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Agricultural Chemical Usage
2004 Field Crops Summary

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Table of Contents

	Page	
	Narrative	**Table**
Overview	2	
Highlights		
Durum Wheat	3	7
Peanuts	3	12
Soybeans	4	23
Other Spring Wheat	4	39
Winter Wheat	5	50
Agricultural Chemical Rate Per Crop Year - Highlights	67	
Durum Wheat		67
Peanuts		68
Soybeans		69
Other Spring Wheat		69
Winter Wheat		70
Pest Management Practices - Highlights	71	
Durum Wheat		72
Peanuts		74
Soybeans		78
Other Spring Wheat		84
Winter Wheat		88
Survey and Estimation Procedures	96	
Reliability	97	
Terms and Definitions	98	
Trade Names, Common Names, and Classes	102	
Survey Instrument (Fertilizer, Pesticide, and Pest Management Sections)	107	
Index	112	
Report Features	116	

Overview

The agricultural chemical use estimates in this report refer to on-farm use of commercial fertilizers and pesticides on targeted crops for the 2004 crop year. Targeted crops included durum wheat, peanuts, soybeans, other spring wheat, and winter wheat. Farm and ranch 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 those States published in this report.

The data were compiled from two 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 2004. Relevant portions of the survey instruments used in data collection are included in the back of this publication.

This report excludes pesticides used for seed treatments and postharvest applications to the commodity. Spot treatments, which account for a very small percentage of total applications, are mentioned only in the "Active Ingredients and Publication Status" tables.

The table below shows the number of States surveyed, the number of summarized reports for each State, and the percent of the Program States' acres planted to that commodity compared with the U.S. total. The last time durum wheat, soybeans, other spring wheat, and winter wheat were surveyed was in 2002, and can be used as a comparison to this year's data.

Agricultural Chemical Use Survey Coverage, 2004 & 2002

Crop	2004			2002		
	States Surveyed	Reports Summarized	U.S. Acreage Included in Survey	States Surveyed	Reports Summarized	U.S. Acreage Included in Survey
	- - Number - -		Percent	- - Number - -		Percent
Durum Wheat	2	211	90	1	75	72
Peanuts	5	545	91			
Soybeans	11	3,163	81	20	2,526	97
Other Spring Wheat	7	953	99	3	353	81
Winter Wheat	14	2,087	85	10	1,006	75

Highlights

Durum Wheat: Two program states, Montana and North Dakota, were surveyed for durum wheat in the 2004 ARMS phase II survey. Nitrogen was the most commonly used fertilizer for producers of durum wheat. Producers in Montana applied nitrogen to 96 percent of their fields; North Dakota applied it to 95 percent of their fields. At the Program State level, 36 pounds of nitrogen were applied per acre per application; 147.8 million total pounds of nitrogen were applied to the fields in 2004. Phosphate was applied to 84 percent of the acres treated in Montana, while only 70 percent of North Dakota durum wheat acres were treated. The rate per application in the Program States was 24 pounds of phosphate per acre, with a total of 46.9 million pounds applied. Potash had the lowest coverage and smallest rate per application of all fertilizers reported. Montana distributed potash on 10 percent of their planted acres, while North Dakota applied it on 6 percent. The rate per application of potash for the Program States was 9 pounds per acre, with 1.7 million total pounds applied to the fields.

None of the growers reported any insecticides in this survey. Herbicides were applied to 99 percent of the durum wheat planted. Fenoxaprop was the most widely applied herbicide with 48 percent of the planted acreage being treated. It was applied at a rate of 0.05 pounds per acre per application; 67,000 total pounds were applied in the Program States. The next three most widely applied herbicides to durum wheat were glyphosate, MCPA, and 2,4-D. They were applied to 46, 45, and 36 percent, respectively, of the planted acreage. There were not enough reports available to publish any fungicide data.

