88	63.8
Sulfur		8	1.0	8	8	0.7
Virginia	520					
Nitrogen		32	1.0	24	24	3.9
Phosphate		34	1.0	42	42	7.4
Potash		39	1.0	76	76	15.1
Sulfur		4	1.0	14	14	0.3
Wisconsin	1,650					
Nitrogen		31	1.1	14	15	7.4
Phosphate		33	1.0	32	33	18.0
Potash		55	1.0	79	81	74.2
Sulfur		10	1.0	13	13	2.3
Program States	72,880					
Nitrogen		18	1.1	15	16	212.4
Phosphate		23	1.0	45	46	772.8
Potash		25	1.0	79	80	1,454.7
Sulfur		3	1.1	10	11	20.0

¹ Insufficient reports to publish fertilizer data.

**Soybeans: Active Ingredients and
Publication Status
By Program States, 2006**

Active Ingredient	Program States									
	ALL	AR	IL	IN	IA	KS	KY	LA	MI	MN
Herbicides										
2,4-D	*		*							
2,4-D, 2-EHE	P		P	P	P	P	P	P	*	*
2,4-D, BEE	P		*	*			*			
2,4-D, dimeth. salt	P		P	P	*	*	*	P		
2,4-D, isoprop. salt	*									
2,4-DB, dimeth. salt	*	*	*				*			
Acetochlor	*						*			
Acifluorfen, sodium	P	*							*	
Alachlor	P				*	*				*
Atrazine	*						*	*		
Bentazon	P		*						*	
Carfentrazone-ethyl	P		*	*						
Chlorimuron-ethyl	P	*	P	P	P	*	*	P	*	*
Clethodim	P	*	P	*	P	*	*			P
Clopyralid	*									
Cloransulam-methyl	P		P	*	*		*	*	*	*
Dicamba	*					*				
Dicamba, digly salt	P								*	
Dicamba, dimet. salt	*									
Dimethenamid-P	*								*	
Diuron	*									
Ethalfuralin	*									
Fenoxaprop	P		*		*		*			
Fluazifop-P-butyl	P		*		*		*			*
Flufenacet	P			*						
Flumetsulam	P	*	*		*	*				
Flumiclorac-pentyl	P	*	*		*			*		
Flumioxazin	P		P	*	*	*		P	*	*
Fluroxypyr	*		*							
Fomesafen	P	P	P	*	*		*	*	*	*
Glufosinate-ammonium	*									
Glyphosate	P	*	P	P	*	*	*	P	P	P
Glyphosate amm. salt	P	*	*	*	*					
Glyphosate iso. salt	P	P	P	P	P	P	P	P	P	P
Imazamox	P		P		*				*	
Imazaquin	P	*	*	P		*	*			
Imazethapyr	P		P	P	*	*	*		P	*
Imazethapyr, ammon	P				*				*	
Lactofen	P		*		*	*			*	
Linuron	*									
MCPA, sodium salt	*									
Metribuzin	P		P	P	P	*		*	*	*
Paraquat	P	*	*					P		
Pendimethalin	P	*	P		P	*	*	*	P	*

See footnote(s) at end of table.

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**Soybeans: Active Ingredients and
Publication Status
By Program States, 2006 (continued)**

Active Ingredient	Program States									
	MS	MO	NE	NC	ND	OH	SD	TN	VA	WI
Herbicides										
2,4-D										
2,4-D, 2-EHE	*	P	P			P	*	*	*	P
2,4-D, BEE				*					*	
2,4-D, dimeth. salt	P	P	P	*		P		P	*	*
2,4-D, isoprop. salt					*					
2,4-DB, dimeth. salt										
Acetochlor										*
Acifluorfen, sodium	*			*						*
Alachlor		*	*			*	*		*	
Atrazine										*
Bentazon					*	*				
Carfentrazone-ethyl	*	*	*	*		*				*
Chlorimuron-ethyl	*	P	P	*		P		*	P	P
Clethodim		*	*	*	P	P	*			P
Clopyralid										*
Cloransulam-methyl		*		P	*	*		*	*	P
Dicamba										
Dicamba, digly salt								*		
Dicamba, dimet. salt								*		
Dimethenamid-P										*
Diuron					*	*				
Ethalfuralin					*					
Fenoxaprop		*								*
Fluazifop-P-butyl		*							*	*
Flufenacet		*	*			*				
Flumetsulam		*	*			*				*
Flumiclorac-pentyl	*	P		P			*	*	*	
Flumioxazin	*	*	*		*	P	P	*	*	*
Fluroxypyr										
Fomesafen		*		*	*	P				*
Glufosinate-ammonium										*
Glyphosate	*	*	P		*	P	*		*	P
Glyphosate amm. salt						*				*
Glyphosate iso. salt	P	P	P	P	P	P	P	P	P	P
Imazamox			*		*					P
Imazaquin			*			P			*	
Imazethapyr			P	*	P	*	*		*	P
Imazethapyr, ammon		*	*							*
Lactofen			*			*				*
Linuron										*
MCPA, sodium salt								*		*
Metribuzin		*	P	*		P		*	*	P
Paraquat	P		*	*				*	*	
Pendimethalin		*	P	*	*		P		*	P

See footnote(s) at end of table.

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**Soybeans: Active Ingredients and
Publication Status
By Program States, 2006 (continued)**

Active Ingredient	Program States									
	ALL	AR	IL	IN	IA	KS	KY	LA	MI	MN
Herbicides (continued)										
Prometryn	*		*							
Propachlor	*	*								
Pyraflufen-ethyl	*									
Quizalofop-P-ethyl	P	*		*		*			*	*
Quizalofop-ethyl	*									
Rimsulfuron	*									
S-Metolachlor	P	*	*	*	*	*		*	*	
Sethoxydim	P		*							
Sulfentrazone	P		P	*	*	*			*	
Sulfosate	P		P	*		*	*	P		*
Thifensulfuron	P		P	*	*		*	*	*	*
Tribenuron-methyl	P		*	*				*		*
Trifluralin	P	*	*	*	P	*				P
Insecticides										
Acephate	P	*				*		P		
Aldicarb	*									
Azadirachtin	*									*
Benzoic acid	P							*		
Carbaryl	P		*	*				*		
Carbofuran	*							*		
Chlorpyrifos	P		*		P				*	P
Cyfluthrin	P			*				P		
Cypermethrin	*	*						*		
Deltamethrin	*									*
Diflubenzuron	P	*						P		
Esfenvalerate	P		*		P			*		P
Gamma-cyhalothrin	P							*		*
Indoxacarb	*									
Lambda-cyhalothrin	P	P	P	*	*	P	P	P		P
Malathion	*		*							
Methyl parathion	P	*	*					*		
Neem oil, clar. hyd.	*				*					
Permethrin	P		*		*		*	*		
Thiodicarb	P							*		
Zeta-cypermethrin	P	*	*		*	*	*	*		*

See footnote(s) at end of table.

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**Soybeans: Active Ingredients and
Publication Status
By Program States, 2006 (continued)**

Active Ingredient	Program States									
	MS	MO	NE	NC	ND	OH	SD	TN	VA	WI
Herbicides (continued)										
Prometryn										
Propachlor							*			
Pyraflufen-ethyl										
Quizalofop-P-ethyl					*					*
Quizalofop-ethyl			*							
Rimsulfuron				*						
S-Metolachlor	*	*	P			*	*			P
Sethoxydim			*	*	*				*	*
Sulfentrazone		*	*		*	P			*	*
Sulfosate	*	*	*	*	*	*	*		*	*
Thifensulfuron	*	*	*	*	*	P			*	P
Tribenuron-methyl		P	*		*	P				*
Trifluralin		*	*	*	*	*	P			*
Insecticides										
Acephate	P	*		*		*			*	
Aldicarb				*						
Azadirachtin							*			
Benzoic acid	*									
Carbaryl					*	*	*		*	
Carbofuran										
Chlorpyrifos			P		P		*	*		*
Cyfluthrin	*	*		*		*	*	*	*	
Cypermethrin										
Deltamethrin					*					
Diflubenzuron	*									
Esfenvalerate	*	*		*	P		*	*		
Gamma-cyhalothrin	*				P		*			
Indoxacarb										
Lambda-cyhalothrin	P	*		P	P	P	P	P	P	*
Malathion										
Methyl parathion	*									
Neem oil, clar. hyd.										
Permethrin			*				*		*	
Thiodicarb				*						
Zeta-cypermethrin		P		*				P	*	

See footnote(s) at end of table.

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**Soybeans: Active Ingredients and
Publication Status
By Program States, 2006 (continued)**

Active Ingredient	Program States									
	ALL	AR	IL	IN	IA	KS	KY	LA	MI	MN
Fungicides										
Azoxystrobin	P	P	*	*			*	P		
Chlorothalonil	*									
Coniothyrium minitana	*									
Mefenoxam	*									
Propiconazole	P							P	*	
Pyraclostrobin	P	*	P	*	*		*	P	*	*
Tebuconazole	P		*	*			*	P		
Tetraconazole	*							*		
Thiophanate-methyl	*							*		
Trifloxystrobin	P							P	*	
Other Chemicals										
Sodium chlorate	*	*								

See footnote(s) at end of table.

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**Soybeans: Active Ingredients and
Publication Status
By Program States, 2006 (continued)**

Active Ingredient	Program States									
	MS	MO	NE	NC	ND	OH	SD	TN	VA	WI
Fungicides										
Azoxystrobin	P	*		*		*		P	*	*
Chlorothalonil		*								
Coniothyrium minitana										*
Mefenoxam			*							
Propiconazole	*			*		*		*		*
Pyraclostrobin	*	P	*	*	*	P		P	*	*
Tebuconazole		*								
Tetraconazole		*								
Thiophanate-methyl										
Trifloxystrobin	*									
Other Chemicals										
Sodium chlorate	*									

P Usage data are published for this active ingredient.

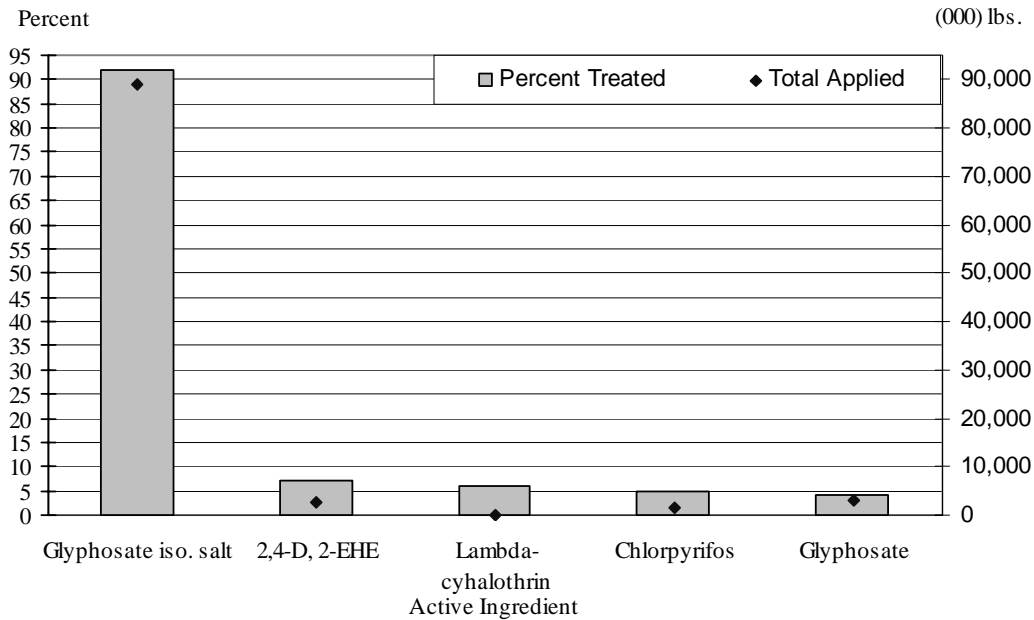
*Usage data are not published for this active ingredient.

**Soybeans: Planted Acreage, Pesticide,
Percent of Area Receiving Applications and Total Applied,
Program States and Total, 2006**

State	Planted Acreage	Area Receiving and Total Applied							
		Herbicide		Insecticide		Fungicide		Other	
	1,000 Acres	Percent	1,000 lbs	Percent	1,000 lbs	Percent	1,000 lbs	Percent	1,000 lbs
AR	3,110	88	4,317	12	96	9	26	(¹)	
IL	10,100	99	13,794	5	141	2	12		
IN	5,700	100	8,910	(¹)		6	44		
IA	10,150	99	13,946	9	127	(¹)			
KS	3,150	100	4,386	6	7				
KY	1,380	97	1,978	7	1	8	40		
LA	870	97	1,664	75	499	37	66		
MI	2,000	98	2,390	(¹)		(¹)			
MN	7,350	99	9,715	56	896	(¹)		(¹)	
MS	1,670	100	3,770	26	65	12	30	(¹)	
MO	5,150	95	6,577	8	28	6	70		
NE	5,050	97	7,837	5	129	(¹)			
NC	1,370	92	1,968	22	30	6	12		
ND	3,900	100	4,982	57	480	(¹)			
OH	4,650	99	6,871	4	23	4	19		
SD	3,950	99	5,620	21	111				
TN	1,160	98	1,866	25	8	35	43		
VA	520	99	842	23	4	(¹)			
WI	1,650	98	2,058	4	13	(¹)			
Total	72,880	98	103,489	16	2,674	4	468	(¹)	

¹ Insufficient reports to publish data for pesticide class.

Soybeans-Percent of Acres Treated and Total Applied



**Soybeans: Agricultural Chemical Applications,
Program States, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	7	1.0	0.493	0.503	2,505
2,4-D, BEE	*	1.1	0.426	0.459	68
2,4-D, dimeth. salt	3	1.0	0.462	0.475	953
Acifluorfen, sodium	*	1.0	0.287	0.296	47
Alachlor	*	1.0	1.931	1.931	485
Bentazon	*	1.0	0.687	0.687	70
Carfentrazone-ethyl	*	1.2	0.038	0.046	10
Chlorimuron-ethyl	4	1.0	0.017	0.017	52
Clethodim	3	1.1	0.096	0.102	190
Cloransulam-methyl	1	1.0	0.019	0.019	17
Dicamba, digly salt	*	1.0	0.250	0.250	16
Fenoxaprop	*	1.0	0.031	0.031	9
Fluazifop-P-butyl	1	1.0	0.099	0.099	43
Flufenacet	*	1.0	0.265	0.265	80
Flumetsulam	*	1.0	0.048	0.048	8
Flumiclorac-pentyl	1	1.4	0.020	0.028	17
Flumioxazin	3	1.0	0.066	0.066	138
Fomesafen	2	1.2	0.190	0.233	330
Glyphosate	4	1.7	0.630	1.044	2,841
Glyphosate amm. salt	*	1.5	0.489	0.745	142
Glyphosate iso. salt	92	1.7	0.802	1.330	88,903
Imazamox	*	1.0	0.030	0.030	9
Imazaquin	1	1.0	0.061	0.062	66
Imazethapyr	3	1.0	0.053	0.053	100
Imazethapyr, ammon	*	1.0	0.048	0.048	5
Lactofen	*	1.0	0.110	0.110	23
Metribuzin	2	1.0	0.255	0.260	437
Paraquat	1	1.0	0.492	0.511	335
Pendimethalin	3	1.0	0.920	0.926	1,894
Quizalofop-P-ethyl	*	1.1	0.038	0.041	14
S-Metolachlor	1	1.0	1.023	1.023	837
Sethoxydim	*	1.0	0.153	0.153	10
Sulfentrazone	1	1.0	0.087	0.091	70
Sulfosate	1	1.8	0.967	1.701	970
Thifensulfuron	1	1.1	0.004	0.004	3
Tribenuron-methyl	1	1.0	0.008	0.008	5
Trifluralin	2	1.0	0.818	0.818	1,454
Insecticides					
Acephate	1	1.3	0.720	0.934	546
Benzoic acid	*	1.1	0.051	0.056	9
Carbaryl	*	1.0	0.633	0.633	91
Chlorpyrifos	5	1.1	0.454	0.480	1,663
Cyfluthrin	*	1.1	0.028	0.030	10

See footnote(s) at end of table.

--continued

**Soybeans: Agricultural Chemical Applications,
Program States, 2006 ¹ (continued)**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Insecticides (continued)					
Diflubenzuron	*	1.7	0.037	0.062	10
Esfenvalerate	3	1.1	0.035	0.037	70
Gamma-cyhalothrin	*	1.0	0.011	0.011	3
Lambda-cyhalothrin	6	1.1	0.020	0.021	97
Methyl parathion	*	1.1	0.529	0.565	66
Permethrin	*	1.0	0.065	0.065	12
Thiodicarb	*	1.0	0.320	0.320	39
Zeta-cypermethrin	1	1.0	0.022	0.022	14
Fungicides					
Azoxystrobin	1	1.0	0.102	0.106	101
Propiconazole	*	1.0	0.102	0.104	28
Pyraclostrobin	2	1.0	0.110	0.112	188
Tebuconazole	*	1.0	0.213	0.213	36
Trifloxystrobin	*	1.0	0.082	0.082	7

* Area applied is less than 0.5 percent.

¹ Planted acreage in 2006 for the 19 Program States was 72.9 million acres.

States included are AR, IL, IN, IA, KS, KY, LA, MI, MN, MS, MO, NE, NC, ND, OH, SD, TN, VA, and WI.

**Soybeans: Agricultural Chemical Applications,
Arkansas, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
Fomesafen	17	1.4	0.146	0.205	109
Glyphosate iso. salt	82	1.8	0.812	1.479	3,782
Insecticides					
Lambda-cyhalothrin	7	1.0	0.010	0.010	2
Fungicides					
Azoxystrobin	7	1.0	0.092	0.092	21

¹ Planted acreage in 2006 for Arkansas was 3.1 million acres.

**Soybeans: Agricultural Chemical Applications,
Illinois, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	13	1.0	0.445	0.449	575
2,4-D, dimeth. salt	2	1.0	0.355	0.355	70
Chlorimuron-ethyl	5	1.2	0.015	0.017	9
Clethodim	2	1.2	0.085	0.106	25
Cloransulam-methyl	2	1.0	0.024	0.024	4
Flumioxazin	4	1.0	0.070	0.070	27
Fomesafen	3	1.2	0.197	0.242	62
Glyphosate	6	1.6	0.688	1.111	728
Glyphosate iso. salt	90	1.6	0.787	1.232	11,192
Imazamox	2	1.0	0.033	0.033	6
Imazethapyr	3	1.0	0.052	0.052	16
Metribuzin	2	1.0	0.193	0.193	37
Pendimethalin	7	1.0	0.892	0.908	671
Sulfentrazone	2	1.1	0.078	0.089	21
Sulfosate	*	1.5	1.157	1.772	85
Thifensulfuron	1	1.6	0.002	0.003	(²)
Insecticides					
Lambda-cyhalothrin	2	1.2	0.025	0.030	5
Fungicides					
Pyraclostrobin	1	1.0	0.098	0.098	11

* Area applied is less than 0.5 percent.

¹ Planted acreage in 2006 for Illinois was 10.1 million acres.

² Total applied is less than 500 lbs.

**Soybeans: Agricultural Chemical Applications,
Indiana, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	17	1.0	0.585	0.588	562
2,4-D, dimeth. salt	5	1.0	0.525	0.525	157
Chlorimuron-ethyl	5	1.0	0.017	0.017	5
Glyphosate	6	2.0	0.687	1.374	483
Glyphosate iso. salt	93	1.7	0.822	1.402	7,405
Imazaquin	6	1.0	0.072	0.072	25
Imazethapyr	6	1.0	0.061	0.061	21
Metribuzin	4	1.0	0.253	0.253	58

¹ Planted acreage in 2006 for Indiana was 5.7 million acres.

**Soybeans: Agricultural Chemical Applications,
Iowa, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	3	1.0	0.460	0.460	149
Chlorimuron-ethyl	3	1.0	0.017	0.017	6
Clethodim	4	1.1	0.078	0.089	35
Glyphosate iso. salt	97	1.5	0.809	1.233	12,113
Metribuzin	4	1.0	0.128	0.128	49
Pendimethalin	4	1.0	1.050	1.050	387
Trifluralin	9	1.0	0.774	0.774	728
Insecticides					
Chlorpyrifos	2	1.0	0.475	0.475	100
Esfenvalerate	3	1.0	0.036	0.036	12

¹ Planted acreage in 2006 for Iowa was 10.2 million acres.

**Soybeans: Agricultural Chemical Applications,
Kansas, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	9	1.0	0.508	0.508	140
Glyphosate iso. salt	96	1.7	0.754	1.315	3,990
Insecticides					
Lambda-cyhalothrin	3	1.0	0.022	0.022	2

¹ Planted acreage in 2006 for Kansas was 3.2 million acres.

**Soybeans: Agricultural Chemical Applications,
Kentucky, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	10	1.0	0.476	0.476	67
Glyphosate iso. salt	90	1.7	0.771	1.315	1,642
Insecticides					
Lambda-cyhalothrin	6	1.0	0.014	0.014	1

¹ Planted acreage in 2006 for Kentucky was 1.4 million acres.

**Soybeans: Agricultural Chemical Applications,
Louisiana, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	9	1.1	0.577	0.640	48
2,4-D, dimeth. salt	10	1.3	0.621	0.786	66
Chlorimuron-ethyl	4	1.0	0.006	0.006	(²)
Flumioxazin	6	1.0	0.055	0.055	3
Glyphosate	8	2.3	0.601	1.396	102
Glyphosate iso. salt	79	2.3	0.758	1.767	1,214
Paraquat	36	1.0	0.458	0.469	146
Sulfosate	4	2.0	1.053	2.055	64
Insecticides					
Acephate	42	1.4	0.786	1.124	412
Cyfluthrin	9	1.1	0.028	0.030	2
Diflubenzuron	7	1.0	0.031	0.031	2
Lambda-cyhalothrin	10	1.3	0.018	0.023	2
Fungicides					
Azoxystrobin	20	1.1	0.114	0.127	22
Propiconazole	14	1.1	0.091	0.096	12
Pyraclostrobin	10	1.0	0.135	0.135	11
Tebuconazole	6	1.0	0.128	0.128	6
Trifloxystrobin	8	1.0	0.075	0.075	5

¹ Planted acreage in 2006 for Louisiana was 870,000 acres.

² Total applied is less than 500 lbs.

**Soybeans: Agricultural Chemical Applications,
Michigan, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
Glyphosate	6	1.3	0.716	0.898	107
Glyphosate iso. salt	91	1.4	0.846	1.169	2,128
Imazethapyr	2	1.0	0.059	0.059	3
Pendimethalin	3	1.0	0.871	0.871	57

¹ Planted acreage in 2006 for Michigan was 2.0 million acres.

**Soybeans: Agricultural Chemical Applications,
Minnesota, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
Clethodim	3	1.0	0.058	0.058	15
Glyphosate	5	1.5	0.671	1.005	341
Glyphosate iso. salt	93	1.6	0.797	1.300	8,935
Trifluralin	2	1.0	0.631	0.631	90
Insecticides					
Chlorpyrifos	23	1.0	0.465	0.484	832
Esfenvalerate	8	1.1	0.033	0.037	23
Lambda-cyhalothrin	24	1.1	0.020	0.022	38

¹ Planted acreage in 2006 for Minnesota was 7.4 million acres.

**Soybeans: Agricultural Chemical Applications,
Mississippi, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, dimeth. salt	19	1.0	0.602	0.627	194
Glyphosate iso. salt	95	2.6	0.791	2.029	3,225
Paraquat	7	1.0	0.460	0.469	58
Insecticides					
Acephate	4	1.3	0.349	0.439	28
Lambda-cyhalothrin	11	1.4	0.015	0.020	4
Fungicides					
Azoxystrobin	8	1.0	0.086	0.086	11

¹ Planted acreage in 2006 for Mississippi was 1.7 million acres.

**Soybeans: Agricultural Chemical Applications,
Missouri, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	3	1.6	0.714	1.149	155
2,4-D, dimeth. salt	2	1.1	0.636	0.709	91
Chlorimuron-ethyl	7	1.0	0.019	0.019	7
Flumiclorac-pentyl	5	1.0	0.017	0.017	5
Glyphosate iso. salt	93	1.5	0.846	1.268	6,061
Tribenuron-methyl	4	1.0	0.008	0.008	2
Insecticides					
Zeta-cypermethrin	2	1.1	0.024	0.027	3
Fungicides					
Pyraclostrobin	5	1.1	0.098	0.107	27

¹ Planted acreage in 2006 for Missouri was 5.2 million acres.

**Soybeans: Agricultural Chemical Applications,
Nebraska, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	7	1.0	0.363	0.363	120
2,4-D, dimeth. salt	4	1.0	0.269	0.269	48
Chlorimuron-ethyl	4	1.0	0.028	0.028	6
Glyphosate	3	2.0	0.607	1.208	208
Glyphosate iso. salt	93	1.7	0.824	1.382	6,473
Imazethapyr	7	1.0	0.059	0.059	21
Metribuzin	6	1.0	0.439	0.439	128
Pendimethalin	5	1.0	0.904	0.904	235
S-Metolachlor	3	1.0	1.248	1.248	173
Insecticides					
Chlorpyrifos	5	1.0	0.525	0.525	126

¹ Planted acreage in 2006 for Nebraska was 5.1 million acres.