Peanuts: States surveyed in 2004 for peanut pesticide practices included Alabama, Florida, Georgia, North Carolina, and Texas. Phosphate, on average, was the most widely used fertilizer. Of planted fields, 66 percent of planted acres had phosphate applied. However, the use of different fertilizers was extremely state specific. Florida applied potash to 94 percent of its planted acres, phosphate to 80 percent and nitrogen to 71 percent, while North Carolina applied potash to 64 percent of its acres, phosphate to 35 percent of its treated acres, and nitrogen to 37 percent of its acreage. The rates per application for these fertilizers were also as variable, with Texas applying 41 pounds of nitrogen per acre, while Georgia only applied 15 pounds of nitrogen per acre. North Carolina applied 94 pounds of potash per acre, while Texas only applied 57 pounds per acre. The total amount of fertilizer applied for the Program States for nitrogen was 28.3 million pounds, 43.3 million pounds for phosphate, and 64.8 million pounds for potash.

Herbicides were applied to 98 percent of the peanut planted acreage in the Program States. 3-Pyridinecarb acid was the most widely applied herbicide and was the second widest used active ingredient; 52 percent of the planted acreage was treated. It was applied at a rate of 0.01 pounds per acre, 7,000 pounds were applied over all the Program States. The herbicides 2,4-DB, dimethylamine salt and pendimethalin ranked fourth and fifth in the top five active ingredients used on peanuts by percent acres, at 45 and 40 percent respectively.

Fungicides were applied to 93 percent of the peanut planted acreage. Chlorothalonil was the most widely applied fungicide, and most widely used active ingredient; 77 percent of the planted acreage were treated. It was applied at a rate of 0.92 pounds per acre, with a total of 3,542,000 pounds applied over all the Program States. The fungicide tebuconazole was the third most commonly used active ingredient with 47 percent of planted acres being treated.

Insecticides were applied to 66 percent of the acres in the Program States, though a large amount of variability existed. North Carolina applied insecticides to 92 percent of its planted acres but Texas applied insecticides to only 3 percent of their acreage.

Highlights (continued)

Soybeans: Eleven states were included in the 2004 survey: Arkansas, Illinois, Indiana, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Ohio, and South Dakota. Phosphate was the most commonly used fertilizer on soybeans; it was applied to 26 percent of acreage in the Program States. A total of 1,095.9 million pounds of phosphate were applied to the Program State acreage. North Dakota had the highest phosphate coverage of any other state, applying phosphate to 63 percent of their planted soybean acreage. South Dakota had the second highest coverage, applying phosphate to 45 percent of their fields. All other states applied phosphate to less than 40 percent of their planted acreage. Iowa only applied it to 11 percent of their planted acreage. Potash was the next most frequently applied fertilizer, with 23 percent of acres planted being treated; a total of 1,733.9 million pounds were applied. Again great variability existed, Ohio applied potash to 43 percent of its planted acreage, while Kansas only treated 5 percent. Nitrogen had the smallest acreage coverage at only 21 percent of Program State acres, with 358.1 million pounds distributed.

Herbicides were applied to 97 percent of the Program State acreage though one active ingredient clearly dominated. Glyphosate was used on 87 percent of all the acres treated, 0.73 pounds of gyphosate were applied per acre per application, and 57.7 million total pounds of glyphosate were applied. The next four most widely used active ingredients were also herbicides, but their percent of acres treated were much smaller. Chlorimum-ethyl, sulfentrazone, trifluralin, and pendimethalin rounded out the top five active ingredients at 7, 6, 5, and 4 percent of acres treated, respectively.

Insecticides were used on 4 percent of the Program State acres, but individual active ingredients only covered a maximum of 1 percent of soybean Program State acreage. Fungicides were applied to only 1 percent of the Program State acres; only the active ingredient azoxystrobin was reported.