**Soybeans: Agricultural Chemical Applications,
North Carolina, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
Cloransulam-methyl	7	1.0	0.012	0.012	1
Flumiclorac-pentyl	7	2.1	0.014	0.029	3
Glyphosate iso. salt	86	1.9	0.816	1.524	1,791
Insecticides					
Lambda-cyhalothrin	9	1.0	0.022	0.022	3

¹ Planted acreage in 2006 for North Carolina was 1.4 million acres.

**Soybeans: Agricultural Chemical Applications,
North Dakota, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
Clethodim	5	1.0	0.119	0.119	25
Glyphosate iso. salt	93	1.8	0.738	1.317	4,759
Imazethapyr	7	1.0	0.045	0.045	13
Insecticides					
Chlorpyrifos	27	1.0	0.408	0.416	434
Esfenvalerate	15	1.1	0.035	0.039	23
Gamma-cyhalothrin	3	1.0	0.012	0.012	1
Lambda-cyhalothrin	16	1.0	0.025	0.026	16

¹ Planted acreage in 2006 for North Dakota was 3.9 million acres.

**Soybeans: Agricultural Chemical Applications,
Ohio, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	22	1.0	0.483	0.483	488
2,4-D, dimeth. salt	7	1.0	0.583	0.583	197
Chlorimuron-ethyl	18	1.0	0.017	0.017	14
Clethodim	6	1.0	0.132	0.132	36
Flumioxazin	9	1.0	0.072	0.072	30
Fomesafen	5	1.2	0.237	0.291	66
Glyphosate	10	1.6	0.570	0.904	434
Glyphosate iso. salt	83	1.6	0.853	1.330	5,158
Imazaquin	9	1.0	0.063	0.063	25
Metribuzin	7	1.0	0.237	0.237	75
Sulfentrazone	5	1.0	0.080	0.080	18
Thifensulfuron	6	1.0	0.003	0.003	1
Tribenuron-methyl	2	1.0	0.007	0.007	1
Insecticides					
Lambda-cyhalothrin	3	1.0	0.025	0.025	4
Fungicides					
Pyraclostrobin	3	1.0	0.095	0.095	13

¹ Planted acreage in 2006 for Ohio was 4.7 million acres.

**Soybeans: Agricultural Chemical Applications,
South Dakota, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
Flumioxazin	6	1.0	0.070	0.070	17
Glyphosate iso. salt	97	1.7	0.761	1.311	5,047
Pendimethalin	4	1.0	0.837	0.837	127
Trifluralin	5	1.0	1.147	1.147	216
Insecticides					
Lambda-cyhalothrin	10	1.0	0.021	0.021	8

¹ Planted acreage in 2006 for South Dakota was 4.0 million acres.

**Soybeans: Agricultural Chemical Applications,
Tennessee, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, dimeth. salt	6	1.0	0.284	0.284	21
Glyphosate iso. salt	98	2.0	0.776	1.583	1,806
Insecticides					
Lambda-cyhalothrin	19	1.1	0.015	0.016	3
Zeta-cypermethrin	5	1.0	0.016	0.016	1
Fungicides					
Azoxystrobin	12	1.1	0.074	0.084	12
Pyraclostrobin	23	1.0	0.115	0.115	31

¹ Planted acreage in 2006 for Tennessee was 1.2 million acres.

**Soybeans: Agricultural Chemical Applications,
Virginia, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
Chlorimuron-ethyl	4	1.0	0.010	0.010	(²)
Glyphosate iso. salt	89	1.7	0.915	1.541	716
Insecticides					
Lambda-cyhalothrin	19	1.1	0.016	0.018	2

¹ Planted acreage in 2006 for Virginia was 520,000 acres.

² Total applied is less than 500 lbs.

**Soybeans: Agricultural Chemical Applications,
Wisconsin, 2006¹**

Active Ingredient	Area Applied	Appli- cations	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	11	1.0	0.473	0.473	83
Chlorimuron-ethyl	6	1.0	0.006	0.006	1
Clethodim	5	1.0	0.082	0.082	7
Cloransulam-methyl	3	1.0	0.020	0.020	1
Glyphosate	8	1.5	0.584	0.877	122
Glyphosate iso. salt	77	1.3	0.858	1.157	1,467
Imazamox	3	1.0	0.035	0.035	2
Imazethapyr	9	1.0	0.049	0.049	7
Metribuzin	2	1.0	0.287	0.287	9
Pendimethalin	9	1.0	1.010	1.010	149
S-Metolachlor	2	1.0	1.163	1.163	48
Thifensulfuron	6	1.1	0.003	0.003	(²)

¹ Planted acreage in 2006 for Wisconsin was 1.7 million acres.

² Total applied is less than 500 lbs.

Durum Wheat: Fertilizer Use by State, 2006
Percent of Acres Treated and Total Applied

State	Planted Acreage	Percent of Acres Treated and Total Applied							
		Nitrogen		Phosphate		Potash		Sulfur	
	<i>1,000 Acres</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>
MT	400	93	20.6	82	7.3	8	0.3	4	0.1
ND	1,300	92	77.4	71	21.3	7	0.8	4	0.1
Total	1,700	92	98.0	74	28.6	7	1.1	4	0.3

Durum Wheat 2006: Number of Usable Reports
2 Program States Total - 283



**Durum Wheat: Fertilizer Primary Nutrient Applications,
Program States and Total, 2006**

Primary Nutrient	Planted Acreage	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>1,000 Acres</i>	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>Mil. lbs</i>
Montana	400					
Nitrogen		93	1.5	38	56	20.6
Phosphate		82	1.0	22	22	7.3
Potash		8	1.0	10	10	0.3
Sulfur		4	1.0	8	8	0.1
North Dakota	1,300					
Nitrogen		92	1.7	39	64	77.4
Phosphate		71	1.0	23	23	21.3
Potash		7	1.0	9	9	0.8
Sulfur		4	1.0	3	3	0.1
Program States	1,700					
Nitrogen		92	1.6	39	62	98.0
Phosphate		74	1.0	23	23	28.6
Potash		7	1.0	9	9	1.1
Sulfur		4	1.0	4	4	0.3

**Durum Wheat: Active Ingredients and
Publication Status
By Program States, 2006**

Active Ingredient	Program States		
	ALL	MT	ND
Herbicides			
2,4-D, 2-EHE	P	P	P
2,4-D, dimeth. salt	P	P	P
2,4-D, isoprop. salt	P	P	P
Aminopyralid	*	*	
Bromoxynil heptanoat	P	*	*
Bromoxynil octanoate	P	P	P
Carfentrazone-ethyl	*	*	*
Chlorsulfuron	*	*	
Clodinafop-propargil	P	P	P
Clopyralid	P	*	*
Dicamba	P	P	P
Dicamba, digly salt	P	P	P
Dicamba, dimet. salt	P	P	P
Dicamba, iso salt	*	*	
Dicamba, sodium salt	P	*	*
Dimethenamid-P	*	*	
Fenoxaprop-p-ethyl	P	P	P
Flucarbazone-sodium	P		P
Fluroxypyr	P	P	P
Fluroxypyr 1-MHE	P	P	P
Glyphosate	P	*	*
Glyphosate amm. salt	*	*	*
Glyphosate iso. salt	P	P	P
MCPA	*		*
MCPA, 2-ethylhexyl	P	P	P
MCPA, dimethyl. salt	P	*	*
MCPA, isoctyl ester	P	*	*
Mesosulfuron-Methyl	*	*	*
Metsulfuron-methyl	*	*	
Pinoxaden	*	*	
Propoxycarbazine-sod	*	*	*
Sulfosate	*	*	
Thifensulfuron	P	P	P
Triallate	P	*	*
Triasulfuron	*	*	
Tribenuron-methyl	P	P	P
Trifluralin	P	P	P
Insecticides			
Chlorpyrifos	*		*
Fungicides			
Azoxystrobin	*		*
Propiconazole	P	*	*
Pyraclostrobin	*		*
Tebuconazole	*		*
Trifloxystrobin	*		*

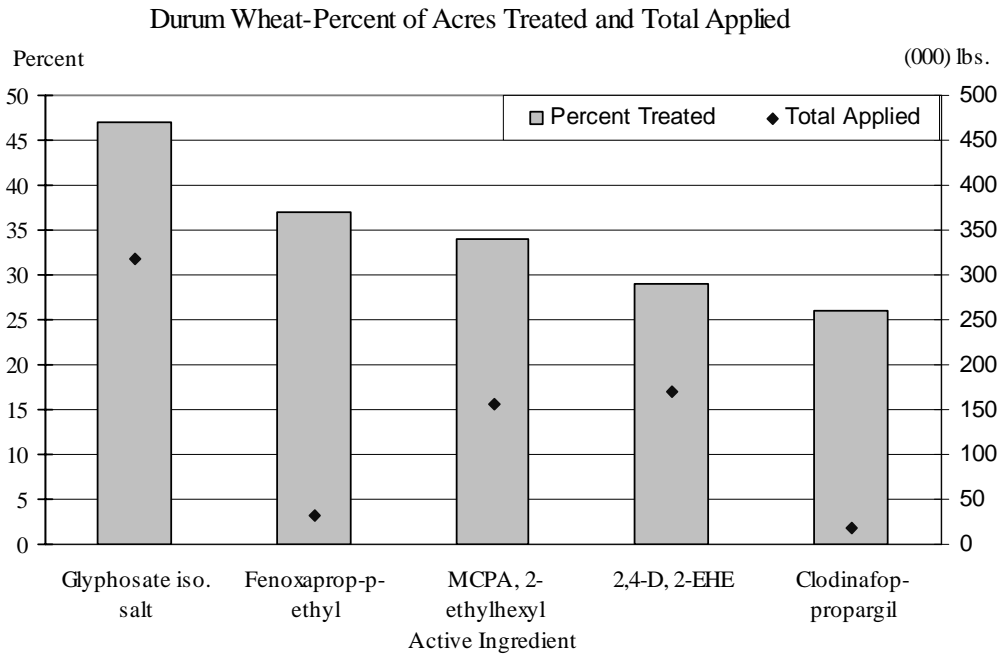
P Usage data are published for this active ingredient.

*Usage data are not published for this active ingredient.

**Durum Wheat: Planted Acreage, Pesticide,
Percent of Area Receiving Applications and Total Applied,
Program States and Total, 2006**

State	Planted Acreage	Area Receiving and Total Applied							
		Herbicide		Insecticide		Fungicide		Other	
	<i>1,000 Acres</i>	<i>Percent</i>	<i>1,000 lbs</i>	<i>Percent</i>	<i>1,000 lbs</i>	<i>Percent</i>	<i>1,000 lbs</i>	<i>Percent</i>	<i>1,000 lbs</i>
MT	400	89	250			(¹)			
ND	1,300	97	862	(¹)		(¹)			
Total	1,700	95	1,112	(¹)		5	6		

¹ Insufficient reports to publish data for pesticide class.



**Durum Wheat: Agricultural Chemical Applications,
Program States, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	29	1.0	0.344	0.351	171
2,4-D, dimeth. salt	9	1.0	0.307	0.319	50
2,4-D, isoprop. salt	17	1.1	0.042	0.046	13
Bromoxynil heptanoat	7	1.0	0.235	0.235	28
Bromoxynil octanoate	16	1.0	0.221	0.227	61
Clodinafop-propargil	26	1.0	0.042	0.042	19
Clopypalid	10	1.0	0.073	0.073	12
Dicamba	9	1.0	0.058	0.059	9
Dicamba, digly salt	4	1.1	0.063	0.067	5
Dicamba, dimet. salt	10	1.0	0.105	0.109	19
Dicamba, sodium salt	3	1.0	0.029	0.030	2
Fenoxaprop-p-ethyl	37	1.0	0.052	0.052	33
Flucarbazone-sodium	2	1.0	0.015	0.015	1
Fluroxypyr	15	1.0	0.076	0.076	20
Fluroxypyr 1-MHE	13	1.0	0.082	0.082	18
Glyphosate	1	1.1	0.271	0.310	6
Glyphosate iso. salt	47	1.0	0.381	0.396	319
MCPA, 2-ethylhexyl	34	1.0	0.268	0.274	156
MCPA, dimethyl. salt	2	1.0	0.258	0.258	9
MCPA, isooctyl ester	1	1.0	0.220	0.220	5
Thifensulfuron	11	1.0	0.010	0.010	2
Triallate	2	1.0	0.971	0.971	33
Tribenuron-methyl	13	1.0	0.004	0.004	1
Trifluralin	7	1.0	0.894	0.894	112
Fungicides					
Propiconazole	5	1.0	0.056	0.056	5

¹ Planted acreage in 2006 for the 2 Program States was 1.7 million acres.
States included are MT and ND.

**Durum Wheat: Agricultural Chemical Applications,
Montana, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	30	1.1	0.292	0.314	37
2,4-D, dimeth. salt	20	1.1	0.235	0.253	20
2,4-D, isoprop. salt	10	1.2	0.042	0.049	2
Bromoxynil octanoate	9	1.2	0.221	0.264	10
Clodinafop-propargil	29	1.0	0.038	0.038	4
Dicamba	11	1.0	0.094	0.098	4
Dicamba, digly salt	9	1.1	0.071	0.079	3
Dicamba, dimet. salt	28	1.1	0.061	0.064	7
Fenoxaprop-p-ethyl	18	1.0	0.046	0.046	3
Fluroxypyr	5	1.0	0.105	0.105	2
Fluroxypyr 1-MHE	3	1.0	0.084	0.084	1
Glyphosate iso. salt	40	1.1	0.374	0.402	64
MCPA, 2-ethylhexyl	23	1.1	0.243	0.271	25
Thifensulfuron	8	1.1	0.009	0.011	(²)
Tribenuron-methyl	13	1.1	0.005	0.005	(²)
Trifluralin	11	1.0	0.333	0.333	15

¹ Planted acreage in 2006 for Montana was 400,000 acres.

² Total applied is less than 500 lbs.

**Durum Wheat: Agricultural Chemical Applications,
North Dakota, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	28	1.0	0.362	0.362	133
2,4-D, dimeth. salt	6	1.0	0.389	0.389	30
2,4-D, isoprop. salt	19	1.1	0.042	0.045	11
Bromoxynil octanoate	18	1.0	0.221	0.221	51
Clodinafop-propargil	25	1.0	0.044	0.044	14
Dicamba	8	1.0	0.043	0.043	5
Dicamba, digly salt	3	1.0	0.056	0.056	2
Dicamba, dimet. salt	5	1.0	0.186	0.186	12
Fenoxaprop-p-ethyl	43	1.0	0.053	0.053	30
Flucarbazone-sodium	3	1.0	0.015	0.015	1
Fluroxypyr	18	1.0	0.074	0.074	17
Fluroxypyr 1-MHE	16	1.0	0.082	0.082	17
Glyphosate iso. salt	50	1.0	0.383	0.394	255
MCPA, 2-ethylhexyl	37	1.0	0.274	0.274	130
Thifensulfuron	12	1.0	0.010	0.010	2
Tribenuron-methyl	14	1.0	0.004	0.004	1
Trifluralin	6	1.0	1.193	1.193	98

¹ Planted acreage in 2006 for North Dakota was 1.3 million acres.

Other Spring Wheat: Fertilizer Use by State, 2006
Percent of Acres Treated and Total Applied

State	Planted Acreage	Percent of Acres Treated and Total Applied							
		Nitrogen		Phosphate		Potash		Sulfur	
	<i>1,000 Acres</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>
ID	490	96	60.7	56	9.5	25	3.5	59	8.5
MN	1,700	99	148.5	97	64.0	72	31.6	2	0.4
MT	2,950	86	129.5	81	57.7	21	9.0	10	2.5
ND	7,300	99	504.6	88	202.2	21	13.0	11	4.3
SD	1,850	90	119.4	80	55.6	22	11.9	10	3.5
WA	430	100	43.6	60	4.7	9	1.6	89	6.4
Total	14,720	95	1,006.2	85	393.7	27	70.4	13	25.7

Other Spring 2006: Number of Usable Reports
6 Program States Total - 760



**Other Spring Wheat: Fertilizer Primary Nutrient Applications,
Program States and Total, 2006**

Primary Nutrient	Planted Acreage	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>1,000 Acres</i>	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>Mil. lbs</i>
Idaho	490					
Nitrogen		96	1.5	88	129	60.7
Phosphate		56	1.1	30	34	9.5
Potash		25	1.0	28	28	3.5
Sulfur		59	1.2	24	30	8.5
Minnesota	1,700					
Nitrogen		99	1.5	61	88	148.5
Phosphate		97	1.0	38	39	64.0
Potash		72	1.0	25	26	31.6
Sulfur		2	1.0	12	12	0.4
Montana	2,950					
Nitrogen		86	1.5	35	51	129.5
Phosphate		81	1.0	24	24	57.7
Potash		21	1.0	15	15	9.0
Sulfur		10	1.0	9	9	2.5
North Dakota	7,300					
Nitrogen		99	1.7	42	70	504.6
Phosphate		88	1.0	31	31	202.2
Potash		21	1.0	8	8	13.0
Sulfur		11	1.0	5	5	4.3
South Dakota	1,850					
Nitrogen		90	1.3	54	72	119.4
Phosphate		80	1.1	35	37	55.6
Potash		22	1.1	26	29	11.9
Sulfur		10	1.1	18	19	3.5
Washington	430					
Nitrogen		100	1.6	63	101	43.6
Phosphate		60	1.1	17	18	4.7
Potash		9	1.1	37	41	1.6
Sulfur		89	1.3	13	17	6.4
Program States	14,720					
Nitrogen		95	1.6	46	72	1,006.2
Phosphate		85	1.0	31	32	393.7
Potash		27	1.0	17	18	70.4
Sulfur		13	1.1	12	13	25.7

**Other Spring Wheat: Active Ingredients and
Publication Status
By Program States, 2006**

Active Ingredient	Program States						
	ALL	ID	MN	MT	ND	SD	WA
Herbicides							
2,4-D	P	*		*	*	*	*
2,4-D, 2-EHE	P	P	P	P	P	P	P
2,4-D, BEE	*	*					*
2,4-D, dieth salt	P	*		*			*
2,4-D, dimeth. salt	P	*	*	P	P	P	P
2,4-D, isoprop. salt	P			P	P	*	*
2,4-D, triiso. salt	P	*	*				*
2,4-DP, dimeth. salt	*				*		
Aminopyralid	*					*	
Bromoxynil	P	*	*			*	*
Bromoxynil heptanoat	P	*	P	*	P	P	P
Bromoxynil octanoate	P	P	P	P	P	P	P
Carfentrazone-ethyl	P			*	*		*
Chlorimuron-ethyl	*				*		
Chlorsulfuron	*			*			
Clodinafop-propargil	P	P	*	P	P	*	P
Clopyralid	P	*	P		P	P	*
Clopyralid mono salt	P	*	*				*
Dicamba	P			P	*	*	
Dicamba, digly salt	P	*	*	P	*	*	*
Dicamba, dimet. salt	P	*	*	P	*	P	*
Dicamba, sodium salt	P	*		P		*	*
Diclofop-methyl	*						*
Difenzoquat	*	*					*
Fenoxaprop	*				*		
Fenoxaprop-p-ethyl	P	*	P	P	P	P	*
Flucarbazone-sodium	P	*	P	*	P		*
Flufenacet	*	*					
Fluroxypyr	P	P	*	P	P	*	*
Fluroxypyr 1-MHE	P	*	P	*	P	P	*
Glyphosate	P			*	*		
Glyphosate amm. salt	*			*			
Glyphosate iso. salt	P	*	*	P	P	P	P
Glyphosate pot. salt	*			*			*
Imazamox	*				*		
MCPA	P	*			*	*	*
MCPA, 2-ethylhexyl	P	P	P	P	P	P	P
MCPA, dimethyl. salt	P	P	P	*	*	*	*
MCPA, isooctyl ester	P			P			P
Mesosulfuron-Methyl	P	*		*	P		*
Metribuzin	*	*					
Metsulfuron-methyl	P	P		P		P	P
Paraquat	*		*				
Pinoxaden	P	P	P	P	P		P

See footnote(s) at end of table.

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**Other Spring Wheat: Active Ingredients and
Publication Status
By Program States, 2006 (continued)**

Active Ingredient	Program States						
	ALL	ID	MN	MT	ND	SD	WA
Herbicides (continued)							
Propoxycarbazone-sod	P			*	*		
Prosulfuron	P	*					*
Sethoxydim	*				*		
Sulfosate	*			*			
Sulfosulfuron	*						*
Thifensulfuron	P	P	P	P	P	P	P
Tralkoxydim	P	P					
Triallate	P	*		*			*
Triasulfuron	P	*		P		*	
Tribenuron-methyl	P	P	P	P	P	P	P
Trifluralin	*			*	*		
Insecticides							
Bt subsp. kurstaki	*		*				
Carbofuran	*	*					
Chlorpyrifos	*	*					*
Dimethoate	P	*					*
Gamma-cyhalothrin	*					*	
Lambda-cyhalothrin	P	*	*				*
Methyl parathion	*		*				
Zeta-cypermethrin	*						*
Fungicides							
Azoxystrobin	P	*			*		P
Propiconazole	P	P	P	*	P	*	P
Pyraclostrobin	P	*	P		*	P	
Tebuconazole	P		P		*	*	*
Trifloxystrobin	P		*		*	*	
Other Chemicals							
Ethephon	*	*					

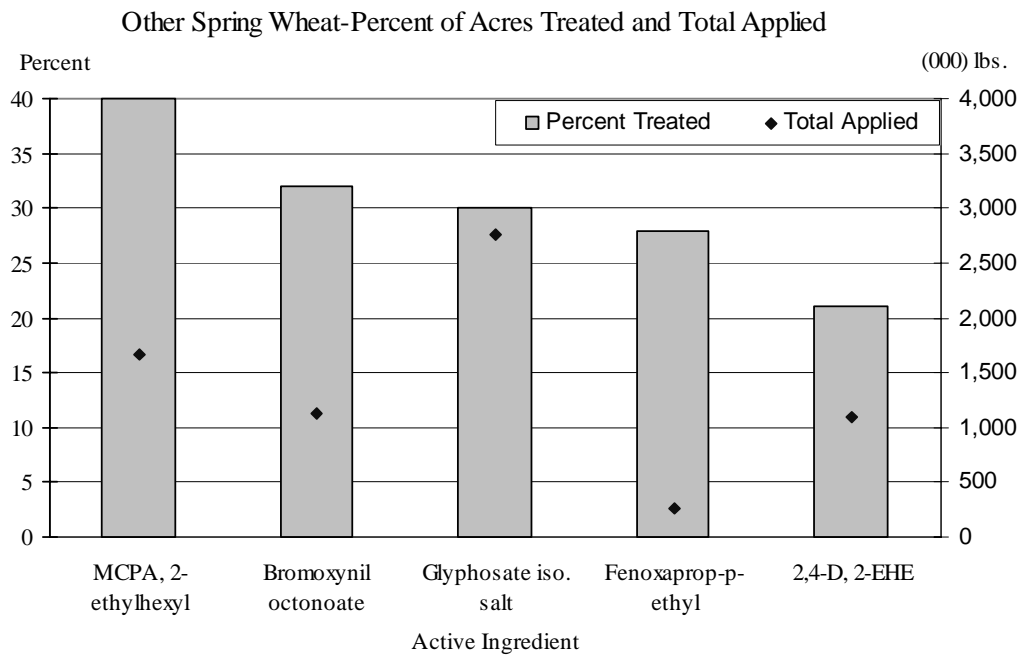
P Usage data are published for this active ingredient.

*Usage data are not published for this active ingredient.

**Other Spring Wheat: Planted Acreage, Pesticide,
Percent of Area Receiving Applications and Total Applied,
Program States and Total, 2006**

State	Planted Acreage	Area Receiving and Total Applied							
		Herbicide		Insecticide		Fungicide		Other	
	<i>1,000 Acres</i>	<i>Percent</i>	<i>1,000 lbs</i>	<i>Percent</i>	<i>1,000 lbs</i>	<i>Percent</i>	<i>1,000 lbs</i>	<i>Percent</i>	<i>1,000 lbs</i>
ID	490	95	272	8	9	12	6	(¹)	
MN	1,700	96	952	5	12	40	45		
MT	2,950	91	2,172			(¹)			
ND	7,300	95	4,723			14	88		
SD	1,850	84	943	(¹)		24	31		
WA	430	96	261	11	19	12	5		
Total	14,720	93	9,323	1	40	15	175	(¹)	

¹ Insufficient reports to publish data for pesticide class.



**Other Spring Wheat: Agricultural Chemical Applications,
Program States, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D	1	1.0	0.141	0.141	11
2,4-D, 2-EHE	21	1.1	0.339	0.360	1,099
2,4-D, dieth salt	*	1.0	0.568	0.568	25
2,4-D, dimeth. salt	8	1.0	0.286	0.297	359
2,4-D, isoprop. salt	8	1.2	0.062	0.077	88
2,4-D, triiso. salt	1	1.0	0.372	0.376	29
Bromoxynil	*	1.0	0.276	0.276	7
Bromoxynil heptanoat	15	1.0	0.256	0.256	547
Bromoxynil octanoate	32	1.0	0.239	0.241	1,120
Carfentrazone-ethyl	2	1.0	0.012	0.012	3
Clodinafop-propargil	11	1.0	0.044	0.044	69
Clopyralid	17	1.0	0.081	0.081	205
Clopyralid mono salt	1	1.0	0.071	0.071	6
Dicamba	2	1.4	0.035	0.048	17
Dicamba, digly salt	4	1.0	0.127	0.127	82
Dicamba, dimet. salt	5	1.1	0.093	0.099	66
Dicamba, sodium salt	1	1.0	0.064	0.064	12
Fenoxaprop-p-ethyl	28	1.0	0.064	0.064	269
Flucarbazone-sodium	9	1.0	0.018	0.018	22
Fluroxypyr	9	1.0	0.104	0.104	140
Fluroxypyr 1-MHE	19	1.0	0.090	0.090	247
Glyphosate	1	1.0	0.361	0.369	55
Glyphosate iso. salt	30	1.3	0.485	0.624	2,757
MCPA	*	1.0	0.350	0.350	13
MCPA, 2-ethylhexyl	40	1.0	0.279	0.281	1,662
MCPA, dimethyl. salt	2	1.0	0.415	0.415	111
MCPA, isooctyl ester	1	1.0	0.223	0.223	28
Mesosulfuron-Methyl	2	1.0	0.002	0.002	1
Metsulfuron-methyl	4	1.0	0.003	0.003	2
Pinoxaden	3	1.0	0.068	0.068	26
Propoxycarbazono-sod	2	1.0	0.010	0.010	3
Prosulfuron	*	1.0	0.016	0.016	1
Thifensulfuron	16	1.0	0.012	0.012	29
Tralkoxydim	*	1.0	0.159	0.159	5
Triallate	1	1.0	0.438	0.438	36
Triasulfuron	2	1.0	0.017	0.017	4
Tribenuron-methyl	15	1.0	0.004	0.004	9
Insecticides					
Dimethoate	*	1.0	0.384	0.384	21
Lambda-cyhalothrin	*	1.0	0.023	0.023	1

See footnote(s) at end of table.

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**Other Spring Wheat: Agricultural Chemical Applications,
Program States, 2006 ¹ (continued)**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Fungicides					
Azoxystrobin	1	1.0	0.032	0.032	5
Propiconazole	7	1.0	0.068	0.069	68
Pyraclostrobin	7	1.0	0.055	0.055	55
Tebuconazole	2	1.0	0.097	0.101	32
Trifloxystrobin	2	1.0	0.074	0.074	17

*Area applied is less than 0.5 percent.

¹ Planted acreage in 2006 for the 6 Program States was 14.7 million acres.
States included are ID, MN, MT, ND, SD, and WA.

**Other Spring Wheat: Agricultural Chemical Applications,
Idaho, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	14	1.0	0.459	0.459	32
Bromoxynil octanoate	37	1.0	0.277	0.277	50
Clodinafop-propargil	32	1.0	0.047	0.047	7
Fluroxypyr	27	1.0	0.142	0.142	19
MCPA, 2-ethylhexyl	59	1.0	0.312	0.312	90
MCPA, dimethyl. salt	5	1.0	0.542	0.542	13
Metsulfuron-methyl	5	1.0	0.002	0.002	(²)
Pinoxaden	7	1.0	0.053	0.053	2
Thifensulfuron	26	1.0	0.013	0.013	2
Tralkoxydim	6	1.0	0.159	0.159	5
Tribenuron-methyl	27	1.0	0.005	0.005	1
Fungicides					
Propiconazole	9	1.0	0.079	0.079	4

¹ Planted acreage in 2006 for Idaho was 490,000 acres.

² Total applied is less than 500 lbs.

**Other Spring Wheat: Agricultural Chemical Applications,
Minnesota, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	10	1.0	0.381	0.381	64
Bromoxynil heptanoat	36	1.0	0.235	0.235	144
Bromoxynil octanoate	65	1.0	0.232	0.232	257
Clopyralid	8	1.0	0.080	0.080	10
Fenoxaprop-p-ethyl	29	1.0	0.075	0.075	37
Flucarbazone-sodium	13	1.0	0.021	0.021	5
Fluroxypyr 1-MHE	7	1.0	0.087	0.087	11
MCPA, 2-ethylhexyl	72	1.0	0.254	0.254	310
MCPA, dimethyl. salt	4	1.0	0.388	0.388	27
Pinoxaden	6	1.0	0.088	0.088	9
Thifensulfuron	11	1.0	0.011	0.011	2
Tribenuron-methyl	9	1.0	0.004	0.004	1
Fungicides					
Propiconazole	9	1.1	0.065	0.074	11
Pyraclostrobin	24	1.0	0.052	0.052	21
Tebuconazole	9	1.0	0.085	0.085	13

¹ Planted acreage in 2006 for Minnesota was 1.7 million acres.

**Other Spring Wheat: Agricultural Chemical Applications,
Montana, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	47	1.1	0.310	0.351	488
2,4-D, dimeth. salt	13	1.1	0.280	0.309	123
2,4-D, isoprop. salt	8	2.0	0.061	0.122	28
Bromoxynil octanoate	16	1.0	0.225	0.225	109
Clodinafop-propargil	23	1.0	0.038	0.038	26
Dicamba	10	1.5	0.035	0.051	15
Dicamba, digly salt	17	1.0	0.083	0.083	42
Dicamba, dimet. salt	7	1.2	0.070	0.083	17
Dicamba, sodium salt	6	1.0	0.066	0.066	12
Fenoxaprop-p-ethyl	7	1.0	0.035	0.035	7
Fluroxypyr	7	1.0	0.053	0.053	11
Glyphosate iso. salt	43	1.7	0.430	0.738	945
MCPA, 2-ethylhexyl	13	1.0	0.247	0.247	94
MCPA, isooctyl ester	3	1.0	0.234	0.234	21
Metsulfuron-methyl	11	1.0	0.003	0.003	1
Pinoxaden	1	1.0	0.062	0.062	2
Thifensulfuron	12	1.0	0.011	0.011	4
Triasulfuron	8	1.0	0.017	0.017	4
Tribenuron-methyl	14	1.0	0.005	0.005	2

¹ Planted acreage in 2006 for Montana was 3.0 million acres.

**Other Spring Wheat: Agricultural Chemical Applications,
North Dakota, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	16	1.0	0.365	0.365	416
2,4-D, dimeth. salt	7	1.0	0.183	0.183	88
2,4-D, isoprop. salt	11	1.0	0.060	0.063	52
Bromoxynil heptanoat	14	1.0	0.256	0.256	260
Bromoxynil octanoate	29	1.0	0.232	0.232	490
Clodinafop-propargil	9	1.0	0.047	0.047	31
Clopyralid	31	1.0	0.082	0.082	185
Fenoxaprop-p-ethyl	45	1.0	0.065	0.065	213
Flucarbazone-sodium	13	1.0	0.017	0.017	16
Fluroxypyr	11	1.0	0.123	0.123	97
Fluroxypyr 1-MHE	34	1.0	0.090	0.090	221
Glyphosate iso. salt	37	1.1	0.518	0.576	1,572
MCPA, 2-ethylhexyl	44	1.0	0.292	0.292	933
Mesosulfuron-Methyl	4	1.0	0.002	0.002	1
Pinoxaden	3	1.0	0.063	0.063	12
Thifensulfuron	19	1.0	0.012	0.012	17
Tribenuron-methyl	16	1.0	0.004	0.004	4
Fungicides					
Propiconazole	10	1.0	0.068	0.068	48

¹ Planted acreage in 2006 for North Dakota was 7.3 million acres.

**Other Spring Wheat: Agricultural Chemical Applications,
South Dakota, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	14	1.0	0.323	0.323	82
2,4-D, dimeth. salt	10	1.0	0.388	0.399	74
Bromoxynil heptanoat	22	1.0	0.291	0.291	120
Bromoxynil octanoate	34	1.1	0.274	0.291	181
Clopyralid	6	1.0	0.077	0.077	8
Dicamba, dimet. salt	8	1.0	0.173	0.173	26
Fenoxaprop-p-ethyl	8	1.3	0.053	0.067	10
Fluroxypyr 1-MHE	8	1.0	0.094	0.094	14
Glyphosate iso. salt	15	1.1	0.574	0.624	169
MCPA, 2-ethylhexyl	38	1.1	0.271	0.286	201
Metsulfuron-methyl	7	1.0	0.003	0.003	(²)
Thifensulfuron	10	1.0	0.012	0.012	2
Tribenuron-methyl	10	1.0	0.006	0.006	1
Fungicides					
Pyraclostrobin	20	1.0	0.059	0.060	22

¹ Planted acreage in 2006 for South Dakota was 1.9 million acres.

² Total applied is less than 500 lbs.

**Other Spring Wheat: Agricultural Chemical Applications,
Washington, 2006 ¹**

Active Ingredient	Area Applied	Appli- cations	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	9	1.1	0.417	0.456	17
2,4-D, dimeth. salt	26	1.0	0.523	0.523	58
Bromoxynil heptanoat	8	1.0	0.279	0.279	9
Bromoxynil octanoate	31	1.0	0.243	0.243	32
Clodinafop-propargil	19	1.0	0.052	0.052	4
Glyphosate iso. salt	18	1.3	0.452	0.577	45
MCPA, 2-ethylhexyl	31	1.0	0.253	0.253	34
MCPA, isooctyl ester	8	1.0	0.196	0.196	7
Metsulfuron-methyl	15	1.0	0.004	0.004	(²)
Pinoxaden	6	1.0	0.049	0.049	1
Thifensulfuron	37	1.0	0.013	0.013	2
Tribenuron-methyl	37	1.0	0.005	0.005	1
Fungicides					
Azoxystrobin	7	1.0	0.036	0.036	1
Propiconazole	12	1.0	0.075	0.075	4

¹ Planted acreage in 2006 for Washington was 430,000 acres.

² Total applied is less than 500 lbs.

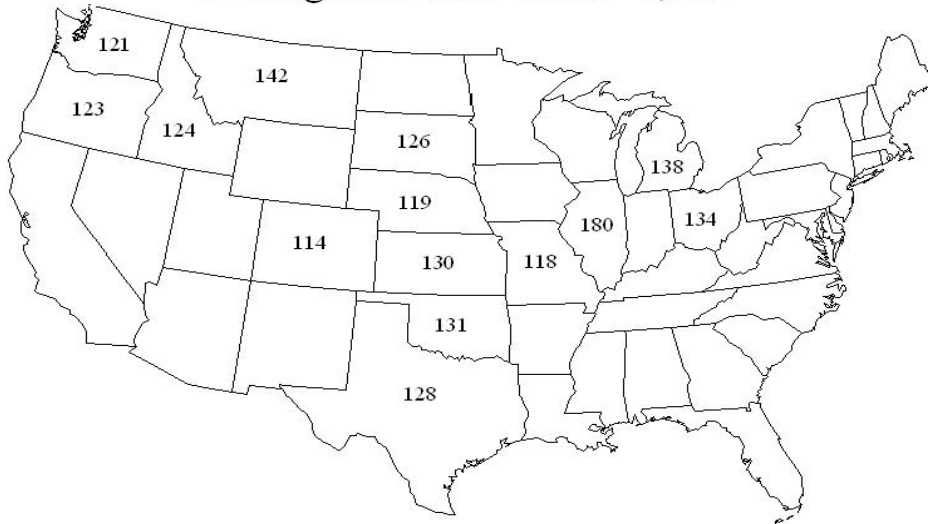
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Winter Wheat: Fertilizer Use by State, 2006
Percent of Acres Treated and Total Applied

State	Planted Acreage	Percent of Acres Treated and Total Applied							
		Nitrogen		Phosphate		Potash		Sulfur	
	<i>1,000 Acres</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>	<i>Percent</i>	<i>Mil. lbs.</i>
CO	2,150	54	36.8	36	13.5	(¹)		4	0.7
ID	750	93	80.9	66	13.7	16	2.2	63	9.6
IL	930	93	82.1	76	49.8	76	68.4	3	0.5
KS	9,800	88	493.0	66	197.5	8	29.0	5	5.3
MI	660	98	57.6	74	22.2	85	33.9	37	3.0
MO	1,000	97	90.7	73	35.5	74	44.8	12	1.8
MT	1,950	87	96.8	84	46.2	31	9.9	12	2.0
NE	1,800	75	73.3	57	34.0	4	1.4	13	1.9
OH	990	98	86.2	84	53.0	82	57.5	23	7.2
OK	5,700	89	283.4	65	130.9	8	9.8	(¹)	
OR	760	95	46.2	12	2.8	10	1.4	48	4.9
SD	1,450	82	78.7	57	28.1	15	4.7	12	1.1
TX	5,550	44	152.1	29	47.3	8	20.8	11	5.3
WA	1,850	99	140.8	36	12.0	10	3.5	71	18.0
Total	35,340	80	1,798.6	57	686.5	17	288.5	14	66.4

¹ Insufficient reports to publish data for the fertilizer primary nutrient.

Winter Wheat 2006: Number of Usable Reports
14 Program States Total - 1,828



**Winter Wheat: Fertilizer Primary Nutrient Applications,
Program States and Total, 2006**

Primary Nutrient	Planted Acreage	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>1,000 Acres</i>	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>Mil. lbs</i>
Colorado	2,150					
Nitrogen		54	1.3	24	31	36.8
Phosphate		36	1.2	15	17	13.5
Potash ¹						
Sulfur		4	1.4	7	10	0.7
Idaho	750					
Nitrogen		93	1.7	69	116	80.9
Phosphate		66	1.1	26	28	13.7
Potash		16	1.0	18	18	2.2
Sulfur		63	1.3	15	20	9.6
Illinois	930					
Nitrogen		93	1.7	56	95	82.1
Phosphate		76	1.0	70	71	49.8
Potash		76	1.0	95	97	68.4
Sulfur		3	1.2	14	16	0.5
Kansas	9,800					
Nitrogen		88	1.6	36	57	493.0
Phosphate		66	1.0	30	31	197.5
Potash		8	1.0	35	36	29.0
Sulfur		5	1.3	10	12	5.3
Michigan	660					
Nitrogen		98	2.0	46	89	57.6
Phosphate		74	1.0	44	46	22.2
Potash		85	1.0	59	61	33.9
Sulfur		37	1.3	10	12	3.0
Missouri	1,000					
Nitrogen		97	1.7	54	94	90.7
Phosphate		73	1.0	48	49	35.5
Potash		74	1.0	58	60	44.8
Sulfur		12	1.5	10	15	1.8
Montana	1,950					
Nitrogen		87	1.6	36	57	96.8
Phosphate		84	1.0	28	28	46.2
Potash		31	1.0	16	16	9.9
Sulfur		12	1.0	8	8	2.0

See footnote(s) at end of table.

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**Winter Wheat: Fertilizer Primary Nutrient Applications,
Program States and Total, 2006 (continued)**

Primary Nutrient	Planted Acreage	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>1,000 Acres</i>	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>Mil. lbs</i>
Nebraska	1,800					
Nitrogen		75	1.6	35	54	73.3
Phosphate		57	1.0	33	33	34.0
Potash		4	2.0	9	18	1.4
Sulfur		13	1.4	6	8	1.9
Ohio	990					
Nitrogen		98	2.0	44	89	86.2
Phosphate		84	1.0	61	64	53.0
Potash		82	1.0	69	71	57.5
Sulfur		23	1.3	23	32	7.2
Oklahoma	5,700					
Nitrogen		89	1.5	37	56	283.4
Phosphate		65	1.1	33	35	130.9
Potash		8	1.1	21	23	9.8
Sulfur ¹						
Oregon	760					
Nitrogen		95	1.2	52	64	46.2
Phosphate		12	1.1	27	29	2.8
Potash		10	1.0	18	19	1.4
Sulfur		48	1.0	13	13	4.9
South Dakota	1,450					
Nitrogen		82	1.5	43	66	78.7
Phosphate		57	1.1	31	34	28.1
Potash		15	1.0	21	22	4.7
Sulfur		12	1.3	5	6	1.1
Texas	5,550					
Nitrogen		44	1.3	48	62	152.1
Phosphate		29	1.0	29	30	47.3
Potash		8	1.3	36	48	20.8
Sulfur		11	1.0	9	9	5.3
Washington	1,850					
Nitrogen		99	1.3	57	77	140.8
Phosphate		36	1.0	17	18	12.0
Potash		10	1.1	17	19	3.5
Sulfur		71	1.2	12	14	18.0
Program States	35,340					
Nitrogen		80	1.5	41	64	1,798.6
Phosphate		57	1.0	33	34	686.5
Potash		17	1.1	46	49	288.5
Sulfur		14	1.2	11	14	66.4

¹ Insufficient reports to publish fertilizer data.

**Winter Wheat: Active Ingredients and
Publication Status
By Program States, 2006**

Active Ingredient	Program States							
	ALL	CO	ID	IL	KS	MI	MO	MT
Herbicides								
2,4-D	*				*			
2,4-D, 2-EHE	P	P	P	P	P	P	*	P
2,4-D, BEE	*							*
2,4-D, dieth salt	*							
2,4-D, dimeth. salt	P	P	P	P	P	P	P	P
2,4-D, isoprop. salt	P	*	*		*			P
2,4-D, triiso. salt	*		*					
2,4-DP, dimeth. salt	*							*
Aminopyralid	*							*
Atrazine	P	P						
Bromoxynil	*							
Bromoxynil heptanoat	P		P	*				*
Bromoxynil octanoate	P	*	P	*				P
Carfentrazone-ethyl	P	*	*		*			*
Chlorsulfuron	P				P			P
Clodinafop-propargil	P		P					P
Clopyralid	P		*			*		*
Clopyralid mono salt	*		*					
Dicamba	P	*			*			P
Dicamba, Pot. salt	*	*						
Dicamba, digly salt	P	*	*		*	*		P
Dicamba, dimet. salt	P	P	*	*	*	*		P
Dicamba, iso salt	*	*	*					
Dicamba, sodium salt	P	*	*		P			P
Dimethenamid	*							
Diuron	*		*					
Fenoxaprop-p-ethyl	P		*					*
Flucarbazone-sodium	P		*					*
Flufenacet	P							
Fluroxypyr	P		P					
Fluroxypyr 1-MHE	P		*			*		*
Glufosinate-ammonium	*	*						
Glyphosate	*							*
Glyphosate amm. salt	*	*						
Glyphosate iso. salt	P	P	P	*	P	*	*	P
Glyphosate pot. salt	*							*
Imazamox	P	*	*					*
MCPA	P		*					
MCPA, 2-ethylhexyl	P		P	*	*	*		P
MCPA, dimethyl. salt	P		*		*			*
MCPA, isooctyl ester	*							*
Mesosulfuron-Methyl	P		P					*
Metribuzin	P		*					
Metsulfuron-methyl	P	P	P		P			P

See footnote(s) at end of table.

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**Winter Wheat: Active Ingredients and
Publication Status
By Program States, 2006 (continued)**

Active Ingredient	Program States						
	NE	OH	OK	OR	SD	TX	WA
Herbicides							
2,4-D				*			*
2,4-D, 2-EHE	P	P	*	P	P	P	P
2,4-D, BEE		*					*
2,4-D, dieth salt		*					*
2,4-D, dimeth. salt	P	P	P	P	P	P	P
2,4-D, isoprop. salt	*		*	P	P	*	*
2,4-D, triiso. salt							
2,4-DP, dimeth. salt							
Aminopyralid					*		
Atrazine							
Bromoxynil				*			*
Bromoxynil heptanoat				*	P		P
Bromoxynil octanoate				P	P		P
Carfentrazone-ethyl	*			*	*		*
Chlorsulfuron	*		P	P		*	
Clodinafop-propargil							P
Clopyralid	*	*			P		*
Clopyralid mono salt							
Dicamba				P			
Dicamba, Pot. salt							
Dicamba, digly salt	*			*	*	*	
Dicamba, dimet. salt	P	*	*	P	*	*	*
Dicamba, iso salt					*		
Dicamba, sodium salt	*			*	*	*	*
Dimethenamid					*		
Diuron							
Fenoxaprop-p-ethyl					*		*
Flucarbazone-sodium							*
Flufenacet				P			
Fluroxypyr	*			*			P
Fluroxypyr 1-MHE		*			P		
Glufosinate-ammonium							
Glyphosate			*				
Glyphosate amm. salt							
Glyphosate iso. salt	P		P	P	P	P	P
Glyphosate pot. salt							
Imazamox				P			P
MCPA							*
MCPA, 2-ethylhexyl			*	P	P		P
MCPA, dimethyl. salt		*		*			P
MCPA, isooctyl ester							
Mesosulfuron-Methyl				*	P		P
Metribuzin				P			*
Metsulfuron-methyl	P		*	P	P	*	P

See footnote(s) at end of table.

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**Winter Wheat: Active Ingredients and
Publication Status
By Program States, 2006 (continued)**

Active Ingredient	Program States							
	ALL	CO	ID	IL	KS	MI	MO	MT
Herbicides (continued)								
Paraquat	*	*						
Picloram, K salt	*	*						*
Pinoxaden	*		*					*
Propoxycarbazone-sod	P		*		*			*
Prosulfuron	P		P	*		P		
Quizalofop-P-ethyl	*		*					
Sulfosulfuron	P				*			P
Thifensulfuron	P	P	P	P	P	P	P	P
Tralkoxydim	*		*					
Triallate	*							*
Triasulfuron	P	P	*		P			P
Tribenuron-methyl	P	P	P	P	P	P	P	P
Insecticides								
Carbofuran	*		*					
Chlorpyrifos	P	*	*	*				*
Cyfluthrin	*						*	
Dimethoate	P	*			*			
Disulfoton	*						*	
Endosulfan	*						*	
Esfenvalerate	*						*	
Gamma-cyhalothrin	*						*	
Lambda-cyhalothrin	P			*		*	*	
Malathion	*							
Methyl parathion	*							
Zeta-cypermethrin	P		*			*	*	
Fungicides								
Azoxystrobin	P			*		P	*	*
Propiconazole	P		*	P		P	*	*
Pyraclostrobin	P		*	*		P	*	*
Tebuconazole	P			*		P		
Thiophanate-methyl	*							
Trifloxystrobin	P		*			*	*	

See footnote(s) at end of table.

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**Winter Wheat: Active Ingredients and
Publication Status
By Program States, 2006 (continued)**

Active Ingredient	Program States						
	NE	OH	OK	OR	SD	TX	WA
Herbicides (continued)							
Paraquat							
Picloram, K salt						*	
Pinoxaden							
Propoxycarbazone-sod				P	P		P
Prosulfuron		*		*		*	P
Quizalofop-P-ethyl							
Sulfosulfuron	*			P			P
Thifensulfuron	P	P	*	P	P	*	P
Tralkoxydim				*			
Triallate							
Triasulfuron	P		*	*	*		P
Tribenuron-methyl	P	P	*	P	P	*	P
Insecticides							
Carbofuran							
Chlorpyrifos		*	P			*	
Cyfluthrin					*		
Dimethoate				*		*	*
Disulfoton			*			*	
Endosulfan		*					
Esfenvalerate							
Gamma-cyhalothrin		*					
Lambda-cyhalothrin					*		
Malathion				*			
Methyl parathion						*	
Zeta-cypermethrin		*					*
Fungicides							
Azoxystrobin	*	*		*	*		*
Propiconazole	*	*		P	P		P
Pyraclostrobin	*	*		*	P		
Tebuconazole					*		
Thiophanate-methyl				*			
Trifloxystrobin				*	*		

P Usage data are published for this active ingredient.

* Usage data are not published for this active ingredient.

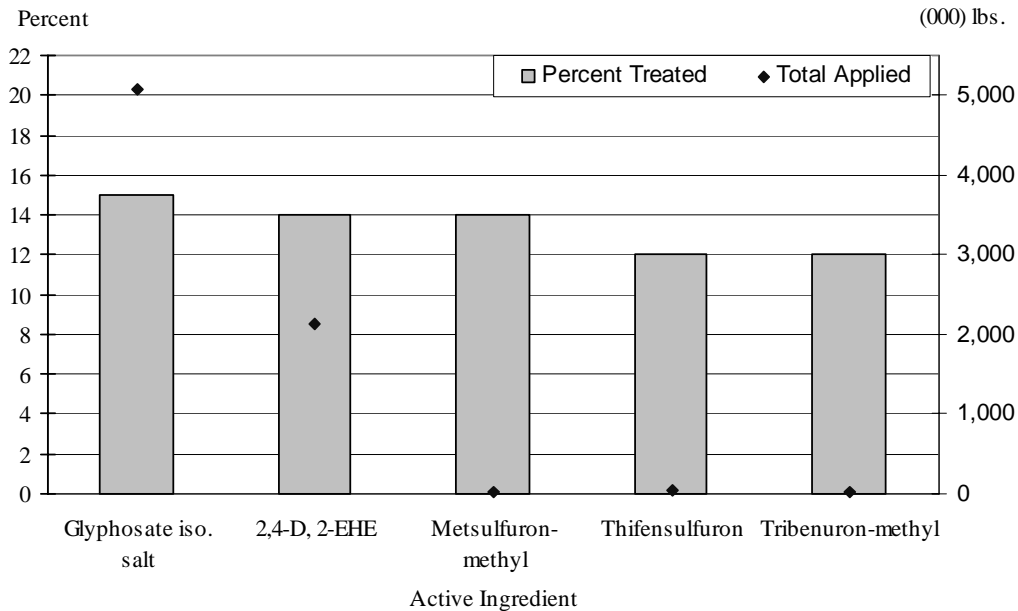
**Winter Wheat: Planted Acreage, Pesticide,
Percent of Area Receiving Applications and Total Applied,
Program States and Total, 2006**

State	Planted Acreage	Area Receiving and Total Applied							
		Herbicide		Insecticide		Fungicide		Other	
	1,000 Acres	Percent	1,000 lbs	Percent	1,000 lbs	Percent	1,000 lbs	Percent	1,000 lbs
CO	2,150	54	1,018	(¹)					
ID	750	84	349	(¹)		5	3		
IL	930	46	62	(¹)		6	7		
KS	9,800	53	2,600	(¹)					
MI	660	71	148	3	(²)	23	17		
MO	1,000	28	49	12	12	6	10		
MT	1,950	92	2,315	(¹)		(¹)			
NE	1,800	56	399			4	8		
OH	990	44	93	(¹)		(¹)			
OK	5,700	20	495	7	138				
OR	760	87	366	(¹)		3	3		
SD	1,450	74	749	(¹)		21	27		
TX	5,550	22	1,299	4	92				
WA	1,850	94	1,077	(¹)		2	5		
Total	35,340	49	11,019	3	315	2	86		

¹ Insufficient reports to publish data for pesticide class.

² Total applied is less than 50 pounds.

Winter Wheat-Percent of Acres Treated and Total Applied



**Winter Wheat: Agricultural Chemical Applications,
Program States, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	14	1.2	0.354	0.440	2,128
2,4-D, dimeth. salt	9	1.3	0.365	0.474	1,553
2,4-D, isoprop. salt	3	2.0	0.058	0.117	104
Atrazine	*	1.0	0.676	0.676	55
Bromoxynil heptanoat	1	1.0	0.268	0.268	116
Bromoxynil octanoate	3	1.0	0.256	0.256	295
Carfentrazone-ethyl	1	1.1	0.011	0.012	3
Chlorsulfuron	6	1.0	0.010	0.010	22
Clodinafop-propargil	1	1.0	0.031	0.031	6
Clopyralid	*	1.0	0.079	0.079	12
Dicamba	1	1.4	0.074	0.102	29
Dicamba, digly salt	1	1.0	0.103	0.103	55
Dicamba, dimet. salt	4	1.3	0.229	0.302	399
Dicamba, sodium salt	2	1.1	0.080	0.088	65
Fenoxaprop-p-ethyl	*	1.0	0.079	0.079	5
Flucarbazone-sodium	*	1.0	0.022	0.022	1
Flufenacet	*	1.0	0.334	0.334	3
Fluroxypyr	*	1.0	0.129	0.129	13
Fluroxypyr 1-MHE	*	1.0	0.086	0.086	12
Glyphosate iso. salt	15	1.9	0.495	0.963	5,078
Imazamox	1	1.0	0.036	0.036	7
MCPA	*	1.0	0.283	0.283	25
MCPA, 2-ethylhexyl	4	1.0	0.304	0.304	455
MCPA, dimethyl. salt	1	1.0	0.332	0.332	69
Mesosulfuron-Methyl	2	1.0	0.008	0.008	5
Metribuzin	1	1.0	0.174	0.174	37
Metsulfuron-methyl	14	1.0	0.002	0.002	12
Propoxycarbazone-sod	2	1.0	0.024	0.025	21
Prosulfuron	1	1.0	0.014	0.014	4
Sulfosulfuron	2	1.0	0.030	0.030	17
Thifensulfuron	12	1.0	0.009	0.009	39
Triasulfuron	4	1.0	0.014	0.014	19
Tribenuron-methyl	12	1.0	0.004	0.004	18
Insecticides					
Chlorpyrifos	2	1.0	0.378	0.378	209
Dimethoate	*	1.0	0.283	0.283	41
Lambda-cyhalothrin	*	1.0	0.017	0.017	2
Zeta-cypermethrin	*	1.0	0.022	0.022	1

See footnote(s) at end of table.

--continued

**Winter Wheat: Agricultural Chemical Applications,
Program States, 2006¹ (continued)**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Fungicides					
Azoxystrobin	1	1.0	0.054	0.055	10
Propiconazole	1	1.0	0.080	0.082	30
Pyraclostrobin	1	1.1	0.072	0.078	34
Tebuconazole	*	1.0	0.106	0.106	9
Trifloxystrobin	*	1.0	0.065	0.066	3

*Area applied is less than 0.5 percent.

¹ Harvested acreage in 2006 for the 14 Program States was 35.3 million acres.
States included are CO, ID, IL, KS, MI, MO, MT, NE, OH, OK, OR, SD, TX, and WA.

**Winter Wheat: Agricultural Chemical Applications,
Colorado, 2006¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	16	1.5	0.207	0.319	112
2,4-D, dimeth. salt	27	1.4	0.249	0.337	196
Atrazine	4	1.0	0.676	0.676	55
Dicamba, dimet. salt	15	2.0	0.076	0.150	49
Glyphosate iso. salt	23	2.2	0.514	1.114	553
Metsulfuron-methyl	15	1.1	0.003	0.003	1
Thifensulfuron	10	1.0	0.004	0.004	1
Triasulfuron	7	1.0	0.013	0.013	2
Tribenuron-methyl	10	1.0	0.002	0.002	(²)

¹ Harvested acreage in 2006 for Colorado was 2.2 million acres.

² Total applied is less than 500 lbs.

**Winter Wheat: Agricultural Chemical Applications,
Idaho, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	15	1.0	0.465	0.465	51
2,4-D, dimeth. salt	8	1.1	0.496	0.551	32
Bromoxynil heptanoat	10	1.0	0.291	0.291	22
Bromoxynil octanoate	24	1.0	0.265	0.265	48
Clodinafop-propargil	6	1.0	0.023	0.023	1
Fluroxypyr	8	1.0	0.123	0.123	7
Glyphosate iso. salt	6	1.0	0.386	0.386	16
MCPA, 2-ethylhexyl	45	1.0	0.333	0.333	112
Mesosulfuron-Methyl	15	1.0	0.011	0.011	1
Metsulfuron-methyl	16	1.0	0.003	0.003	(²)
Prosulfuron	6	1.0	0.015	0.015	1
Thifensulfuron	36	1.0	0.012	0.012	3
Tribenuron-methyl	38	1.0	0.004	0.004	1

¹ Harvested acreage in 2006 for Idaho was 750,000 acres.

² Total applied is less than 500 lbs.

**Winter Wheat: Agricultural Chemical Applications,
Illinois, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	3	1.4	0.303	0.425	12
2,4-D, dimeth. salt	4	1.0	0.503	0.503	17
Thifensulfuron	41	1.0	0.015	0.016	6
Tribenuron-methyl	39	1.0	0.007	0.008	3
Fungicides					
Propiconazole	2	1.0	0.110	0.110	3

¹ Harvested acreage in 2006 for Illinois was 930,000 acres.

**Winter Wheat: Agricultural Chemical Applications,
Kansas, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	10	1.3	0.340	0.450	434
2,4-D, dimeth. salt	9	1.3	0.418	0.560	480
Chlorsulfuron	16	1.0	0.011	0.011	18
Dicamba, sodium salt	5	1.0	0.091	0.091	47
Glyphosate iso. salt	14	1.7	0.519	0.892	1,207
Metsulfuron-methyl	25	1.0	0.002	0.002	6
Thifensulfuron	12	1.0	0.005	0.005	6
Triasulfuron	6	1.0	0.014	0.014	8
Tribenuron-methyl	12	1.0	0.003	0.003	3

¹ Harvested acreage in 2006 for Kansas was 9.8 million acres.

**Winter Wheat: Agricultural Chemical Applications,
Michigan, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	23	1.0	0.438	0.438	67
2,4-D, dimeth. salt	11	1.0	0.585	0.585	41
Prosulfuron	2	1.0	0.016	0.016	(²)
Thifensulfuron	29	1.0	0.017	0.017	3
Tribenuron-methyl	29	1.0	0.006	0.006	1
Fungicides					
Azoxystrobin	3	1.0	0.043	0.043	1
Propiconazole	10	1.0	0.078	0.078	5
Pyraclostrobin	8	1.0	0.082	0.082	4
Tebuconazole	9	1.0	0.106	0.106	6

¹ Harvested acreage in 2006 for Michigan was 660,000 acres.

² Total applied is less than 500 lbs.

**Winter Wheat: Agricultural Chemical Applications,
Missouri, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, dimeth. salt	3	1.0	0.588	0.588	18
Thifensulfuron	19	1.0	0.017	0.017	3
Tribenuron-methyl	16	1.0	0.008	0.008	1

¹ Harvested acreage in 2006 for Missouri was 1.0 million acres.

**Winter Wheat: Agricultural Chemical Applications,
Montana, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	54	1.5	0.321	0.467	491
2,4-D, dimeth. salt	10	1.1	0.254	0.285	53
2,4-D, isoprop. salt	17	2.4	0.050	0.121	39
Bromoxynil octanoate	11	1.0	0.214	0.214	47
Chlorsulfuron	5	1.0	0.006	0.006	1
Clodinafop-propargil	6	1.0	0.035	0.035	4
Dicamba	5	1.0	0.060	0.060	6
Dicamba, digly salt	8	1.0	0.097	0.097	16
Dicamba, dimet. salt	8	1.3	0.084	0.112	18
Dicamba, sodium salt	4	1.1	0.081	0.093	7
Glyphosate iso. salt	63	2.7	0.417	1.131	1,379
MCPA, 2-ethylhexyl	8	1.0	0.274	0.274	42
Metsulfuron-methyl	24	1.0	0.002	0.002	1
Sulfosulfuron	9	1.0	0.032	0.032	6
Thifensulfuron	19	1.0	0.006	0.006	2
Triasulfuron	8	1.2	0.010	0.012	2
Tribenuron-methyl	22	1.0	0.004	0.004	2

¹ Harvested acreage in 2006 for Montana was 2.0 million acres.

**Winter Wheat: Agricultural Chemical Applications,
Nebraska, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	16	1.3	0.219	0.283	80
2,4-D, dimeth. salt	13	1.0	0.343	0.343	79
Dicamba, dimet. salt	3	1.0	0.071	0.071	4
Glyphosate iso. salt	10	1.5	0.809	1.241	220
Metsulfuron-methyl	26	1.0	0.003	0.003	1
Thifensulfuron	17	1.0	0.006	0.006	2
Triasulfuron	11	1.0	0.014	0.014	3
Tribenuron-methyl	17	1.0	0.003	0.003	1

¹ Harvested acreage in 2006 for Nebraska was 1.8 million acres.

**Winter Wheat: Agricultural Chemical Applications,
Ohio, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	9	1.0	0.340	0.340	31
2,4-D, dimeth. salt	11	1.0	0.352	0.352	40
Thifensulfuron	17	1.0	0.016	0.016	3
Tribenuron-methyl	22	1.0	0.009	0.009	2

¹ Harvested acreage in 2006 for Ohio was 990,000 acres.

**Winter Wheat: Agricultural Chemical Applications,
Oklahoma, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, dimeth. salt	6	1.2	0.443	0.520	187
Chlorsulfuron	7	1.0	0.006	0.006	2
Glyphosate iso. salt	6	1.4	0.469	0.640	230
Insecticides					
Chlorpyrifos	6	1.0	0.399	0.399	136

¹ Harvested acreage in 2006 for Oklahoma was 5.7 million acres.

**Winter Wheat: Agricultural Chemical Applications,
Oregon, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	47	1.0	0.424	0.442	159
2,4-D, dimeth. salt	16	1.0	0.303	0.303	37
2,4-D, isoprop. salt	2	1.0	0.060	0.060	1
Bromoxynil octanoate	5	1.0	0.290	0.290	10
Chlorsulfuron	5	1.0	0.008	0.008	(²)
Dicamba	9	1.0	0.047	0.047	3
Dicamba, dimet. salt	6	1.0	0.080	0.080	4
Flufenacet	1	1.0	0.334	0.334	3
Glyphosate iso. salt	15	1.2	0.530	0.651	76
Imazamox	5	1.0	0.035	0.035	1
MCPA, 2-ethylhexyl	8	1.0	0.348	0.348	22
Metribuzin	12	1.0	0.229	0.229	20
Metsulfuron-methyl	37	1.1	0.003	0.003	1
Propoxycarbazone-sod	14	1.1	0.032	0.036	4
Sulfosulfuron	3	1.0	0.025	0.025	1
Thifensulfuron	41	1.0	0.008	0.008	3
Tribenuron-methyl	41	1.0	0.004	0.004	1
Fungicides					
Propiconazole	2	1.0	0.067	0.069	1

¹ Harvested acreage in 2006 for Oregon was 760,000 acres.

² Total applied is less than 500 lbs.

**Winter Wheat: Agricultural Chemical Applications,
South Dakota, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	22	1.2	0.348	0.407	129
2,4-D, dimeth. salt	12	1.2	0.412	0.474	85
2,4-D, isoprop. salt	7	1.8	0.053	0.096	9
Bromoxynil heptanoat	12	1.0	0.290	0.290	49
Bromoxynil octanoate	19	1.0	0.267	0.267	74
Clopyralid	3	1.0	0.100	0.100	4
Fluroxypyr 1-MHE	4	1.0	0.094	0.094	6
Glyphosate iso. salt	27	1.5	0.487	0.725	289
MCPA, 2-ethylhexyl	20	1.0	0.262	0.262	77
Mesosulfuron-Methyl	6	1.0	0.008	0.008	1
Metsulfuron-methyl	13	1.0	0.003	0.004	1
Propoxycarbazone-sod	6	1.0	0.013	0.013	1
Thifensulfuron	17	1.0	0.010	0.010	3
Tribenuron-methyl	14	1.0	0.004	0.004	1
Fungicides					
Propiconazole	7	1.0	0.060	0.062	6
Pyraclostrobin	16	1.1	0.063	0.070	17

¹ Harvested acreage in 2006 for South Dakota was 1.5 million acres.

**Winter Wheat: Agricultural Chemical Applications,
Texas, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	5	1.0	0.806	0.806	204
2,4-D, dimeth. salt	4	2.8	0.267	0.760	151
Glyphosate iso. salt	15	1.9	0.564	1.091	906

¹ Harvested acreage in 2006 for Texas was 5.6 million acres.

**Winter Wheat: Agricultural Chemical Applications,
Washington, 2006 ¹**

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
2,4-D, 2-EHE	33	1.0	0.469	0.481	296
2,4-D, dimeth. salt	14	1.0	0.539	0.539	135
Bromoxynil heptanoat	4	1.0	0.283	0.283	23
Bromoxynil octanoate	23	1.0	0.263	0.263	113
Clodinafop-propargil	2	1.0	0.028	0.028	1
Fluroxypyr	2	1.0	0.146	0.146	4
Glyphosate iso. salt	12	1.6	0.466	0.729	162
Imazamox	7	1.0	0.039	0.039	5
MCPA, 2-ethylhexyl	31	1.0	0.304	0.306	174
MCPA, dimethyl. salt	4	1.0	0.372	0.372	26
Mesosulfuron-Methyl	20	1.0	0.007	0.007	3
Metsulfuron-methyl	10	1.0	0.003	0.003	1
Propoxycarbazone-sod	18	1.0	0.014	0.014	5
Prosulfuron	4	1.0	0.011	0.011	1
Sulfosulfuron	11	1.0	0.029	0.029	6
Thifensulfuron	18	1.0	0.012	0.012	4
Triasulfuron	8	1.0	0.018	0.018	3
Tribenuron-methyl	17	1.0	0.005	0.005	1
Fungicides					
Propiconazole	2	1.1	0.094	0.104	4

¹ Harvested acreage in 2006 for Washington was 1.9 million acres.

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Distribution Tables – Highlights

The following distribution tables provide details about the distribution of agricultural chemical active ingredients commonly applied to the selected field. Chemical distribution rates are listed by active ingredient for the Percent of Acres Treated, Number of Applications, Rate per Application, and Rate per Crop year. In order for an active ingredient to be published in these tables, at least 30 farm operators reported an application of the active ingredient on the specified crop. The data in each table are summarized for a specific group of States, called Program States. The Program States designation is specific for each crop and provided in tables within the publication (See page 3).

These distribution tables show the 10th percentile, median, 90th percentile, mean, and coefficient of variation (cv) of the reported rates. The 10th percentile is the value below which 10 percent of all application rates fall. Thus, only 10 percent of operators reported an application rate for the active ingredient on the specified crop that was lower than the 10th percentile value. Likewise, the 90th percentile is a value for which 90 percent of all applications were at rates lower than this value. The median is the midpoint of the distribution with half of the reported application rates higher and half lower than the median value. The mean is the weighted average calculated by summing the application rate multiplied by the acres applied and then dividing by the acres applied.

The cv is a relative measure of the variability, expressed as a percentage of the estimate. For a specific commodity, the States have different agricultural practices which can lead to a wide range of pesticide usage rates. These ranges can lead to higher cv rates for different active ingredients. Some active ingredients are only applied in one manner resulting in smaller cv's, while other active ingredients have more varied agricultural uses which will have larger cv's. Please see the Survey and Estimation Procedures and Reliability sections for more information.

The Number of Applications, Rate per Application, and Rate per Crop Year distribution tables are calculated using data only from reports where the farm operator applied the active ingredient. Data presented in the Percent of Acres Treated table account for all operations in the sample producing the target commodity, whether or not the listed active ingredient was applied.

**Rice: Percent of Acres Treated Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, dimeth. salt	0	0	100	12	11
Acifluorfen, sodium	0	0	0	4	22
Bensulfuron-methyl	0	0	100	14	11
Bispyribac-sodium	0	0	0	8	17
Carfentrazone-ethyl	0	0	100	13	13
Clomazone	0	99	100	50	3
Cyhalofop-butyl	0	0	100	14	12
Glyphosate iso. salt	0	0	100	23	6
Halosulfuron	0	0	100	18	8
Imazethapyr	0	0	100	23	6
Molinate	0	0	0	4	18
Pendimethalin	0	0	0	3	21
Propanil	0	0	100	46	4
Quinclorac	0	0	100	24	8
Triclopyr	0	0	100	21	7
Insecticides					
Lambda-cyhalothrin	0	0	0	9	12
Methyl parathion	0	0	0	4	16
Zeta-cypermethrin	0	0	0	6	17
Fungicides					
Azoxystrobin	0	0	100	27	6
Copper sulfate	0	0	0	7	10
Propiconazole	0	0	100	19	7
Trifloxystrobin	0	0	0	9	14

¹ Planted acreage in 2006 for the 6 Program States was 2.8 million acres.

**Rice: Number of Applications Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, dimeth. salt	1.0	1.0	1.0	1.1	7.0
Acifluorfen, sodium	1.0	1.0	1.0	1.0	2.0
Bensulfuron-methyl	1.0	1.0	1.0	1.0	1.0
Bispyribac-sodium	1.0	1.0	1.0	1.0	0.0
Carfentrazone-ethyl	1.0	1.0	1.0	1.0	2.0
Clomazone	1.0	1.0	1.0	1.0	1.0
Cyhalofop-butyl	1.0	1.0	1.0	1.1	2.0
Glyphosate iso. salt	1.0	1.0	2.0	1.2	4.0
Halosulfuron	1.0	1.0	1.0	1.0	3.0
Imazethapyr	1.0	2.0	2.0	1.7	4.0
Molinate	1.0	1.0	1.0	1.0	1.0
Pendimethalin	1.0	1.0	1.0	1.0	0.0
Propanil	1.0	1.0	1.0	1.1	2.0
Quinclorac	1.0	1.0	1.0	1.1	2.0
Triclopyr	1.0	1.0	1.0	1.0	3.0
Insecticides					
Lambda-cyhalothrin	1.0	1.0	1.0	1.1	3.0
Methyl parathion	1.0	1.0	4.0	1.9	15.0
Zeta-cypermethrin	1.0	1.0	2.0	1.2	6.0
Fungicides					
Azoxystrobin	1.0	1.0	1.0	1.1	5.0
Copper sulfate	1.0	1.0	1.0	1.0	0.0
Propiconazole	1.0	1.0	1.0	1.0	0.0
Trifloxystrobin	1.0	1.0	1.0	1.0	1.0

¹ Planted acreage in 2006 for the 6 Program States was 2.8 million acres.

**Rice: Rate Per Application Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, dimeth. salt	0.297	0.789	1.175	0.772	7
Acifluorfen, sodium	0.125	0.250	0.260	0.220	4
Bensulfuron-methyl	0.017	0.030	0.047	0.030	5
Bispyribac-sodium	0.010	0.025	0.034	0.026	7
Carfentrazone-ethyl	0.008	0.019	0.080	0.034	23
Clomazone	0.234	0.375	0.625	0.427	3
Cyhalofop-butyl	0.223	0.274	0.279	0.261	1
Glyphosate iso. salt	0.492	0.750	1.125	0.773	3
Halosulfuron	0.015	0.029	0.047	0.029	4
Imazethapyr	0.047	0.063	0.094	0.068	3
Molinate	1.500	3.000	4.950	3.114	8
Pendimethalin	0.500	0.875	1.000	0.847	6
Propanil	1.000	3.000	5.000	3.194	3
Quinclorac	0.155	0.248	0.375	0.280	5
Triclopyr	0.094	0.188	0.375	0.208	4
Insecticides					
Lambda-cyhalothrin	0.013	0.020	0.033	0.023	6
Methyl parathion	0.250	0.500	0.760	0.467	10
Zeta-cypermethrin	0.007	0.023	0.047	0.024	7
Fungicides					
Azoxystrobin	0.066	0.138	0.228	0.140	5
Copper sulfate	2.520	3.780	3.780	3.386	5
Propiconazole	0.056	0.114	0.163	0.118	4
Trifloxystrobin	0.098	0.130	0.138	0.117	4

¹ Planted acreage in 2006 for the 6 Program States was 2.8 million acres.

**Rice: Rate per Crop Year Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, dimeth. salt	0.229	0.789	1.410	0.863	12
Acifluorfen, sodium	0.125	0.250	0.281	0.227	4
Bensulfuron-methyl	0.017	0.030	0.047	0.031	4
Bispyribac-sodium	0.010	0.025	0.034	0.026	7
Carfentrazone-ethyl	0.008	0.019	0.100	0.035	23
Clomazone	0.234	0.375	0.625	0.437	3
Cyhalofop-butyl	0.223	0.279	0.298	0.277	3
Glyphosate iso. salt	0.500	0.750	1.500	0.959	5
Halosulfuron	0.015	0.028	0.047	0.030	5
Imazethapyr	0.063	0.125	0.188	0.118	5
Molinate	1.500	3.000	4.950	3.131	8
Pendimethalin	0.500	0.875	1.000	0.847	6
Propanil	1.000	3.300	5.673	3.445	4
Quinclorac	0.188	0.300	0.375	0.295	5
Triclopyr	0.094	0.188	0.375	0.218	6
Insecticides					
Lambda-cyhalothrin	0.013	0.020	0.037	0.025	8
Methyl parathion	0.125	0.500	2.000	0.908	23
Zeta-cypermethrin	0.008	0.025	0.050	0.029	9
Fungicides					
Azoxystrobin	0.068	0.145	0.228	0.153	8
Copper sulfate	2.520	3.780	3.780	3.398	5
Propiconazole	0.056	0.114	0.163	0.118	4
Trifloxystrobin	0.098	0.130	0.138	0.118	4

¹ Planted acreage in 2006 for the 6 Program States was 2.8 million acres.

**Soybeans: Percent of Acres Treated Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	0	0	0	7	8
2,4-D, dimeth. salt	0	0	0	3	16
Chlorimuron-ethyl	0	0	0	4	10
Clethodim	0	0	0	3	15
Cloransulam-methyl	0	0	0	1	17
Flumioxazin	0	0	0	3	15
Fomesafen	0	0	0	2	17
Glyphosate	0	0	0	4	12
Glyphosate iso. salt	100	100	100	92	1
Imazaquin	0	0	0	1	20
Imazethapyr	0	0	0	3	13
Metribuzin	0	0	0	2	16
Paraquat	0	0	0	1	19
Pendimethalin	0	0	0	3	15
S-Metolachlor	0	0	0	1	20
Sulfentrazone	0	0	0	1	19
Sulfosate	0	0	0	1	13
Thifensulfuron	0	0	0	1	20
Trifluralin	0	0	0	2	14
Insecticides					
Acephate	0	0	0	1	17
Chlorpyrifos	0	0	0	5	11
Esfenvalerate	0	0	0	3	14
Lambda-cyhalothrin	0	0	0	6	9
Fungicides					
Azoxystrobin	0	0	0	1	19
Pyraclostrobin	0	0	0	2	12

¹ Planted acreage in 2006 for the 19 Program States was 72.9 million acres.

**Soybeans: Number of Applications Distribution,
Program States, 2006¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	1.0	1.0	1.0	1.0	2.0
2,4-D, dimeth. salt	1.0	1.0	1.0	1.0	1.0
Chlorimuron-ethyl	1.0	1.0	1.0	1.0	2.0
Clethodim	1.0	1.0	1.0	1.1	4.0
Cloransulam-methyl	1.0	1.0	1.0	1.0	1.0
Flumioxazin	1.0	1.0	1.0	1.0	0.0
Fomesafen	1.0	1.0	2.0	1.2	8.0
Glyphosate	1.0	2.0	2.0	1.7	4.0
Glyphosate iso. salt	1.0	2.0	2.0	1.7	1.0
Imazaquin	1.0	1.0	1.0	1.0	2.0
Imazethapyr	1.0	1.0	1.0	1.0	0.0
Metribuzin	1.0	1.0	1.0	1.0	1.0
Paraquat	1.0	1.0	1.0	1.0	1.0
Pendimethalin	1.0	1.0	1.0	1.0	1.0
S-Metolachlor	1.0	1.0	1.0	1.0	0.0
Sulfentrazone	1.0	1.0	1.0	1.0	4.0
Sulfosate	1.0	2.0	3.0	1.8	4.0
Thifensulfuron	1.0	1.0	1.0	1.1	6.0
Trifluralin	1.0	1.0	1.0	1.0	0.0
Insecticides					
Acephate	1.0	1.0	2.0	1.3	6.0
Chlorpyrifos	1.0	1.0	1.0	1.1	2.0
Esfenvalerate	1.0	1.0	1.0	1.1	4.0
Lambda-cyhalothrin	1.0	1.0	1.0	1.1	3.0
Fungicides					
Azoxystrobin	1.0	1.0	1.0	1.0	2.0
Pyraclostrobin	1.0	1.0	1.0	1.0	2.0

¹ Planted acreage in 2006 for the 19 Program States was 72.9 million acres.

**Soybeans: Rate Per Application Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	0.240	0.475	0.720	0.493	4
2,4-D, dimeth. salt	0.176	0.470	0.881	0.462	8
Chlorimuron-ethyl	0.005	0.015	0.028	0.017	7
Clethodim	0.050	0.094	0.141	0.096	7
Cloransulam-methyl	0.008	0.016	0.028	0.019	12
Flumioxazin	0.048	0.064	0.080	0.066	3
Fomesafen	0.059	0.176	0.353	0.190	15
Glyphosate	0.469	0.605	0.782	0.630	3
Glyphosate iso. salt	0.516	0.750	1.125	0.802	1
Imazaquin	0.025	0.045	0.109	0.061	12
Imazethapyr	0.032	0.063	0.064	0.053	4
Metribuzin	0.080	0.158	0.500	0.255	14
Paraquat	0.305	0.492	0.703	0.492	4
Pendimethalin	0.422	1.000	1.250	0.920	6
S-Metolachlor	0.563	0.984	1.905	1.023	9
Sulfentrazone	0.044	0.088	0.117	0.087	6
Sulfosate	0.750	0.938	1.125	0.967	3
Thifensulfuron	0.002	0.003	0.006	0.004	15
Trifluralin	0.500	0.750	1.000	0.818	5
Insecticides					
Acephate	0.225	0.833	0.900	0.720	6
Chlorpyrifos	0.125	0.500	0.750	0.454	6
Esfenvalerate	0.026	0.033	0.050	0.035	4
Lambda-cyhalothrin	0.012	0.020	0.031	0.020	4
Fungicides					
Azoxystrobin	0.065	0.098	0.195	0.102	9
Pyraclostrobin	0.078	0.098	0.163	0.110	4

¹ Planted acreage in 2006 for the 19 Program States was 72.9 million acres.

**Soybeans: Rate per Crop Year Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	0.240	0.475	0.713	0.503	5
2,4-D, dimeth. salt	0.176	0.470	0.940	0.475	9
Chlorimuron-ethyl	0.007	0.015	0.031	0.017	6
Clethodim	0.050	0.094	0.141	0.102	7
Cloransulam-methyl	0.008	0.016	0.032	0.019	12
Flumioxazin	0.048	0.064	0.080	0.066	3
Fomesafen	0.088	0.191	0.470	0.233	11
Glyphosate	0.492	1.031	1.564	1.044	5
Glyphosate iso. salt	0.750	1.272	2.250	1.330	1
Imazaquin	0.025	0.045	0.109	0.062	12
Imazethapyr	0.032	0.063	0.064	0.053	4
Metribuzin	0.080	0.158	0.469	0.260	14
Paraquat	0.305	0.492	0.750	0.511	5
Pendimethalin	0.422	1.000	1.300	0.926	6
S-Metolachlor	0.563	0.984	1.905	1.023	9
Sulfentrazone	0.044	0.086	0.176	0.091	8
Sulfosate	0.938	1.781	2.813	1.701	6
Thifensulfuron	0.002	0.003	0.008	0.004	13
Trifluralin	0.500	0.750	1.000	0.818	5
Insecticides					
Acephate	0.360	0.900	1.665	0.934	9
Chlorpyrifos	0.100	0.500	1.000	0.480	6
Esfenvalerate	0.031	0.033	0.050	0.037	5
Lambda-cyhalothrin	0.012	0.020	0.031	0.021	4
Fungicides					
Azoxystrobin	0.065	0.098	0.195	0.106	9
Pyraclostrobin	0.078	0.098	0.196	0.112	5

¹ Planted acreage in 2006 for the 19 Program States was 72.9 million acres.

**Durum Wheat: Percent of Acres Treated Distribution,
Program States, 2006¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	0	0	100	29	11
2,4-D, dimeth. salt	0	0	0	9	23
2,4-D, isoprop. salt	0	0	100	17	14
Bromoxynil octanoate	0	0	100	16	9
Clodinafop-propargil	0	0	100	26	11
Dicamba, dimet. salt	0	0	97	10	18
Fenoxaprop-p-ethyl	0	0	100	37	8
Fluroxypyr	0	0	100	15	13
Fluroxypyr 1-MHE	0	0	100	13	21
Glyphosate iso. salt	0	0	100	47	5
MCPA, 2-ethylhexyl	0	0	100	34	8
Thifensulfuron	0	0	100	11	21
Tribenuron-methyl	0	0	100	13	17

¹ Planted acreage in 2006 for the 2 Program States was 1.7 million acres.

**Durum Wheat: Number of Applications Distribution,
Program States, 2006¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	1.0	1.0	1.0	1.0	1.0
2,4-D, dimeth. salt	1.0	1.0	1.0	1.0	3.0
2,4-D, isoprop. salt	1.0	1.0	1.0	1.1	5.0
Bromoxynil octanoate	1.0	1.0	1.0	1.0	3.0
Clodinafop-propargil	1.0	1.0	1.0	1.0	0.0
Dicamba, dimet. salt	1.0	1.0	1.0	1.0	2.0
Fenoxaprop-p-ethyl	1.0	1.0	1.0	1.0	0.0
Fluroxypyr	1.0	1.0	1.0	1.0	0.0
Fluroxypyr 1-MHE	1.0	1.0	1.0	1.0	0.0
Glyphosate iso. salt	1.0	1.0	1.0	1.0	2.0
MCPA, 2-ethylhexyl	1.0	1.0	1.0	1.0	1.0
Thifensulfuron	1.0	1.0	1.0	1.0	2.0
Tribenuron-methyl	1.0	1.0	1.0	1.0	1.0

¹ Planted acreage in 2006 for the 2 Program States was 1.7 million acres.

**Durum Wheat: Rate Per Application Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	0.149	0.313	0.625	0.344	11
2,4-D, dimeth. salt	0.119	0.294	0.475	0.307	11
2,4-D, isoprop. salt	0.034	0.044	0.050	0.042	6
Bromoxynil octanoate	0.156	0.234	0.250	0.221	4
Clodinafop-propargil	0.019	0.047	0.057	0.042	5
Dicamba, dimet. salt	0.055	0.063	0.125	0.105	24
Fenoxaprop-p-ethyl	0.039	0.047	0.063	0.052	4
Fluroxypyr	0.023	0.070	0.126	0.076	11
Fluroxypyr 1-MHE	0.047	0.089	0.100	0.082	8
Glyphosate iso. salt	0.258	0.375	0.563	0.381	4
MCPA, 2-ethylhexyl	0.165	0.250	0.375	0.268	4
Thifensulfuron	0.003	0.013	0.015	0.010	15
Tribenuron-methyl	0.001	0.004	0.008	0.004	13

¹ Planted acreage in 2006 for the 2 Program States was 1.7 million acres.

**Durum Wheat: Rate per Crop Year Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	0.156	0.350	0.625	0.351	11
2,4-D, dimeth. salt	0.119	0.356	0.475	0.319	11
2,4-D, isoprop. salt	0.034	0.044	0.063	0.046	6
Bromoxynil octanoate	0.156	0.244	0.313	0.227	4
Clodinafop-propargil	0.019	0.047	0.057	0.042	5
Dicamba, dimet. salt	0.050	0.063	0.125	0.109	24
Fenoxaprop-p-ethyl	0.039	0.047	0.063	0.052	4
Fluroxypyr	0.023	0.070	0.126	0.076	11
Fluroxypyr 1-MHE	0.047	0.089	0.100	0.082	8
Glyphosate iso. salt	0.258	0.375	0.563	0.396	4
MCPA, 2-ethylhexyl	0.165	0.250	0.378	0.274	4
Thifensulfuron	0.003	0.013	0.015	0.010	15
Tribenuron-methyl	0.001	0.004	0.008	0.004	14

¹ Planted acreage in 2006 for the 2 Program States was 1.7 million acres.

**Other Spring Wheat: Percent of Acres Treated Distribution,
Program States, 2006¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	0	0	100	21	10
2,4-D, dimeth. salt	0	0	0	8	20
2,4-D, isoprop. salt	0	0	0	8	20
Bromoxynil heptanoat	0	0	100	15	11
Bromoxynil octanoate	0	0	100	32	6
Clodinafop-propargil	0	0	100	11	12
Clopyralid	0	0	100	17	9
Dicamba, dimet. salt	0	0	0	5	31
Fenoxaprop-p-ethyl	0	0	100	28	6
Flucarbazone-sodium	0	0	0	9	21
Fluroxypyr	0	0	0	9	20
Fluroxypyr 1-MHE	0	0	100	19	9
Glyphosate iso. salt	0	0	100	30	8
MCPA, 2-ethylhexyl	0	0	100	40	4
Metsulfuron-methyl	0	0	0	4	18
Pinoxaden	0	0	0	3	21
Thifensulfuron	0	0	100	16	11
Tribenuron-methyl	0	0	100	15	13
Fungicides					
Propiconazole	0	0	0	7	19
Pyraclostrobin	0	0	0	7	16

¹ Planted acreage in 2006 for the 6 Program States was 14.7 million acres.

**Other Spring Wheat: Number of Applications Distribution,
Program States, 2006¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	1.0	1.0	1.0	1.1	3.0
2,4-D, dimeth. salt	1.0	1.0	1.0	1.0	3.0
2,4-D, isoprop. salt	1.0	1.0	2.0	1.2	12.0
Bromoxynil heptanoat	1.0	1.0	1.0	1.0	0.0
Bromoxynil octanoate	1.0	1.0	1.0	1.0	1.0
Clodinafop-propargil	1.0	1.0	1.0	1.0	0.0
Clopyralid	1.0	1.0	1.0	1.0	0.0
Dicamba, dimet. salt	1.0	1.0	1.0	1.1	5.0
Fenoxaprop-p-ethyl	1.0	1.0	1.0	1.0	1.0
Flucarbazone-sodium	1.0	1.0	1.0	1.0	0.0
Fluroxypyr	1.0	1.0	1.0	1.0	0.0
Fluroxypyr 1-MHE	1.0	1.0	1.0	1.0	0.0
Glyphosate iso. salt	1.0	1.0	2.0	1.3	5.0
MCPA, 2-ethylhexyl	1.0	1.0	1.0	1.0	1.0
Metsulfuron-methyl	1.0	1.0	1.0	1.0	0.0
Pinoxaden	1.0	1.0	1.0	1.0	0.0
Thifensulfuron	1.0	1.0	1.0	1.0	0.0
Tribenuron-methyl	1.0	1.0	1.0	1.0	0.0
Fungicides					
Propiconazole	1.0	1.0	1.0	1.0	2.0
Pyraclostrobin	1.0	1.0	1.0	1.0	0.0

¹ Planted acreage in 2006 for the 6 Program States was 14.7 million acres.

**Other Spring Wheat: Rate Per Application Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	0.190	0.288	0.480	0.339	8
2,4-D, dimeth. salt	0.059	0.235	0.475	0.286	11
2,4-D, isoprop. salt	0.034	0.063	0.100	0.062	6
Bromoxynil heptanoat	0.179	0.250	0.375	0.256	4
Bromoxynil octanoate	0.179	0.250	0.313	0.239	2
Clodinafop-propargil	0.023	0.050	0.055	0.044	4
Clopyralid	0.053	0.092	0.094	0.081	4
Dicamba, dimet. salt	0.031	0.063	0.125	0.093	21
Fenoxaprop-p-ethyl	0.041	0.063	0.094	0.064	4
Flucarbazone-sodium	0.012	0.017	0.025	0.018	6
Fluroxypyr	0.035	0.094	0.188	0.104	13
Fluroxypyr 1-MHE	0.059	0.094	0.131	0.090	6
Glyphosate iso. salt	0.281	0.469	0.750	0.485	4
MCPA, 2-ethylhexyl	0.188	0.250	0.381	0.279	4
Metsulfuron-methyl	0.001	0.003	0.006	0.003	15
Pinoxaden	0.052	0.053	0.104	0.068	9
Thifensulfuron	0.005	0.013	0.020	0.012	6
Tribenuron-methyl	0.001	0.004	0.008	0.004	8
Fungicides					
Propiconazole	0.041	0.056	0.084	0.068	10
Pyraclostrobin	0.049	0.049	0.065	0.055	6

¹ Planted acreage in 2006 for the 6 Program States was 14.7 million acres.

**Other Spring Wheat: Rate per Crop Year Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	0.208	0.350	0.525	0.360	7
2,4-D, dimeth. salt	0.059	0.235	0.525	0.297	12
2,4-D, isoprop. salt	0.034	0.050	0.188	0.077	16
Bromoxynil heptanoat	0.179	0.250	0.375	0.256	4
Bromoxynil octanoate	0.179	0.250	0.313	0.241	2
Clodinafop-propargil	0.023	0.050	0.059	0.044	4
Clopyralid	0.053	0.092	0.094	0.081	4
Dicamba, dimet. salt	0.031	0.063	0.188	0.099	22
Fenoxaprop-p-ethyl	0.041	0.063	0.094	0.064	4
Flucarbazone-sodium	0.012	0.017	0.025	0.018	6
Fluroxypyr	0.035	0.094	0.188	0.104	13
Fluroxypyr 1-MHE	0.059	0.094	0.131	0.090	6
Glyphosate iso. salt	0.281	0.469	1.125	0.624	6
MCPA, 2-ethylhexyl	0.188	0.250	0.438	0.281	4
Metsulfuron-methyl	0.001	0.003	0.006	0.003	15
Pinoxaden	0.052	0.053	0.104	0.068	9
Thifensulfuron	0.005	0.013	0.020	0.012	6
Tribenuron-methyl	0.001	0.004	0.008	0.004	8
Fungicides					
Propiconazole	0.041	0.056	0.097	0.069	10
Pyraclostrobin	0.049	0.049	0.065	0.055	6

¹ Planted acreage in 2006 for the 6 Program States was 14.7 million acres.

**Winter Wheat: Percent of Acres Treated Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	0	0	100	14	8
2,4-D, dimeth. salt	0	0	0	9	11
2,4-D, isoprop. salt	0	0	0	3	22
Bromoxynil heptanoat	0	0	0	1	23
Bromoxynil octanoate	0	0	0	3	11
Chlorsulfuron	0	0	0	6	16
Dicamba, digly salt	0	0	0	1	28
Dicamba, dimet. salt	0	0	0	4	20
Glyphosate iso. salt	0	0	100	15	8
MCPA, 2-ethylhexyl	0	0	0	4	9
Mesosulfuron-Methyl	0	0	0	2	17
Metsulfuron-methyl	0	0	100	14	11
Propoxycarbazone-sod	0	0	0	2	23
Thifensulfuron	0	0	100	12	10
Triasulfuron	0	0	0	4	20
Tribenuron-methyl	0	0	100	12	10
Fungicides					
Propiconazole	0	0	0	1	17
Pyraclostrobin	0	0	0	1	18

¹ Planted acreage in 2006 for the 1 Program State was 35.3 million acres.

**Winter Wheat: Number of Applications Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	1.0	1.0	2.0	1.2	5.0
2,4-D, dimeth. salt	1.0	1.0	3.0	1.3	10.0
2,4-D, isoprop. salt	1.0	2.0	3.0	2.0	10.0
Bromoxynil heptanoat	1.0	1.0	1.0	1.0	0.0
Bromoxynil octanoate	1.0	1.0	1.0	1.0	0.0
Chlorsulfuron	1.0	1.0	1.0	1.0	0.0
Dicamba, digly salt	1.0	1.0	1.0	1.0	0.0
Dicamba, dimet. salt	1.0	1.0	3.0	1.3	10.0
Glyphosate iso. salt	1.0	1.0	3.0	1.9	7.0
MCPA, 2-ethylhexyl	1.0	1.0	1.0	1.0	0.0
Mesosulfuron-Methyl	1.0	1.0	1.0	1.0	0.0
Metsulfuron-methyl	1.0	1.0	1.0	1.0	1.0
Propoxycarbazone-sod	1.0	1.0	1.0	1.0	2.0
Thifensulfuron	1.0	1.0	1.0	1.0	0.0
Triasulfuron	1.0	1.0	1.0	1.0	2.0
Tribenuron-methyl	1.0	1.0	1.0	1.0	0.0
Fungicides					
Propiconazole	1.0	1.0	1.0	1.0	1.0
Pyraclostrobin	1.0	1.0	1.0	1.1	5.0

¹ Planted acreage in 2006 for the 1 Program State was 35.3 million acres.

**Winter Wheat: Rate Per Application Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	0.175	0.350	0.525	0.354	5
2,4-D, dimeth. salt	0.118	0.269	0.718	0.365	11
2,4-D, isoprop. salt	0.038	0.050	0.086	0.058	7
Bromoxynil heptanoat	0.156	0.250	0.391	0.268	9
Bromoxynil octanoate	0.156	0.250	0.375	0.256	5
Chlorsulfuron	0.004	0.010	0.013	0.010	9
Dicamba, digly salt	0.063	0.094	0.188	0.103	11
Dicamba, dimet. salt	0.057	0.094	1.000	0.229	35
Glyphosate iso. salt	0.281	0.500	0.750	0.495	3
MCPA, 2-ethylhexyl	0.188	0.266	0.488	0.304	4
Mesosulfuron-Methyl	0.003	0.008	0.013	0.008	9
Metsulfuron-methyl	0.001	0.002	0.004	0.002	5
Propoxycarbazone-sod	0.004	0.026	0.039	0.024	15
Thifensulfuron	0.002	0.007	0.016	0.009	5
Triasulfuron	0.005	0.013	0.022	0.014	8
Tribenuron-methyl	0.001	0.004	0.008	0.004	5
Fungicides					
Propiconazole	0.053	0.081	0.114	0.080	6
Pyraclostrobin	0.049	0.065	0.098	0.072	8

¹ Planted acreage in 2006 for the 1 Program State was 35.3 million acres.

**Winter Wheat: Rate per Crop Year Distribution,
Program States, 2006 ¹**

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv(%)
Herbicides					
2,4-D, 2-EHE	0.184	0.360	0.700	0.440	7
2,4-D, dimeth. salt	0.178	0.353	0.999	0.474	8
2,4-D, isoprop. salt	0.038	0.100	0.206	0.117	13
Bromoxynil heptanoat	0.156	0.250	0.391	0.268	9
Bromoxynil octanoate	0.156	0.250	0.375	0.256	5
Chlorsulfuron	0.004	0.010	0.013	0.010	9
Dicamba, digly salt	0.063	0.094	0.188	0.103	11
Dicamba, dimet. salt	0.063	0.125	1.000	0.302	31
Glyphosate iso. salt	0.375	0.750	1.758	0.963	9
MCPA, 2-ethylhexyl	0.188	0.266	0.488	0.304	4
Mesosulfuron-Methyl	0.003	0.008	0.013	0.008	9
Metsulfuron-methyl	0.001	0.002	0.004	0.002	5
Propoxycarbazone-sod	0.004	0.026	0.039	0.025	15
Thifensulfuron	0.002	0.007	0.016	0.009	5
Triasulfuron	0.005	0.013	0.022	0.014	8
Tribenuron-methyl	0.001	0.004	0.008	0.004	5
Fungicides					
Propiconazole	0.041	0.081	0.114	0.082	6
Pyraclostrobin	0.049	0.082	0.098	0.078	6

¹ Planted acreage in 2006 for the 1 Program State was 35.3 million acres.

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Integrated Pest Management Practices - Highlights

Rice: No-till or minimum till practices were incorporated on 38 percent of the rice acreage in the prevention of pests, while 57 percent of the planted acreage was rotated with some other crop(s) to avoid pests. Scouting for weeds was used on 97 percent of the farms growing rice and on 98 percent of the rice acres.

Soybeans: To prevent pests, 75 percent of the soybean acreage was under no-till or minimum till production practice. In addition, 86 percent of the soybean acreage had been rotated with some other crop(s) to control pests. Ninety-one percent of the soybean acreage was scouted for weeds, and the scouting was performed by the operator, partner, or family member on 85 percent of the farms.

Durum wheat: To aid in the prevention of pests, 85 percent of the farms utilized no-till or minimum till practices. Additionally, 48 percent of the farms cleaned implements after field work to prevent the spread pests. Of the durum wheat acres in the two surveyed States, 38 percent was planted to a crop variety resistant to pests. Scouting for weeds, insects, and diseases took place on 97, 68, and 68 percent, respectively, of the durum wheat acres.

Other spring wheat: No-till or minimum till practices were utilized on 69 percent of the other spring wheat farms to aid in the prevention of pests. In addition, 50 percent of the other spring wheat acres were planted to a crop variety resistant to pests. Scouting for weeds, insects, and diseases took place on 96, 68, and 74 percent, respectively, of the other spring wheat acres.

Winter wheat: To aid in the prevention of pests, 54 percent of the winter wheat farms utilized no-till or minimum till practices. In addition, 41 percent winter wheat acres were planted to a crop variety resistant to pests. Scouting for weeds, insects, and diseases took place on 80, 64, and 62 percent, respectively, of the winter wheat acres.

Prior to the 2006 surveys producers of soybeans, durum wheat, other spring wheat, and winter wheat were last asked about their pest management practices in 2004. Rice producers were last surveyed in 2000.

**Pest Management Practices
Percent of Farms Utilizing Practice
Rice, 2006**

Practice	States						
	ALL	AR	CA	LA	MS	MO	TX
Prevention Practices:							
No-till or minimum till used to manage pests	39	51	6	22	44	35	50
Plow down crop residue	50	45	76	58	35	35	58
Remove crop residue	30	35	21	15	29	41	23
Clean implements after fieldwork	36	32	43	47	54	15	45
Field edges/etc. chopped, mowed/etc	53	50	82	38	47	56	51
Water management practices	24	12	56	47	32	8	32
Avoidance Practices:							
Adjust planting/harvesting dates	11	7	17	20	6	10	25
Rotate crops to control pests	61	71	12	74	63	57	64
Crop variety chosen for pest resistance	22	22	10	24	26	33	36
Planting locations planned to avoid pests	10	11	6	13	4	9	10
Monitoring Practices:							
Scouting by general observation	73	78	72	44	67	82	94
Deliberate scouting activities	24	21	24	55	33	3	6
Field was not scouted	2	1	3	1		14	
Scouted for pests	36	34	33	22	48	49	67
Scouting due to pest advisory warning	9	11	8	3	10	4	14
Scouting due to pest development model	13	11	27	1	12	7	37
Scouted for weeds	97	99	97	98	100	86	100
Scouting for weeds was done by:							
Operator, partner, or family member	44	39	54	60	45	36	55
An Employee	3	2	7	*	3	1	6
Farm supply or chemical dealer	18	17	35	25	4		10
Indep. crop consultant or comm. scout	35	42	4	15	48	63	30
Scouted for insects or mites	93	95	85	98	97	86	99
Scouting for insects or mites was done by:							
Operator, partner, or family member	43	38	54	60	39	34	53
An Employee	3	2	8	*	3	1	6
Farm supply or chemical dealer	18	17	34	25	5	1	11
Indep. crop consultant or comm. scout	36	42	4	15	54	63	30
Scouted for diseases	91	95	83	99	73	86	99
Scouting for diseases was done by:							
Operator, partner, or family member	42	37	54	59	33	34	53
An Employee	3	2	7	*	4		7
Farm supply or chemical dealer	18	18	34	25	8	2	10
Indep. crop consultant or comm. scout	36	43	5	15	56	63	30
Records kept to track pests	46	50	36	21	47	64	43
Field mapping of weed problems	17	13	35	6	19	25	11
Soil/plant tissue analysis to detect pests	4	3	9	1	2	13	2
Weather monitoring	53	52	56	63	61	33	65
Suppression Practices:							
Biological pesticides	1	2		2	1		
Scouting used to make decisions	31	34	26	17	34	32	46
Maintain ground cover or physical barriers	11	8	14	10	10	23	22
Adjust planting methods	8	8	14	1	8	6	24
Alternate pesticides with different MOA	16	12	34	15	19	11	13
Non-chemical blackbird control	9	4	17	24	4	1	30

* Percentage is less than 0.5

**Pest Management Practices
Percent of Acres Utilizing Practice
Rice, 2006**

Practice	States						
	ALL	AR	CA	LA	MS	MO	TX
Prevention Practices:							
No-till or minimum till used to manage pests	38	52	6	24	42	34	53
Plow down crop residue	51	41	77	65	38	37	50
Remove crop residue	27	33	18	14	29	35	20
Clean implements after fieldwork	36	30	43	51	49	16	40
Field edges/etc. chopped, mowed/etc	54	49	76	47	46	59	45
Water management practices	27	14	55	50	28	6	32
Avoidance Practices:							
Adjust planting/harvesting dates	10	4	18	23	3	11	22
Rotate crops to control pests	57	69	11	74	65	57	58
Crop variety chosen for pest resistance	22	22	11	27	25	34	36
Planting locations planned to avoid pests	10	10	5	17	4	11	10
Monitoring Practices:							
Scouting by general observation	72	76	70	41	69	85	95
Deliberate scouting activities	26	23	26	58	31	2	5
Field was not scouted	2	1	4	1		12	
Scouted for pests	37	33	36	23	48	52	68
Scouting due to pest advisory warning	8	10	7	2	9	4	11
Scouting due to pest development model	13	10	26	1	8	6	43
Scouted for weeds	98	99	96	98	100	88	100
Scouting for weeds was done by:							
Operator, partner, or family member	44	40	44	55	49	36	53
An Employee	3	2	9	1	3	2	5
Farm supply or chemical dealer	19	16	42	22	4		10
Indep. crop consultant or comm. scout	34	42	5	22	45	62	33
Scouted for insects or mites	93	95	85	98	98	88	99
Scouting for insects or mites was done by:							
Operator, partner, or family member	43	40	45	55	44	35	50
An Employee	3	2	10	1	3	2	5
Farm supply or chemical dealer	18	16	40	22	5	1	11
Indep. crop consultant or comm. scout	35	43	4	22	49	62	34
Scouted for diseases	92	96	84	99	75	88	99
Scouting for diseases was done by:							
Operator, partner, or family member	42	39	45	54	36	35	51
An Employee	3	2	9	1	4		5
Farm supply or chemical dealer	19	16	40	22	8	3	11
Indep. crop consultant or comm. scout	35	42	6	22	52	62	34
Records kept to track pests	44	50	36	20	44	64	43
Field mapping of weed problems	19	15	37	9	15	24	12
Soil/plant tissue analysis to detect pests	5	2	13	*	1	15	3
Weather monitoring	55	53	58	62	61	31	70
Suppression Practices:							
Biological pesticides	1	2		1	1		
Scouting used to make decisions	32	34	30	17	38	33	51
Maintain ground cover or physical barriers	12	6	19	14	10	27	17
Adjust planting methods	8	7	13	2	8	6	21
Alternate pesticides with different MOA	16	11	30	15	18	10	11
Non-chemical blackbird control	11	3	19	30	6	4	26

* Percentage is less than 0.5

**Pest Management Practices
Percent of Farms Utilizing Practice
Soybeans, 2006**

Practice	States						
	ALL	AR	IL	IN	IA	KS	KY
Prevention Practices:							
No-till or minimum till used to manage pests	74	56	75	74	78	77	86
Plow down crop residue	17	44	10	10	12	19	7
Remove crop residue	7	20	5	15	1	6	9
Clean implements after fieldwork	30	28	27	22	24	38	42
Field edges/etc. chopped, mowed/etc	41	40	57	46	40	32	31
Water management practices	1	3	*	1	*	3	
Treat seed for insect or disease after purchase	8	8	3	9	13	15	8
Maintain beneficial insect or vertebrate habitat	4	1	4	1	2	10	3
Avoidance Practices:							
Adjust planting/harvesting dates	12	14	15	10	6	21	7
Rotate crops to control pests	84	43	91	85	93	87	85
Crop variety chosen for pest resistance	50	31	51	51	64	58	39
Planting locations planned to avoid pests	13	3	13	9	10	14	6
Monitoring Practices:							
Scouting by general observation	58	50	54	65	66	61	36
Deliberate scouting activities	33	36	41	23	26	31	48
Field was not scouted	10	14	5	12	8	7	16
Scouted for pests	16	15	18	13	17	14	2
Scouting due to pest advisory warning	13	12	13	7	16	5	3
Scouting due to pest development model	10	6	14	4	15	5	3
Scouted for weeds	89	85	94	88	87	93	83
Scouting for weeds was done by:							
Operator, partner, or family member	85	73	82	93	88	90	92
An Employee	1	5	1			1	
Farm supply or chemical dealer	9	16	15	6	9	1	7
Indep. crop consultant or comm. scout	5	6	2	1	2	9	1
Scouted for insects or mites	72	70	82	64	76	40	63
Scouting for insects or mites was done by:							
Operator, partner, or family member	81	69	80	88	87	78	91
An Employee	1	5	1	1		*	
Farm supply or chemical dealer	11	21	16	9	11	3	7
Indep. crop consultant or comm. scout	7	6	3	2	2	19	1
Scouted for diseases	53	60	72	44	45	29	61
Scouting for diseases was done by:							
Operator, partner, or family member	79	64	78	88	81	76	91
An Employee	1	6	1			*	
Farm supply or chemical dealer	11	22	17	9	14		7
Indep. crop consultant or comm. scout	9	9	4	2	4	23	1
Records kept to track pests	18	20	23	17	12	14	4
Field mapping of weed problems	7	7	7	5	7	5	1
Soil/plant tissue analysis to detect pests	2	2	3	3	2	4	
Weather monitoring	59	38	70	64	55	50	16
Suppression Practices:							
Biological pesticides	2		3	1			*
Scouting used to make decisions	23	18	29	15	26	13	4
Maintain ground cover or physical barriers	44	7	49	25	59	51	27
Adjust planting methods	20	9	28	17	16	18	16
Alternate pesticides with different MOA	14	4	23	15	16	13	4
Beneficial organisms	1	2	*		1	2	1

See footnote(s) at end of table.

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**Pest Management Practices
Percent of Farms Utilizing Practice
Soybeans, 2006 (continued)**

Practice	States						
	LA	MI	MN	MS	MO	NE	NC
Prevention Practices:							
No-till or minimum till used to manage pests	68	67	55	59	78	88	73
Plow down crop residue	48	36	33	23	12	6	19
Remove crop residue	21	3	1	7	6	4	20
Clean implements after fieldwork	29	35	45	26	21	24	37
Field edges/etc. chopped, mowed/etc	57	25	35	53	46	34	41
Water management practices	2	1	1	4	1	8	
Treat seed for insect or disease after purchase	18	13	12	8	4	6	3
Maintain beneficial insect or vertebrate habitat	3	4	4	6	3	3	12
Avoidance Practices:							
Adjust planting/harvesting dates	16	10	10	8	11	12	25
Rotate crops to control pests	44	86	99	25	82	93	64
Crop variety chosen for pest resistance	62	46	51	33	49	63	45
Planting locations planned to avoid pests	5	21	12	2	17	17	12
Monitoring Practices:							
Scouting by general observation	79	54	88	46	46	54	44
Deliberate scouting activities	18	30	10	28	41	36	40
Field was not scouted	3	16	2	26	13	10	17
Scouted for pests	36	20	31	18	7	17	8
Scouting due to pest advisory warning	3	10	43	6	3	7	3
Scouting due to pest development model	7	6	19	11	6	9	2
Scouted for weeds	91	83	93	74	86	88	81
Scouting for weeds was done by:							
Operator, partner, or family member	59	90	86	82	95	82	97
An Employee	2	2		3	*	*	
Farm supply or chemical dealer	12	6	6	8	3	6	
Indep. crop consultant or comm. scout	27	2	7	7	2	12	3
Scouted for insects or mites	94	72	94	61	63	69	53
Scouting for insects or mites was done by:							
Operator, partner, or family member	43	88	81	76	95	78	89
An Employee	2	2	*	4	*	*	
Farm supply or chemical dealer	13	7	10	10	2	6	3
Indep. crop consultant or comm. scout	43	3	9	10	2	16	8
Scouted for diseases	88	54	40	47	58	45	50
Scouting for diseases was done by:							
Operator, partner, or family member	41	88	73	74	94	73	92
An Employee	2	4		5	*	*	
Farm supply or chemical dealer	15	5	12	9	4	4	
Indep. crop consultant or comm. scout	42	3	15	12	2	22	8
Records kept to track pests	29	13	33	20	6	20	8
Field mapping of weed problems	6	6	17	7	4	8	11
Soil/plant tissue analysis to detect pests	5	3	3	1	2	1	8
Weather monitoring	61	46	62	73	34	65	68
Suppression Practices:							
Biological pesticides		1	2	3	3	*	
Scouting used to make decisions	35	22	47	23	11	19	19
Maintain ground cover or physical barriers	10	45	55	18	45	61	29
Adjust planting methods	16	18	22	13	24	13	20
Alternate pesticides with different MOA	2	12	12	4	10	10	15
Beneficial organisms		*	*		3	*	*

See footnote(s) at end of table.

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**Pest Management Practices
Percent of Farms Utilizing Practice
Soybeans, 2006 (continued)**

Practice	States					
	ND	OH	SD	TN	VA	WI
Prevention Practices:						
No-till or minimum till used to manage pests	58	77	79	81	86	80
Plow down crop residue	23	15	25	26	3	15
Remove crop residue	2	5	6	17	8	3
Clean implements after fieldwork	66	25	30	56	27	24
Field edges/etc. chopped, mowed/etc	55	35	37	62	33	17
Water management practices		*	1	2	*	*
Treat seed for insect or disease after purchase	13	9	9	13	10	6
Maintain beneficial insect or vertebrate habitat	2	3	2	1	7	3
Avoidance Practices:						
Adjust planting/harvesting dates	12	11	12	24	6	10
Rotate crops to control pests	90	79	95	73	75	92
Crop variety chosen for pest resistance	37	31	67	60	58	48
Planting locations planned to avoid pests	19	10	24	7	8	17
Monitoring Practices:						
Scouting by general observation	55	51	70	50	59	49
Deliberate scouting activities	45	34	25	40	37	42
Field was not scouted	*	15	4	9	4	8
Scouted for pests	30	7	19	6	28	20
Scouting due to pest advisory warning	54	10	14	5	24	10
Scouting due to pest development model	22	5	11	16	4	10
Scouted for weeds	100	85	96	85	96	91
Scouting for weeds was done by:						
Operator, partner, or family member	75	85	75	90	93	72
An Employee	*	*	2	2		
Farm supply or chemical dealer	6	12	10	7	4	18
Indep. crop consultant or comm. scout	19	3	14	1	3	11
Scouted for insects or mites	95	64	87	60	69	78
Scouting for insects or mites was done by:						
Operator, partner, or family member	71	81	72	80	92	69
An Employee	*	*	2	8		
Farm supply or chemical dealer	6	15	12	11	4	18
Indep. crop consultant or comm. scout	22	4	15	1	4	12
Scouted for diseases	66	43	63	62	40	64
Scouting for diseases was done by:						
Operator, partner, or family member	67	79	71	89	98	63
An Employee	1		2	1		
Farm supply or chemical dealer	3	15	8	9	1	22
Indep. crop consultant or comm. scout	30	5	18	1	1	15
Records kept to track pests	31	14	22	11	9	22
Field mapping of weed problems	8	3	11	1	2	11
Soil/plant tissue analysis to detect pests	3	1	1	1	1	1
Weather monitoring	89	54	79	67	56	60
Suppression Practices:						
Biological pesticides	4	1	3	1		3
Scouting used to make decisions	54	12	30	7	29	24
Maintain ground cover or physical barriers	66	27	59	26	54	54
Adjust planting methods	33	14	28	28	6	21
Alternate pesticides with different MOA	20	14	9	16	1	21
Beneficial organisms	2	*	3	*	3	*

* Percentage is less than 0.5

**Pest Management Practices
Percent of Acres Utilizing Practice
Soybeans, 2006**

Practice	States						
	ALL	AR	IL	IN	IA	KS	KY
Prevention Practices:							
No-till or minimum till used to manage pests	75	61	74	78	79	75	90
Plow down crop residue	18	51	15	6	13	17	6
Remove crop residue	7	30	4	14	2	8	14
Clean implements after fieldwork	33	27	33	26	25	36	48
Field edges/etc. chopped, mowed/etc	45	45	59	48	43	32	25
Water management practices	2	3	*	3	*	5	
Treat seed for insect or disease after purchase	11	10	5	10	15	9	7
Maintain beneficial insect or vertebrate habitat	3	1	3	1	3	8	3
Avoidance Practices:							
Adjust planting/harvesting dates	12	19	18	9	7	17	5
Rotate crops to control pests	86	45	93	88	93	81	90
Crop variety chosen for pest resistance	54	38	59	52	65	56	42
Planting locations planned to avoid pests	13	2	13	9	13	13	7
Monitoring Practices:							
Scouting by general observation	63	50	55	70	70	69	35
Deliberate scouting activities	30	39	41	22	23	26	52
Field was not scouted	7	11	4	9	6	6	14
Scouted for pests	21	17	23	13	20	21	2
Scouting due to pest advisory warning	16	11	15	5	17	7	4
Scouting due to pest development model	13	6	18	5	16	7	5
Scouted for weeds	91	87	95	91	88	94	83
Scouting for weeds was done by:							
Operator, partner, or family member	83	69	81	92	89	77	91
An Employee	1	8	1			2	
Farm supply or chemical dealer	8	16	13	6	9	2	5
Indep. crop consultant or comm. scout	8	7	4	2	2	19	4
Scouted for insects or mites	77	74	82	70	79	49	62
Scouting for insects or mites was done by:							
Operator, partner, or family member	79	64	79	89	87	58	89
An Employee	1	7	2	*		2	
Farm supply or chemical dealer	10	21	14	8	10	4	6
Indep. crop consultant or comm. scout	10	8	5	3	2	36	5
Scouted for diseases	53	61	67	47	43	34	61
Scouting for diseases was done by:							
Operator, partner, or family member	76	57	77	87	82	57	89
An Employee	2	10	2			3	
Farm supply or chemical dealer	10	22	14	10	14		6
Indep. crop consultant or comm. scout	13	11	7	4	4	40	5
Records kept to track pests	23	20	28	23	14	22	7
Field mapping of weed problems	9	8	9	5	8	8	2
Soil/plant tissue analysis to detect pests	3	2	4	5	3	6	
Weather monitoring	60	39	71	59	54	45	17
Suppression Practices:							
Biological pesticides	2		2	*			1
Scouting used to make decisions	29	18	40	19	27	21	3
Maintain ground cover or physical barriers	46	5	45	22	59	50	23
Adjust planting methods	20	15	31	12	13	20	15
Alternate pesticides with different MOA	14	5	25	16	16	13	6
Beneficial organisms	1	4	*		1	1	1

See footnote(s) at end of table.

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**Pest Management Practices
Percent of Acres Utilizing Practice
Soybeans, 2006 (continued)**

Practice	States						
	LA	MI	MN	MS	MO	NE	NC
Prevention Practices:							
No-till or minimum till used to manage pests	74	71	54	66	78	91	81
Plow down crop residue	44	24	32	21	16	4	22
Remove crop residue	25	5	2	12	8	2	11
Clean implements after fieldwork	26	37	46	27	20	22	34
Field edges/etc. chopped, mowed/etc	65	31	42	58	50	36	37
Water management practices	3	2	4	8	1	10	
Treat seed for insect or disease after purchase	22	13	15	16	8	7	7
Maintain beneficial insect or vertebrate habitat	2	5	3	8	3	1	12
Avoidance Practices:							
Adjust planting/harvesting dates	15	8	11	13	11	11	27
Rotate crops to control pests	50	84	99	24	80	92	73
Crop variety chosen for pest resistance	57	50	62	28	51	61	44
Planting locations planned to avoid pests	6	17	16	2	16	13	19
Monitoring Practices:							
Scouting by general observation	79	67	89	48	54	54	51
Deliberate scouting activities	18	25	8	27	32	38	36
Field was not scouted	4	8	2	26	14	8	13
Scouted for pests	42	25	38	22	7	19	18
Scouting due to pest advisory warning	3	11	46	4	5	7	6
Scouting due to pest development model	4	5	23	9	8	8	5
Scouted for weeds	86	92	92	74	84	90	86
Scouting for weeds was done by:							
Operator, partner, or family member	64	88	83	79	93	77	97
An Employee	2	2		5	*	*	
Farm supply or chemical dealer	7	4	7	8	3	5	
Indep. crop consultant or comm. scout	27	6	9	8	4	17	3
Scouted for insects or mites	95	81	93	66	65	75	51
Scouting for insects or mites was done by:							
Operator, partner, or family member	54	84	81	70	91	72	91
An Employee	2	2	*	6	*	*	
Farm supply or chemical dealer	7	6	9	12	3	6	1
Indep. crop consultant or comm. scout	37	8	10	12	5	22	8
Scouted for diseases	87	59	39	47	58	47	50
Scouting for diseases was done by:							
Operator, partner, or family member	50	82	72	67	92	65	97
An Employee	2	3		9	1	*	
Farm supply or chemical dealer	9	5	13	9	3	4	
Indep. crop consultant or comm. scout	39	10	16	15	5	30	3
Records kept to track pests	30	22	38	28	11	22	18
Field mapping of weed problems	3	8	14	6	6	10	14
Soil/plant tissue analysis to detect pests	5	5	5	4	4	1	6
Weather monitoring	61	45	67	67	34	66	63
Suppression Practices:							
Biological pesticides		1	3	2	2	*	
Scouting used to make decisions	38	31	51	27	14	20	19
Maintain ground cover or physical barriers	6	53	60	15	43	65	39
Adjust planting methods	15	23	18	15	21	14	22
Alternate pesticides with different MOA	2	13	11	2	10	7	11
Beneficial organisms		*	1		1	*	1

See footnote(s) at end of table.

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**Pest Management Practices
Percent of Acres Utilizing Practice
Soybeans, 2006 (continued)**

Practice	States					
	ND	OH	SD	TN	VA	WI
Prevention Practices:						
No-till or minimum till used to manage pests	59	86	85	80	88	80
Plow down crop residue	20	10	20	27	1	14
Remove crop residue	3	7	2	19	12	4
Clean implements after fieldwork	70	29	32	55	30	24
Field edges/etc. chopped, mowed/etc	57	36	37	60	34	23
Water management practices		*	2	3	1	*
Treat seed for insect or disease after purchase	16	13	11	17	12	11
Maintain beneficial insect or vertebrate habitat	3	3	4	1	11	4
Avoidance Practices:						
Adjust planting/harvesting dates	13	10	11	19	5	8
Rotate crops to control pests	86	86	95	65	77	92
Crop variety chosen for pest resistance	38	35	67	63	67	51
Planting locations planned to avoid pests	23	10	26	10	13	15
Monitoring Practices:						
Scouting by general observation	62	50	71	51	69	53
Deliberate scouting activities	38	36	26	40	25	40
Field was not scouted	*	14	2	9	6	8
Scouted for pests	33	7	23	10	33	23
Scouting due to pest advisory warning	49	10	15	9	15	10
Scouting due to pest development model	27	8	13	25	7	12
Scouted for weeds	100	86	98	88	94	92
Scouting for weeds was done by:						
Operator, partner, or family member	74	83	74	89	92	69
An Employee	1	*	4	4		
Farm supply or chemical dealer	9	12	6	4	7	18
Indep. crop consultant or comm. scout	16	5	16	3	2	13
Scouted for insects or mites	97	69	86	67	71	81
Scouting for insects or mites was done by:						
Operator, partner, or family member	72	82	71	78	94	66
An Employee	1	*	2	11		
Farm supply or chemical dealer	10	11	9	8	5	19
Indep. crop consultant or comm. scout	18	6	18	3	1	15
Scouted for diseases	64	48	61	62	48	61
Scouting for diseases was done by:						
Operator, partner, or family member	70	78	68	88	97	57
An Employee	1		3	2		
Farm supply or chemical dealer	4	13	6	6	2	24
Indep. crop consultant or comm. scout	25	9	24	4	1	19
Records kept to track pests	29	20	26	14	20	29
Field mapping of weed problems	5	4	14	4	3	15
Soil/plant tissue analysis to detect pests	3	1	1	1	1	1
Weather monitoring	90	60	78	79	52	60
Suppression Practices:						
Biological pesticides	6	3	1	2		3
Scouting used to make decisions	54	16	35	10	42	27
Maintain ground cover or physical barriers	62	31	60	21	57	54
Adjust planting methods	30	20	29	31	6	22
Alternate pesticides with different MOA	13	19	7	22	2	23
Beneficial organisms	3	*	2	*	6	*

* Percentage is less than 0.5

**Pest Management Practices
Percent of Farms Utilizing Practice
Durum Wheat, 2006**

Practice	States		
	ALL	MT	ND
Prevention Practices:			
No-till or minimum till used to manage pests	85	75	87
Plow down crop residue	21	35	18
Remove crop residue	16	13	17
Clean implements after fieldwork	48	56	45
Field edges/etc. chopped, mowed/etc	20	31	17
Water management practices	*		*
Avoidance Practices:			
Adjust planting/harvesting dates	27	28	27
Rotate crops to control pests	80	69	83
Crop variety chosen for pest resistance	36	44	34
Planting locations planned to avoid pests	31	38	30
Monitoring Practices:			
Scouting by general observation	59	67	57
Deliberate scouting activities	40	28	43
Field was not scouted	1	4	
Scouted for pests	9	8	10
Scouting due to pest advisory warning	2	3	2
Scouting due to pest development model	2		2
Scouted for weeds	98	96	99
Scouting for weeds was done by:			
Operator, partner, or family member	93	98	92
An Employee	*	1	
Farm supply or chemical dealer	5	1	6
Indep. crop consultant or comm. scout	2		2
Scouted for insects or mites	68	69	68
Scouting for insects or mites was done by:			
Operator, partner, or family member	94	98	93
An Employee	*	2	
Farm supply or chemical dealer	3		4
Indep. crop consultant or comm. scout	2		3
Scouted for diseases	66	60	68
Scouting for diseases was done by:			
Operator, partner, or family member	96	98	96
An Employee	*	2	
Farm supply or chemical dealer	1		1
Indep. crop consultant or comm. scout	2		3
Records kept to track pests	17	21	16
Field mapping of weed problems	34	44	31
Soil/plant tissue analysis to detect pests	2	4	1
Weather monitoring	73	66	75
Suppression Practices:			
Scouting used to make decisions	12	20	10
Maintain ground cover or physical barriers	68	63	69
Adjust planting methods	14	15	14
Alternate pesticides with different MOA	41	45	39

* Percentage is less than 0.5

**Pest Management Practices
Percent of Acres Utilizing Practice
Durum Wheat, 2006**

Practice	States		
	ALL	MT	ND
Prevention Practices:			
No-till or minimum till used to manage pests	85	84	86
Plow down crop residue	19	26	16
Remove crop residue	14	10	15
Clean implements after fieldwork	50	51	50
Field edges/etc. chopped, mowed/etc	20	26	18
Water management practices	1		1
Avoidance Practices:			
Adjust planting/harvesting dates	25	25	25
Rotate crops to control pests	78	63	83
Crop variety choosen for pest resistance	38	41	37
Planting locations planned to avoid pests	31	36	30
Monitoring Practices:			
Scouting by general observation	67	71	66
Deliberate scouting activities	32	25	34
Field was not scouted	1	4	
Scouted for pests	12	12	12
Scouting due to pest advisory warning	2	1	2
Scouting due to pest development model	4		5
Scouted for weeds	97	96	97
Scouting for weeds was done by:			
Operator, partner, or family member	94	97	93
An Employee	1	3	
Farm supply or chemical dealer	4	1	5
Indep. crop consultant or comm. scout	1		2
Scouted for insects or mites	68	68	67
Scouting for insects or mites was done by:			
Operator, partner, or family member	96	96	96
An Employee	1	4	
Farm supply or chemical dealer	1		2
Indep. crop consultant or comm. scout	2		2
Scouted for diseases	68	67	68
Scouting for diseases was done by:			
Operator, partner, or family member	96	96	96
An Employee	1	4	
Farm supply or chemical dealer	2		2
Indep. crop consultant or comm. scout	2		2
Records kept to track pests	18	21	17
Field mapping of weed problems	36	40	34
Soil/plant tissue analysis to detect pests	2	6	1
Weather monitoring	75	72	76
Suppression Practices:			
Scouting used to make decisions	14	18	13
Maintain ground cover or physical barriers	67	64	68
Adjust planting methods	14	17	13
Alternate pesticides with different MOA	37	39	36

**Pest Management Practices
Percent of Farms Utilizing Practice
Other Spring Wheat, 2006**

Practice	States						
	ALL	ID	MN	MT	ND	SD	WA
Prevention Practices:							
No-till or minimum till used to manage pests	69	42	40	68	77	74	58
Plow down crop residue	31	64	52	35	24	25	41
Remove crop residue	12	19	20	8	11	13	15
Clean implements after fieldwork	63	51	49	62	70	59	73
Field edges/etc. chopped, mowed/etc	41	56	47	36	40	42	57
Water management practices	3	21	5	2	3	1	12
Avoidance Practices:							
Adjust planting/harvesting dates	20	18	7	16	20	34	21
Rotate crops to control pests	86	85	97	67	86	97	86
Crop variety chosen for pest resistance	47	40	42	47	48	50	62
Planting locations planned to avoid pests	29	19	16	32	26	44	32
Monitoring Practices:							
Scouting by general observation	61	61	84	74	49	60	93
Deliberate scouting activities	34	32	14	23	47	28	5
Field was not scouted	5	7	2	2	3	12	1
Scouted for pests	17	18	29	15	12	21	32
Scouting due to pest advisory warning	7	3	12	2	9	6	8
Scouting due to pest development model	7	1	10	*	10	4	18
Scouted for weeds	95	89	97	98	96	87	99
Scouting for weeds was done by:							
Operator, partner, or family member	86	72	68	97	91	80	56
An Employee	*	*		1		*	2
Farm supply or chemical dealer	6	24	14	1	3	9	38
Indep. crop consultant or comm. scout	7	4	18	*	6	11	4
Scouted for insects or mites	63	75	64	61	63	61	79
Scouting for insects or mites was done by:							
Operator, partner, or family member	83	72	62	96	88	78	47
An Employee	1	*	2	2			3
Farm supply or chemical dealer	7	20	14	1	3	9	46
Indep. crop consultant or comm. scout	10	8	22	1	8	14	5
Scouted for diseases	68	84	72	67	64	73	84
Scouting for diseases was done by:							
Operator, partner, or family member	83	69	61	97	91	77	51
An Employee	*	*		2			3
Farm supply or chemical dealer	6	23	14	1	1	10	42
Indep. crop consultant or comm. scout	10	7	25		8	13	5
Records kept to track pests	28	26	45	23	26	23	52
Field mapping of weed problems	30	44	35	52	21	24	44
Soil/plant tissue analysis to detect pests	5	17	10	7	1	4	15
Weather monitoring	66	54	47	55	76	61	78
Suppression Practices:							
Scouting used to make decisions	21	17	23	11	24	20	37
Maintain ground cover or physical barriers	69	56	47	53	75	86	72
Adjust planting methods	21	22	8	17	21	34	18
Alternate pesticides with different MOA	39	38	30	36	47	26	66

*Percentage is less than 0.5

**Pest Management Practices
Percent of Acres Utilizing Practice
Other Spring Wheat, 2006**

Practice	States						
	ALL	ID	MN	MT	ND	SD	WA
Prevention Practices:							
No-till or minimum till used to manage pests	72	41	36	79	76	87	66
Plow down crop residue	30	58	64	25	26	13	38
Remove crop residue	11	20	20	8	10	8	16
Clean implements after fieldwork	64	61	44	69	68	57	76
Field edges/etc. chopped, mowed/etc	42	53	57	35	40	35	64
Water management practices	4	18	8	3	2	2	9
Avoidance Practices:							
Adjust planting/harvesting dates	24	19	8	30	25	29	22
Rotate crops to control pests	84	88	99	59	88	96	88
Crop variety chosen for pest resistance	50	42	35	61	51	44	65
Planting locations planned to avoid pests	30	20	19	33	30	36	35
Monitoring Practices:							
Scouting by general observation	68	70	92	76	60	59	96
Deliberate scouting activities	29	27	7	21	38	32	4
Field was not scouted	3	3	1	3	2	9	1
Scouted for pests	20	23	38	15	15	26	36
Scouting due to pest advisory warning	8	4	16	2	9	8	11
Scouting due to pest development model	7	1	12	1	8	5	20
Scouted for weeds	96	96	98	97	97	90	99
Scouting for weeds was done by:							
Operator, partner, or family member	85	64	63	94	91	78	57
An Employee	1	*		4		1	2
Farm supply or chemical dealer	6	32	14	2	2	10	36
Indep. crop consultant or comm. scout	8	3	23	*	7	11	4
Scouted for insects or mites	68	75	72	70	66	64	83
Scouting for insects or mites was done by:							
Operator, partner, or family member	83	71	60	92	90	79	49
An Employee	1	*	1	5			2
Farm supply or chemical dealer	7	24	17	2	3	9	44
Indep. crop consultant or comm. scout	8	4	23	*	8	12	5
Scouted for diseases	74	88	84	73	71	74	89
Scouting for diseases was done by:							
Operator, partner, or family member	83	65	58	93	91	77	54
An Employee	1	*		5			2
Farm supply or chemical dealer	7	30	15	2	2	10	39
Indep. crop consultant or comm. scout	9	4	27		7	14	5
Records kept to track pests	30	39	52	23	26	28	55
Field mapping of weed problems	32	47	40	45	26	23	45
Soil/plant tissue analysis to detect pests	7	20	9	15	1	6	20
Weather monitoring	69	59	49	66	77	63	82
Suppression Practices:							
Scouting used to make decisions	26	23	29	17	30	23	39
Maintain ground cover or physical barriers	72	61	46	63	79	82	77
Adjust planting methods	23	17	7	22	25	33	24
Alternate pesticides with different MOA	43	48	36	45	47	22	70

*Percentage is less than 0.5

**Pest Management Practices
Percent of Farms Utilizing Practice
Winter Wheat, 2006**

Practice	States							
	ALL	CO	ID	IL	KS	MI	MO	MT
Prevention Practices:								
No-till or minimum till used to manage pests	54	62	50	74	54	81	67	67
Plow down crop residue	39	41	58	12	42	23	10	28
Remove crop residue	13	6	26	8	19	9	11	19
Clean implements after fieldwork	49	48	51	26	55	39	24	51
Field edges/etc. chopped, mowed/etc	40	40	67	51	41	37	51	36
Water management practices	2	6	11	3	1	1	2	2
Avoidance Practices:								
Adjust planting/harvesting dates	28	18	37	37	28	25	25	22
Rotate crops to control pests	68	73	90	95	76	91	81	64
Crop variety chosen for pest resistance	37	42	57	37	45	30	34	57
Planting locations planned to avoid pests	17	14	22	16	22	20	22	20
Monitoring Practices:								
Scouting by general observation	43	39	69	44	43	55	35	77
Deliberate scouting activities	37	44	23	38	41	21	36	18
Field was not scouted	20	17	8	18	16	24	29	5
Scouted for pests	8	6	28	9	5	22	2	17
Scouting due to pest advisory warning	6	1	4	8	2	11	3	6
Scouting due to pest development model	3	3	3	2	2	7	3	1
Scouted for weeds	75	83	91	79	82	75	70	94
Scouting for weeds was done by:								
Operator, partner, or family member	88	87	60	89	89	70	91	96
An Employee	1	2	3	1	2	1	2	1
Farm supply or chemical dealer	8	4	31	6	7	26	2	3
Indep. crop consultant or comm. scout	3	7	6	4	2	3	4	
Scouted for insects or mites	58	74	74	61	50	54	56	78
Scouting for insects or mites was done by:								
Operator, partner, or family member	87	87	56	89	90	65	91	97
An Employee	2	2	3	1	4		1	1
Farm supply or chemical dealer	8	5	35	6	4	31	3	1
Indep. crop consultant or comm. scout	4	6	6	4	2	4	5	*
Scouted for diseases	56	70	82	65	51	55	57	75
Scouting for diseases was done by:								
Operator, partner, or family member	87	87	57	86	93	64	89	98
An Employee	2	2	3	1	3		3	2
Farm supply or chemical dealer	8	5	33	9	2	32	3	1
Indep. crop consultant or comm. scout	4	5	7	4	2	4	5	
Records kept to track pests	13	21	33	13	14	12	9	37
Field mapping of weed problems	15	11	43	9	15	13	11	41
Soil/plant tissue analysis to detect pests	5	4	9	4	8	4	2	7
Weather monitoring	26	28	52	31	25	35	11	57
Suppression Practices:								
Scouting used to make decisions	11	5	25	6	10	27	10	17
Maintain ground cover or physical barriers	52	55	60	56	62	52	43	55
Adjust planting methods	17	19	22	17	20	15	16	13
Alternate pesticides with different MOA	12	8	42	1	11	9	3	39

See footnote(s) at end of table.

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**Pest Management Practices
Percent of Farms Utilizing Practice
Winter Wheat, 2006 (continued)**

Practice	States						
	NE	OH	OK	OR	SD	TX	WA
Prevention Practices:							
No-till or minimum till used to manage pests	68	64	32	54	81	29	46
Plow down crop residue	26	26	45	39	19	73	52
Remove crop residue	13	9	13	8	13	5	15
Clean implements after fieldwork	46	34	55	71	45	57	75
Field edges/etc. chopped, mowed/etc	30	49	40	78	27	26	61
Water management practices	3		2	6	3	5	6
Avoidance Practices:							
Adjust planting/harvesting dates	29	54	25	30	37	18	16
Rotate crops to control pests	89	93	26	57	90	36	84
Crop variety chosen for pest resistance	30	45	20	58	42	27	54
Planting locations planned to avoid pests	21	13	9	17	32	9	23
Monitoring Practices:							
Scouting by general observation	37	39	46	79	54	17	86
Deliberate scouting activities	48	29	30	21	38	51	12
Field was not scouted	15	32	24		8	31	1
Scouted for pests	7	5	6	37	12	4	25
Scouting due to pest advisory warning	3	9	14	16	4	3	11
Scouting due to pest development model	2	6		12	6	*	10
Scouted for weeds	85	64	64	100	92	56	98
Scouting for weeds was done by:							
Operator, partner, or family member	91	79	97	70	87	91	67
An Employee				5	*	3	1
Farm supply or chemical dealer	4	19	1	20	4	5	31
Indep. crop consultant or comm. scout	5	2	1	5	8	1	2
Scouted for insects or mites	54	53	60	63	71	54	77
Scouting for insects or mites was done by:							
Operator, partner, or family member	90	76	96	65	87	93	61
An Employee				8		3	
Farm supply or chemical dealer	3	23	1	23	3	1	36
Indep. crop consultant or comm. scout	8	1	3	4	11	3	3
Scouted for diseases	54	59	47	71	68	46	82
Scouting for diseases was done by:							
Operator, partner, or family member	89	75	94	68	86	94	65
An Employee				8		1	
Farm supply or chemical dealer	3	23	2	21	3	2	33
Indep. crop consultant or comm. scout	8	2	4	3	11	3	2
Records kept to track pests	12	13	4	51	16	3	53
Field mapping of weed problems	15	16	12	40	16	3	40
Soil/plant tissue analysis to detect pests	3	6	2	18	3	2	16
Weather monitoring	27	23	11	84	54	14	77
Suppression Practices:							
Scouting used to make decisions	4	16	11	27	15	3	26
Maintain ground cover or physical barriers	67	38	46	54	73	26	67
Adjust planting methods	15	17	14	18	20	12	12
Alternate pesticides with different MOA	15	7	6	54	24	4	65

*Percentage is less than 0.5

**Pest Management Practices
Percent of Acres Utilizing Practice
Winter Wheat, 2006**

Practice	States							
	ALL	CO	ID	IL	KS	MI	MO	MT
Prevention Practices:								
No-till or minimum till used to manage pests	53	67	57	80	53	82	69	72
Plow down crop residue	43	38	52	11	48	19	13	20
Remove crop residue	11	6	15	7	16	9	13	10
Clean implements after fieldwork	58	58	67	30	58	43	22	56
Field edges/etc. chopped, mowed/etc	43	42	68	56	44	41	61	41
Water management practices	3	5	7	3	1	1	1	1
Avoidance Practices:								
Adjust planting/harvesting dates	27	21	40	39	31	27	35	37
Rotate crops to control pests	64	74	91	98	76	92	86	61
Crop variety chosen for pest resistance	41	46	62	42	45	32	47	69
Planting locations planned to avoid pests	20	20	28	19	25	25	25	30
Monitoring Practices:								
Scouting by general observation	47	44	79	48	42	60	46	79
Deliberate scouting activities	37	38	14	34	45	21	34	18
Field was not scouted	16	18	7	18	12	18	20	3
Scouted for pests	10	7	35	11	5	26	3	21
Scouting due to pest advisory warning	5	1	4	10	1	14	3	6
Scouting due to pest development model	3	4	4	1	2	8	3	3
Scouted for weeds	80	80	92	77	86	81	78	97
Scouting for weeds was done by:								
Operator, partner, or family member	88	91	60	86	89	67	88	95
An Employee	1	2	3	2	2	1	2	1
Farm supply or chemical dealer	8	2	32	7	7	28	3	3
Indep. crop consultant or comm. scout	4	5	6	4	3	4	7	
Scouted for insects or mites	64	70	74	65	57	59	63	84
Scouting for insects or mites was done by:								
Operator, partner, or family member	86	91	51	85	88	63	86	95
An Employee	1	2	4	2	3		1	2
Farm supply or chemical dealer	8	3	39	8	5	32	4	2
Indep. crop consultant or comm. scout	5	5	6	5	4	5	9	1
Scouted for diseases	62	68	82	69	56	61	64	81
Scouting for diseases was done by:								
Operator, partner, or family member	87	92	52	84	92	62	85	96
An Employee	1	2	3	2	3		2	2
Farm supply or chemical dealer	7	3	38	9	1	33	4	3
Indep. crop consultant or comm. scout	5	3	7	4	4	5	9	
Records kept to track pests	16	24	40	13	13	18	12	40
Field mapping of weed problems	16	15	50	15	12	14	12	46
Soil/plant tissue analysis to detect pests	6	4	9	5	8	3	5	10
Weather monitoring	29	29	56	35	24	42	19	62
Suppression Practices:								
Scouting used to make decisions	12	9	34	8	9	38	13	20
Maintain ground cover or physical barriers	57	60	62	60	66	59	50	63
Adjust planting methods	19	21	24	20	22	14	24	23
Alternate pesticides with different MOA	16	15	48	2	12	8	5	49

See footnote(s) at end of table.

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**Pest Management Practices
Percent of Acres Utilizing Practice
Winter Wheat, 2006 (continued)**

Practice	States						
	NE	OH	OK	OR	SD	TX	WA
Prevention Practices:							
No-till or minimum till used to manage pests	65	64	30	59	90	39	55
Plow down crop residue	27	25	45	32	11	71	47
Remove crop residue	10	6	11	12	6	5	12
Clean implements after fieldwork	47	37	64	79	53	65	72
Field edges/etc. chopped, mowed/etc	27	51	41	78	28	34	58
Water management practices	3		2	4	2	7	4
Avoidance Practices:							
Adjust planting/harvesting dates	34	49	24	35	38	13	15
Rotate crops to control pests	88	90	25	48	95	40	78
Crop variety chosen for pest resistance	29	49	28	64	46	27	51
Planting locations planned to avoid pests	19	14	10	11	33	13	19
Monitoring Practices:							
Scouting by general observation	42	40	51	73	65	18	83
Deliberate scouting activities	48	28	29	27	30	52	14
Field was not scouted	10	32	20		5	31	3
Scouted for pests	11	5	7	28	21	3	19
Scouting due to pest advisory warning	3	9	15	8	6	3	7
Scouting due to pest development model	3	4		4	9	1	8
Scouted for weeds	90	67	68	99	95	59	96
Scouting for weeds was done by:							
Operator, partner, or family member	88	80	97	73	86	94	67
An Employee				4	1	2	*
Farm supply or chemical dealer	3	18	2	16	3	2	31
Indep. crop consultant or comm. scout	9	1	1	6	11	2	2
Scouted for insects or mites	61	54	64	61	80	60	80
Scouting for insects or mites was done by:							
Operator, partner, or family member	84	77	94	73	84	94	62
An Employee				7		2	
Farm supply or chemical dealer	4	22	2	17	3	1	35
Indep. crop consultant or comm. scout	13	*	4	3	13	3	2
Scouted for diseases	67	55	52	71	80	56	82
Scouting for diseases was done by:							
Operator, partner, or family member	85	75	92	76	84	94	64
An Employee				6		1	
Farm supply or chemical dealer	3	23	3	16	3	1	34
Indep. crop consultant or comm. scout	12	2	5	2	13	4	2
Records kept to track pests	17	10	5	48	23	3	47
Field mapping of weed problems	16	19	11	41	15	4	37
Soil/plant tissue analysis to detect pests	2	11	3	14	3	4	13
Weather monitoring	32	21	11	86	57	11	69
Suppression Practices:							
Scouting used to make decisions	5	16	15	25	16	3	27
Maintain ground cover or physical barriers	68	41	49	64	78	35	69
Adjust planting methods	24	15	16	17	27	13	10
Alternate pesticides with different MOA	18	5	6	48	27	5	65

*Percentage is less than 0.5

Survey and Estimation Procedures

Survey Procedures: Data for rice, soybeans, organic soybeans, durum wheat, other spring wheat, and winter wheat were collected on two 2006 surveys, the Agricultural Resource Management Survey (ARMS) and the Conservation Effects Assessment Project (CEAP).

Data collection for the ARMS and CEAP surveys occurred during the months of September through December 2006 and only those CEAP samples that matched the ARMS crops and states were included. Data collection and sampling procedures were similar for both the ARMS and CEAP surveys. ARMS screening samples were drawn from the NASS List Sampling Frame. This extensive sampling frame covers all types of farms and accounts for approximately 90 percent of all land in farms in the United States. All farms on the list had a possibility of being selected for the screening sample. Farms thought to have the crops of interest were more likely to be in the screening sample. Sampled farms were screened to determine if they grew the target crops in 2006. From this subpopulation of operations identified as producing a crop of interest, a subsample of farms was selected in such a way as to insure that each identified producer had an opportunity to be selected. In general, larger farms were more likely to be selected than smaller farms. Once a farm producing rice, soybeans, organic soybeans, durum wheat, other spring wheat, or winter wheat was selected, one field was randomly chosen from all the fields on the farm. The operator of the sampled field was personally interviewed to obtain information on chemical applications made to the selected field. The CEAP was a nationwide, area-based sample survey based on the Natural Resources Conservation Service (NRCS) National Resources Inventory (NRI) points. CEAP samples which reported a commodity of interest which matched the ARMS commodities were combined with the ARMS data for use in this publication.

Estimation Procedures: The chemical application data, reported by product name or trade name, are reviewed within each State and across States for reasonableness and consistency. This review compares reported data with manufacturers' recommendations and with data from other farm operators using the same product. Following this review, product information is converted to an active ingredient level. The chemical usage estimates in this publication consist of survey estimates of those active ingredients. For this publication, detailed data within a table may not multiply across or add down due to independent rounding of the published values.

Estimates of the total amount of active ingredient applied are based on the acreage estimates published in the annual NASS report "Crop Production - 2006 Summary" [Cr Pr 2-1 (07)] for rice, soybeans, durum wheat, other spring wheat, and winter wheat. Please note that the estimates for total amount of an active ingredient applied will not be revised even if there are subsequent revisions to acreage for a given crop.

Reliability

The surveys were designed so that the estimates are statistically representative of chemical use on the targeted crops in the Program States. The reliability of these survey results is affected by sampling variability and non-sampling errors.

Since all operations producing the crops of interest are not included in the sample, survey estimates are subject to sampling variability. The sampling variability expressed as a percent of the estimate is called the coefficient of variation (cv). Sampling variability of the estimates differed considerably by chemical and crop. Variability for estimates of percent of acres treated will be higher than the variability for estimates of application rates. This is because application rates have a narrower range of responses, which are recommended by the manufacturer of the product, and are generally followed. In general, the more often the chemical was applied, the smaller the sampling variability. For example, estimates of a commonly used active ingredient such as Glyphosate isopropylamine salt will exhibit less variability than a rarely used chemical. A commonly used active ingredient is defined as an active ingredient used on at least 40 percent of the acres planted for a crop at the Program State level. For these active ingredients, cv's range from 1 percent to 10 percent at the Program State level and 1 percent to 52 percent at the individual state level. Active ingredients that are less frequently used have cv's that range from 2 percent to 70 percent.

Non-sampling errors can occur in complete censuses as well as sample surveys. They are caused by the inability to obtain correct information from each person surveyed, differences in interpreting questions or definitions, and mistakes in coding or processing the data. Special efforts are taken at each step of the survey to minimize non-sampling errors.

Terms and Definitions

Active ingredient: The specific chemical which kills or controls the target pest(s). 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 salt and acid equivalent.

Application Rates: Refer to the average number of pounds of a fertilizer primary nutrient or pesticide active ingredient applied to an acre of land. Rate per application is the average number of pounds applied per acre in one application. Rate per crop year is the average number of pounds applied per acre counting multiple applications. Number of applications is the average number of times a treated acre received a specific primary nutrient or active ingredient.

Area applied: Represents the percentage of crop acres receiving one or more applications of a specific primary nutrient or active ingredient.

Avoidance: May be practiced when pest populations exist in a field or site but the impact of the pest on the crop can be avoided through some cultural practice. Examples of avoidance tactics include crop rotation such that the crop of choice is not a host for the pest, choosing cultivars with genetic resistance to pests, using trap crops, choosing cultivars with maturity dates that may allow harvest before pest populations develop, fertilization programs to promote rapid crop development, and simply not planting certain areas of fields where pest populations are likely to cause crop failure. Some tactics for prevention and avoidance strategies may overlap.

The following pest management questions were categorized as avoidance practices:

Were planting or harvesting dates adjusted for this field to manage pests?

Were crops rotated in this field during the past 3 years for the purpose of managing pests?

Were planting locations planned to avoid infestation of pests?

Was a trap crop grown to help manage insects in this field?

Was a seed variety chosen to plant in this field because it had resistance to a specific pest?

Beneficial Insects: Insects collected and introduced into locations because of their value in biologic control as prey on harmful insects and parasites.

Chemigation: Application of an agricultural chemical by injecting it into irrigation water.

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

Crop year: Refers to the period immediately following harvest of the previous crop through harvest of the current crop.

Cultivar: A horticulturally or agriculturally derived variety of a plant, as distinguished from a natural variety.

Farm: Any establishment from which \$1,000 or more of agricultural products were sold or would normally be sold during the year. Government payments are included in sales. Places with all acreage enrolled in set aside or other government programs are considered to be a farm.

Fertilizer: Refers to applications of the primary nutrients; nitrogen, phosphate, and potash.

Fungi: A lower form of parasitic plant life which often reduces crop production and/or lowers the grade quality of its host.

Land in Farms: All land operated as part of a farming operation during the year. It includes crop and livestock acreage, wasteland, woodland, pasture, land in summer fallow, idle cropland, and land enrolled in the Conservation Reserve Program and other set-aside, conservation, or commodity acreage programs. It excludes public, industrial, and grazing association land, and nonagricultural land. It also excludes all land operated by establishments not qualifying as farms.

Mechanism of Action (MOA): The method/biological pathway the pesticide uses to kill the pest.

Monitoring: Includes proper identification of pests through systematic sampling or counting or other forms of scouting. Also, weather monitoring to predict levels of pest populations or to determine the most effective time to make pesticide applications, and soil testing where appropriate.

The following pest management practices questions were categorized as monitoring practices:

In 2006, how was this field primarily scouted for insects, weeds, diseases and/or beneficial organisms? (By conducting general observations while performing routine tasks? By deliberately going to the field specifically for scouting activities? This field was not scouted?)

Was an established scouting process used (systematic sampling, recording counts, etc.) or were insect traps used in this field?

Was scouting for pests done in this field due to a pest advisory warning?

Was scouting for pests done in this field due to a pest development model?

Was this field scouted for weeds? (If so, Who did the majority of the scouting? Operator, partner or family member, OR An employee, OR Farm supply or chemical dealer, OR Independent crop consultant or commercial scout?)

Was this field scouted for insects and mites? (If so, Who did the majority of the scouting? Operator, partner or family member, OR An employee, OR Farm supply or chemical dealer, OR Independent crop consultant or commercial scout?)

Was this field scouted for diseases? (If so, Who did the majority of the scouting? Operator, partner or family member, OR An employee, OR Farm supply or chemical dealer, OR Independent crop consultant or commercial scout?)

Were written or electronic records kept for this field to track the activity or numbers of weeds, insects or diseases?

Was field mapping data used for making weed management decisions on this field?

Were the services of a diagnostic laboratory used for pest identification or soil or plant tissue pest analysis for this field?

Was weather data used to assist in determining either the need or when to make pesticide applications?

Were floral lures, attractants, repellants, pheromone traps or other biological pest controls used on this field?

Nematodes: Microscopic, worm-shaped parasitic animals. Damage to many crops can be severe.

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. The four classes of pesticides presented in this report and the pests targeted are: herbicides - weeds, insecticides - insects, fungicides - fungi, and other chemicals - other forms of life. Miticides and nematicides are included as insecticides while soil fumigants, growth regulators, defoliants, and desiccants are included as other chemicals.

Pheromone: A chemical substance produced by an insect which serves as a stimulus to other individuals of the same species for one or more behavioral responses.

Prevention: The practice of keeping a pest population from infesting a crop or field. It includes such tactics as using pest-free seeds or transplants, alternative tillage approaches such as no-till or strip-till systems, choosing cultivars with genetic resistance to insects or disease, irrigation scheduling to avoid situations conducive to disease development, cleaning tillage and harvesting equipment between fields or operations, using field sanitation procedures, and eliminating alternate hosts or sites for insect pests and disease organisms.

The following pest management questions were categorized as prevention practices:

Were field edges, lanes, ditches, roadways or fence lines chopped, mowed, plowed, or burned to manage pests for this field?

Were crop residues plowed down or removed in this field to manage pests?

Were equipment and implements cleaned after completing field work in this field to reduce the spread of pests?

Were water management practices such as irrigation scheduling, controlled drainage, or treatment of retention water used on this field to manage pests?

Was this field cultivated for weed control during the growing season?

Was no-till or minimum till used to manage pests in this field?

Suppression: Tactics include cultural practices such as narrow row spacings or optimized in-row plant populations, using cover crops or mulches, or using crops with allelopathic potential in the rotation. Physical suppression tactics may include cultivation or mowing for weed control, baited or pheromone traps for certain insects, and temperature management or exclusion devices for insect and disease management. Biological pesticides and controls, including mating disruption for insects, can be considered as alternatives to conventional pesticides. Determining pest thresholds and alternating pesticide active ingredients to avoid resistance buildup are suppression methods which minimize pesticide use.

The following questions were categorized as suppression practices:

Was scouting data compared to published information on infestation thresholds to determine when to take measures to manage pests in this field?

Were any biological pesticides such as Bt (*Bacillus thuringiensis*), insect growth regulators (Courier, Intrepid, etc.) neem or other natural/biological based products sprayed or applied to manage pests in this field?

Were any beneficial organisms (insects, nematodes, fungi) applied or released in this field to manage pests?

Were ground covers, mulches, or other physical barriers maintained for this field to manage pest problems?

Was row spacing or plant density adjusted in this field to manage pests?

Were pesticides with different mechanisms of action rotated or tank mixed for the primary purpose of keeping pests from becoming resistant to pesticides?

Trade name: A trademark name given to a specific formulation of a pesticide product. A formulation contains a specific concentration of the active ingredient, carrier materials, and other ingredients such as emulsifiers and wetting agents.

Pesticide class, Common name, and Trade name

The following is a list of pesticide class, common name, 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 and NASS does not mean to promote use of any specific trade name.

Class	Common Name	Trade Name
H	24-D	Tiller EC, Unison
H	24-D 2-EHE	2,4-D L.V. 4 Ester (3.84 lbs/ g), 2,4-D LV4 (3.80 lbs/ g), 2,4-D LV6, 2,4-D Lo-V Este Agasco 400 (EC), Agasco B-4, Barrage, Barrage HF, Double Up B+D, LV 400 2,4-D Weed Killer, Low Vol 4 Ester Weed Killer, Maestro D, Outlaw (aka Bushwhacker), Salvo, Starane+Salvo, Turret, WECO MAX, Weed Pro 6lb., Weedone LV4 Solventless
H	24-D BEE	E-99 Herbicide, Weedone 638, Weedone LV6
H	24-D dieth salt	Hi-Dep, Weedar 64A
H	24-D dimeth. salt	2,4-D Amine, 2,4-D Amine 4, 2,4-D Amine 6, Banvel + 2,4-D, Brash, Formula 40, Hi-Dep, Range Star, Rifle-D, Saber, Savage, Weedar 64, Weedaxe, Weedmaster
H	24-D isoprop. salt	RT Master
H	24-D triiso. salt	Curtail (EC)
H	24-DB dimeth. salt	Butyrac 175, Butyrac 200
H	24-DP dimeth. salt	2,4-D Amine 4CA
I	Acephate	Acephate 75 WSP, Acephate 90SP, Bracket 90, Orthene 90 WSP, Orthene 90S
H	Acetochlor	Confidence, TopNotch
H	Acifluorfen sodium	Blazer 2L, Storm, Ultra Blazer
H	Alachlor	Intro (4E), Lasso
I	Aldicarb	Temik 15G
H	Aminopyralid	CleanWave
H	Atrazine	Atrazine 4L, Atrazine 90DF, Banvel-K + Atrazine
I	Azadirachtin	Neemix 4.5
F	Azoxystrobin	Quadris, Quilt
H	Bensulfuron-methyl	Duet, Londax (60DF)
H	Bentazon	Basagran, Rezult B, Storm
I	Benzoic acid	Intrepid 2F
H	Bispyribac-sodium	Regiment (Rice)
H	Bromoxynil	Buctril (2EC), Moxy 2E
H	Bromoxynil heptanoat	Agasco B-4, Bison Advanced, Bronate Advanced, Buctril 4EC, Rhino, WECO MAX
H	Bromoxynil octanoate	Agasco B-4, Bison, Bison Advanced, Bromox/ MCPA 2-2, Bronate (4EC), Bronate (Bronate Pro #2), Bronate Advanced, Brox 2EC, Brox-M, Buctril 4EC, Connect 20 WSP, Double Up B+D, HBN Plus, Maestro D Maestro MA, Rhino, WECO MAX
I	Bt subsp. kurstaki	Costar Biological Insecticide, Javelin (FC)
I	Carbaryl	Sevin 4F, Sevin SL, Sevin XLR Plus
I	Carbofuran	Furadan 4F, Furadan 5G

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Pesticide class, Common name, and Trade name

Class	Common Name	Trade Name
H	Carfentrazone-ethyl	Aim (40% WDG), Aim EC, Aim EW, Shark
H	Chlorimuron-ethyl	Canopy, Canopy EX, Canopy SP, Canopy XL, Classic, Synchrony STS, Synchrony XP
I	Chlorpyrifos	Govern 4E, Lorsban 15G, Lorsban 4E, Lorsban 4E SG, Pilot 4E, Warhawk
H	Chlorsulfuron	Finesse, Glean FC (75DF)
H	Clethodim	Arrow 2EC, Clethodim 2EC, Intensity, Select 2 EC, Volunteer
H	Clodinafop-propargil	Discover, Discover NG
H	Clomazone	Cerano 5 MEG, Command 3ME, Command 4EC, Command Xtra (Co-Pack 3009 & 3010)
H	Clopyralid	Curtail M (EC), Stinger (3EC), WideMatch, WideMatch M
H	Clopyralid mono salt	Curtail (EC)
H	Cloransulam-methyl	Amplify (For Soybeans), FirstRate (soybeans), Gangster (Co-Pack-4964 & 4965), Gangster FR (aka FirstRate)
F	Coniothyrium minitans	Contans WG
F	Copper sulfate	Bluestone, Copper Sulfate
H	Cyanazine	Bladex 80WP
I	Cyfluthrin	Baythroid 2 (EC)
H	Cyhalofop-butyl	Clincher SF
I	Cypermethrin	Ammo 2.5 EC, Battery 2.5 EC
I	Deltamethrin	Delta Gold
H	Dicamba	Banvel SGF (2EC), Oracle Dicamba Agricultural Herbicide, Outlaw (aka Bushwhacker)
H	Dicamba Pot. salt	Banvel-K + Atrazine
H	Dicamba digly salt	Clarity
H	Dicamba dimet. salt	Banvel (4L), Banvel + 2,4-D, Brash, Diablo, Range Star, Rifle, Rifle-D, Sterling, Weedmaster
H	Dicamba iso salt	Fallow Master
H	Dicamba sodium salt	Dicamba SG, Rave
H	Diclofop-methyl	Hoelon 3EC
H	Difenzoquat	Avenge (2L)
I	Diflubenzuron	Dimilin 25W, Dimilin 2L
H	Dimethenamid	Frontier 6.0
H	Dimethenamid-P	Outlook
I	Dimethoate	Digon 400, Dimate 4EC, Dimethoate 400, Dimethoate 4EC
I	Disulfoton	Di-Syston 8
H	Diuron	Direx 4L
I	Endosulfan	Thiodan 3EC
I	Esfenvalerate	Asana XL
H	Ethalfuralin	Sonalan 10G
O	Ethephon	Ethephon 2
H	Fenoxaprop	Dakota, Fusion, RiceStar Herbicide, Whip 1EC
H	Fenoxaprop-p-ethyl	Cheyenne FM (container #2), Puma 1EC (Bronate Pro #1), Tiller EC, Whip 360
H	Fluazifop-P-butyl	Fusilade DX, Fusion

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Pesticide class, Common name, and Trade name

Class	Common Name	Trade Name
H	Flucarbazone-sodium	Everest 70%
H	Flufenacet	Axiom DF, DEFINE DF, DEFINE SC, Domain DF
H	Flumetsulam	Python WDG
H	Flumiclorac-pentyl	Resource
H	Flumioxazin	Gangster (Co-Pack-4964 & 4965), Gangster V (aka Valor), Valor WP
H	Fluometuron	Cotoran 4L
H	Fluroxypyr	Starane EC
H	Fluroxypyr 1-MHE	CleanWave, Starane + Sword, Starane+Salvo, WideMatch, WideMatch M
H	Fomesafen	Flexstar, Reflex
I	Gamma-cyhalothrin	Proaxis, Prolex
O	Garlic oil	Garlic Barrier AG
O	Gibberellic acid	GA3 4%
H	Glufosinate-ammonium	Liberty
H	Glyphosate	Sequence, Touchdown CF, Touchdown Herbicide, Touchdown HiTech, Touchdown Total
H	Glyphosate amm. salt	Credit Duo, Credit Duo Extra, Roundup Ultra Dry
H	Glyphosate iso. salt	Alecto 41S, Backdraft, Buccaneer, Buccaneer Plus, ClearOut 41 Plus, Cornerstone, Credit, Credit Duo, Credit Duo Extra, Durango, Extreme, Fallow Master, Genesis, Genesis Extra Broad Spectrum, Gly Star Plus, Gly-4 Plus, Glyfos X-TRA, Glyphomax Glyphomax Plus, Glyphomax XRT, Glyphosate 4 (Turf & Ornamental), Glyphosate Original, Grandslam 4XS, Helosate Plus, Hi-Yield Killzall, Honcho, Honcho Plus, Imitator Plus, Mad Dog Glyphosate, Mirage (4EC), Mirage Plus, RT 3 Herbicide, RT Master, Rascal, Rascal Plus, Roundup Custom, Roundup D-Pak, Roundup Export, Roundup Original, Roundup Original II, Roundup Original Max, Roundup Pro (T & O), Roundup Ultra, Roundup Ultra Max, Roundup Weather Max, Silhouette Herbicide, StrikeOut Extra, Supersate, Wise Up Plus Glyphosate Herbicide
H	Glyphosate pot. salt	RT Master II
H	Halosulfuron	Permit
H	Imazamox	Beyond (Clearfied Crops), Raptor
H	Imazaquin	Backdraft, Scepter (1.5L), Scepter 70DG
H	Imazethapyr	Clearpath, Extreme, Newpath (Clearfield Rice), Pursuit DG, Pursuit Plus EC
H	Imazethapyr ammon	Pursuit
I	Indoxacarb	Steward
H	Lactofen	Cobra (2E), Phoenix Herbicide
I	Lambda-cyhalothrin	Demand CS, Karate (1EC), Karate Z, Silencer, Taiga Z, Warrior
H	Linuron	Linex 4L
H	MCPA	Dakota, Rhonox (EC), Tiller EC
H	MCPA 2-ethylhexyl	Agasco MXL, Bison Advanced, Bromox/ MCPA 2-2,

--continued

Pesticide class, Common name, and Trade name

Class	Common Name	Trade Name
		Bronate (4EC), Bronate (Bronate Pro #2), Bronate Advanced, Brox-M, Cheyenne FM (container #2), Curtail M (EC), Dagger HBN Plus, MCP 4 Ester, MCPE Phenoxy, Maestro MA, Rhino, See MCPA Ester, Solve MCPA Ester, Starane + Sword, Sword, WideMatch M, WildCard
H	MCPA dimethyl. salt	MCP Amine 4, Rhomene MCPA Amine
H	MCPA isooctyl ester	Bison
H	MCPA sodium salt	Esteron 6E
I	Malathion	Malathion 5 EC (56%), Malathion 5 EC (57%), Malathion 8E
F	Mefenoxam	Apron XL LS
H	Mesosulfuron-Methyl	Olympus Flex (For Wheat), Osprey, Rimfire (For Use in Wheat)
I	Methomyl	Lannate LV (2.4 lbs.)
I	Methyl parathion	Methyl Parathion 4EC, Methyl Parathion 6EC, PennCap-M
H	Metribuzin	Authority, Axiom DF, Boundary, Boundary 6.5EC, Canopy, Canopy SP, Domain DF, Sencor 4, Sencor DF (75%)
H	Metsulfuron-methyl	Ally Extra, Ally XP (60DF), Finesse, Metsulfuron 60ED AG, Purestand DF, Valuron 60DF
H	Molinate	Arrosolo 3-3E, Ordram 10-G, Ordram 15-G, Ordram 15-GM, Ordram 8-E
I	Neem oil clar. hyd.	NeemGard
H	Paraquat	Cyclone, Gramoxone Extra, Gramoxone Inteon, Gramoxone Max
H	Pendimethalin	Pendimax 3.3, Prowl (4EC), Prowl 3.3 EC, Prowl H2O Pursuit Plus EC
H	Penoxsulam	Granite GR, Grasp SC
I	Permethrin	Permethrin 3.2 AG, Pounce 25WP, Pounce 3.2EC
H	Picloram K salt	Tordon 22K (2EC)
H	Pinoxaden	Axial (For Wheat & Barley)
H	Propachlor	Ramrod 65 (WP)
H	Propanil	Arrosolo 3-3E, Duet, Prop-Job 4E, Propanil 3E, Propanil 4E, Propanil WDG (50%), Stam 4SC (For Rice), Stam 80 EDF (For Rice), Stam M4 (For Rice), Wham! EZ
F	Propiconazole	Bumper 41.8 EC, PropiMax EC, Quilt, Stratego, Tilt
H	Propoxycarbazone-sod	Olympus 70%G, Olympus Flex (For Wheat), Rimfire (For Use in Wheat)
H	Prosulfuron	Peak (WDG)
F	Pyraclostrobin	Headline, Headline SBR
H	Pyraflufen-ethyl	ET
H	Quinclorac	Clearpath, Facet 50WP, Facet 75 DF (For Rice)
H	Quizalofop-P-ethyl	Assure II
H	Quizalofop-ethyl	Targa
H	Rimsulfuron	Matrix (aka Shadeout)
H	S-Metolachlor	Boundary, Boundary 6.5EC, Dual II Magnum, Dual Magnum, Sequence

--continued

Pesticide class, Common name, and Trade name

Class	Common Name	Trade Name
H	Sethoxydim	Poast, Poast Plus, Prestige (1EC), Rezult G
O	Sodium chlorate	Sodium Chlorate 2lb, Sodium Chlorate 3lb, Sodium Chlorate 5lb, Sodium Chlorate 6lb
H	Sulfentrazone	Authority, Canopy XL, Command Xtra (Co-Pack 3009 & 3010)
H	Sulfosate	Touchdown 5, Touchdown 6
H	Sulfosulfuron	Maverick
F	Tebuconazole	Folicur 3.6 F, Headline SBR
I	Tebufenozide	Confirm 2F
F	Tetraconazole	Domark 230 ME
H	Thifensulfuron	Affinity BroadSpec Herbicide, Affinity Tankmix, Ally Extra, Harmony Extra XP, Harmony GT XP, Synchrony STS, Synchrony XP
H	Thiobencarb	Abolish 8 EC, Bolero 10G, Bolero 15 G, Bolero 8EC
I	Thiodicarb	Larvin 3.2
F	Thiophanate-methyl	Topsin 4.5FL, Topsin M 70WP
H	Tralkoxydim	Achieve 40DG, Achieve SC
I	Tralomethrin	Scout X-TRA
H	Triallate	Buckle (G), Far-Go, Far-Go Granular (10%)
H	Triasulfuron	Amber, Rave
H	Tribenuron-methyl	Affinity BroadSpec Herbicide, Affinity Tankmix, Ally Extra, Canopy EX, Express XP (DF), Harmony Extra XP
H	Triclopyr	Grandstand R (Rice)
F	Trifloxystrobin	Stratego
H	Trifluralin	Buckle (G), Treflan 4L, Treflan 5 (EC), Treflan E.C., Treflan HFP, Treflan TR-10, Tri-4, Trifluralin 4EC, Trilin, Trilin 10G, Trust 4EC
I	Zeta-cypermethrin	Mustang, Mustang Max

C FERTILIZER and NUTRIENT APPLICATIONS---SELECTED FIELD C

1. Were commercial FERTILIZERS applied to this field for the 2006 durum wheat crop? YES = 1
2. [If COMMERCIAL fertilizer applied, continue, else go to Section D.]

CODE	EDIT TABLE
0202	0201

3. How many commercial fertilizer applications were made to this field for the 2006 crop? (Include applications made by airplanes and custom applicators).....

NUMBER
0203

4. Now I need to record information for each application

CHECKLIST	
INCLUDE	EXCLUDE
<input checked="" type="checkbox"/> Custom applied fertilizers	<input checked="" type="checkbox"/> Micronutrients
<input type="checkbox"/> Fertilizers applied in the fall of 2005 and those applied earlier if this field was fallow in 2005.	<input type="checkbox"/> Unprocessed manure
<input type="checkbox"/> Commercially prepared manure	<input type="checkbox"/> Fertilizer applied to previous crops in this field
	<input type="checkbox"/> Lime and Gypsum/landplaster

	T-TYPE	TABLE
	2	001
Line 99	Office Use Lines in Table	0213

APPLICATION CODES for COLUMN 6	
1 Broadcast, ground without incorporation	5 In irrigation water
2 Broadcast, ground with incorporation	6 Chisel, injected or knifed in
3 Broadcast, by aircraft	7 Banded/Sidedressed in or over row
4 In seed furrow	8 Foliar or directed spray

LINE	2 MATERIALS USED [Enter percentage analysis or actual pounds of plant nutrients applied per acre.] [Show Common Fertilizers in Respondent Booklet.]				3 What quantity was applied per acre? [Leave this column blank if actual nutrients were reported.]	4 [Enter material code.] 1 Pounds 12 Gallons 19 Pounds of actual nutrients	5 When was this applied? 1 In the fall before seeding 2 In the spring before seeding 3 At seeding 4 After seeding	6 How was this applied? [Refer to code list above.]	7 How many acres were treated in this application? ACRES
	N Nitrogen	P2O5 Phosphate	K2O Potash	S Sulfur					
01	0205	0206	0207	0214	0208	0209	0210	0211	0212
02	0205	0206	0207	0214	0208	0209	0210	0211	0212
03	0205	0206	0207	0214	0208	0209	0210	0211	0212
04	0205	0206	0207	0214	0208	0209	0210	0211	0212
05	0205	0206	0207	0214	0208	0209	0210	0211	0212
06	0205	0206	0207	0214	0208	0209	0210	0211	0212
07	0205	0206	0207	0214	0208	0209	0210	0211	0212
08	0205	0206	0207	0214	0208	0209	0210	0211	0212

T - TYPE	TABLE	LINE
0	000	00

D PESTICIDE APPLICATIONS---SELECTED FIELD D

Now I have some questions about all the pesticides used on this field for the 2006 durum wheat crop including both custom applications and applications made by this operation.

1. Were any herbicides, insecticides, fungicides or other chemicals used on this durum wheat field for the 2006 crop? YES = 1

[Probe for applications made in the fall of 2005 (and those made earlier if this field was fallow).]
[If no pesticides applied, go to Section E.]

CODE	EDIT TABLE
0302	0301

Include defoliant, fungicides, herbicides, insecticides, and pesticides. Include biological and botanical pesticides.	Exclude fertilizers reported earlier and seed treatments.	T - TYPE	TABLE
		3	001
LINE 99	OFFICE USE LINE IN TABLE	0319	

CHEMICAL PRODUCT NAME	LINE	2	3	4	5	6 OR 7	8	
		What products were applied to this field? [Show product codes from Respondent Booklet.]	Was this product bought in liquid or dry form? [Enter L or D]	Was this part of a tank mix? [If tank mix, enter line number of first product in mix.]	When was this applied? 1 BEFORE planting 3 AT planting 4 AFTER planting	How much was applied per acre per application?	What was the total amount applied per application in this field?	[Enter unit code.] 1 Pounds 12 Gallons 13 Quarts 14 Pints 15 Liquid Oz. 28 Dry Oz. 30 Grams
	01	0305		0306	0307	0308	0309	0310
	02	0305		0306	0307	0308	0309	0310
	03	0305		0306	0307	0308	0309	0310
	04	0305		0306	0307	0308	0309	0310
	05	0305		0306	0307	0308	0309	0310
	06	0305		0306	0307	0308	0309	0310
	07	0305		0306	0307	0308	0309	0310
	08	0305		0306	0307	0308	0309	0310
	09	0305		0306	0307	0308	0309	0310
	10	0305		0306	0307	0308	0309	0310
	11	0305		0306	0307	0308	0309	0310
	12	0305		0306	0307	0308	0309	0310
	13	0305		0306	0307	0308	0309	0310
	14	0305		0306	0307	0308	0309	0310

1. [For pesticides not listed in Respondent Booklet, specify---]

LINE	Pesticide Type (Herbicide, Insecticide Fungicide, etc.)	EPA No. or Trade name And Formulation	Form Purchased (Liquid or Dry)	Where Purchased [ASK only if EPA No. cannot be reported.]

APPLICATIONS CODES for column 9	
1 Broadcast, ground without incorporation	6 Chisel/Injected or Knifed in
2 Broadcast, ground with incorporation	7 Banded in or over row
3 Broadcast, by aircraft	8 Foliar or directed spray
4 In Seed furrow	9 Spot treatments
5 In Irrigation water	

L I N E	9	10	11
	How was this product applied? <i>[Enter code from above.]</i>	How many acres in this field were treated with this product? ACRES	How many times was it applied? NUMBER
01	0311	0312	0313
02	0311	0312	0313
03	0311	0312	0313
04	0311	0312	0313
05	0311	0312	0313
06	0311	0312	0313
07	0311	0312	0313
08	0311	0312	0313
09	0311	0312	0313
10	0311	0312	0313
11	0311	0312	0313
12	0311	0312	0313
13	0311	0312	0313
14	0311	0312	0313

E PEST MANAGEMENT PRACTICES---SELECTED FIELD E

Now I have some questions about your pest management decisions and practices used on this field for the 2006 durum wheat crop. By pests, we mean WEEDS, INSECTS, and DISEASES.

T-TYPE	TABLE	LINE
0	000	00

1. [Enumerator Action: Were PESTICIDE APPLICATIONS reported in Section D?]
 YES - [Continue.] NO - [Go to item 10.]

2. Was weather data used to assist in determining either the need for or timing of pesticide applications? YES = 1 CODE
0800

4. Were pesticides with different mechanisms of action rotated or tank mixed for the primary purpose of keeping pests from becoming resistant to pesticides? YES = 1 0802

10. In 2006, how was this field primarily scouted for insects, weeds, diseases, and/or beneficial organisms---

1 By deliberately going to the field specifically for scouting activities? [Enter code 1 and go to item 11.]

2 By conducting general observations while performing routine tasks? [Enter code 2 and go to item 13.]

3 This field was not scouted. [Enter code 3 and go to item 18.]

CODE
0808

11. Was an established scouting process used (systematic sampling, recording counts, etc.) or were insect traps used in this field? YES = 1 CODE
0809

12. Was scouting for pests done in this field due to---

a. a pest advisory warning? YES = 1 CODE
0810

b. a pest development model? YES = 1 0811

1	3 [If column 1 = YES, ask---] Who did the majority of the scouting for [column 1]---
13. Was this durum wheat field scouted for--	<p>1 Operator, partner or family member</p> <p>2 An employee</p> <p>3 Farm supply or chemical dealer</p> <p>4 Independent crop consultant or commercial scout</p> <p style="text-align: right;">CODE</p>
YES = 1	
a. weeds?	0812 0814
b. insects or mites?	0815 0817
c. diseases?	0818 0820

15. Were written or electronic records kept for this field to track the activity or numbers of weeds, insects or diseases? YES = 1 CODE
0838

16. Was scouting data compared to published information on infestation thresholds to determine when to take measures to manage pests in field? YES = 1 0839

17. Did you use field mapping or previous weed problems to assist you in making weed management decisions? YES = 1 0840

18. **Did you do any of the following other type(s) of pest management for the specific purpose of managing or reducing the spread of pests in this field?**
 [Enter code "1" for all that apply.]

		CODE
a. Use the services of a diagnostic laboratory for pest identification or soil plant tissue pest analysis for this field?	YES = 1	0841
b. Plow down crop residues (<i>using conventional tillage</i>)?	YES = 1	0842
c. Remove crop residue?	YES = 1	0843
d. Rotate crops in this field during the past 3 years?	YES = 1	0844
e. Maintain ground covers, mulches, or other physical barriers?	YES = 1	0845
f. Choose crop variety because of specific resistance to certain pest?	YES = 1	0846
g. Use no-till or minimum till?	YES = 1	0847
h. Plan planting locations to avoid cross infestation of pests?	YES = 1	0848
i. Adjust planting or harvesting dates?	YES = 1	0849
j. Chop, spray, mow, plow, or burn field edges, lanes, ditches, roadways, or fences lines?	YES = 1	0850
k. Clean equipment and field implements after completing field work to reduce the spread of pests?	YES = 1	0851
l. Adjust row spacing, plant density or row directions?	YES = 1	0852

21. Were water management practices such as irrigation scheduling, controlled drainage, or treatment of retention water used on this field to manage for pests or toxic producing fungi and bacteria (<i>i.e. aflatoxin</i>)?	YES = 1	0861
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Completion Code for Pest Management Data	
1- Incomp/R	0340

Report Features

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