Other Spring Wheat: States surveyed for other spring wheat included Idaho, Minnesota, Montana, North Dakota, Oregon, South Dakota, and Washington. Nitrogen fertilizer was applied to 93 percent of the 2004 spring wheat planted acreage in the Program States. Spring wheat growers in the Program States applied nitrogen on average 2.0 times per acre, putting down 48 pounds of nitrogen per acre per treatment. Fertilizers with phosphate were applied to 79 percent of the planted acreage and 25 percent of the planted acreage received potash applications.

Spring wheat producers in the states surveyed treated 96 percent of their planted acreage with herbicides. MCPA was the most widely applied herbicide with 46 percent of the planted acreage being treated in the Program States. It was applied at a rate of 0.29 pounds per acre per application; a total of 1.845 million pounds of the active ingredient were applied in the Program States. The next four active ingredients that round off the top five used active ingredients were also herbicides. They were fenoxaprop, glyphosate, 2,4-D, and bromoxynil octanoate. Their percents of acres treated were 31, 23, 20, and 19 percent, respectively.

Insecticides were applied to only 2 percent of the other spring wheat acres planted in the Program States. No active ingredient was applied on more than 1 percent of the acres planted.

Fungicides were applied to 20 percent of acres planted in the Program States. The most commonly used fungicide was tebuconazole, which was only applied to 12 percent of the acres planted in the Program States.

Highlights (continued)

Winter Wheat: Producers in the Program States (Colorado, Idaho, Illinois, Kansas, Michigan, Missouri, Montana, Nebraska, Ohio, Oklahoma, Oregon, South Dakota, Texas, and Washington) applied nitrogen fertilizer to 84 percent of the winter wheat planted acreage. The average number of nitrogen applications per acre was 2.0 with an average application rate of 44 pounds per acre; 2,733 million total pounds were applied. Phosphate was applied on 55 percent of the winter wheat planted acreage in the Program States; 934 million total pounds were applied. Potash was applied to 16 percent of the planted winter wheat acreage in the Program States. Producers in Ohio applied potash to 90 percent of their winter wheat planted acreage; Washington and Nebraska producers applied potash to only 3 percent of the planted acreage.

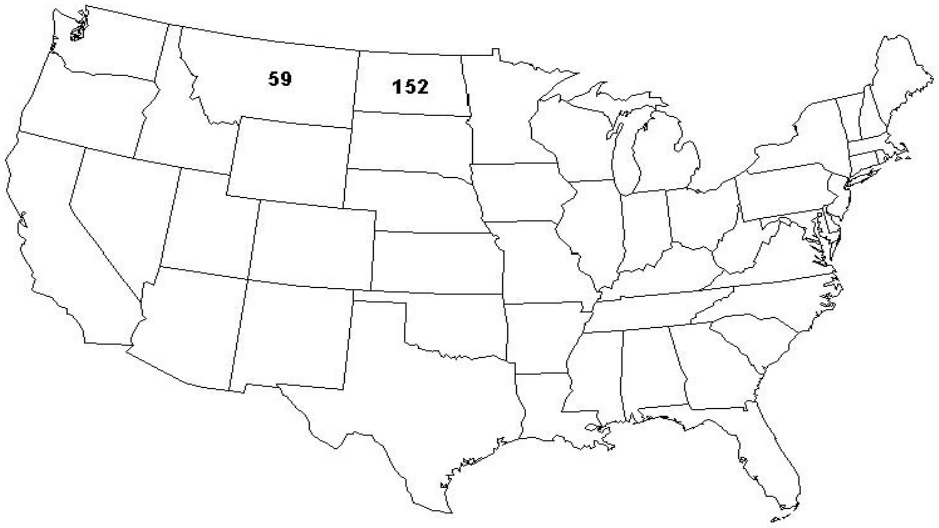
In the Program States, 45 percent of the winter wheat planted acreage was treated with herbicides. The most widely used herbicides were metsulfuron-methyl, applied to 15 percent of the winter wheat acreage, followed by glyphosate and 2,4-D, both applied to 13 percent of the planted acreage in the States surveyed.

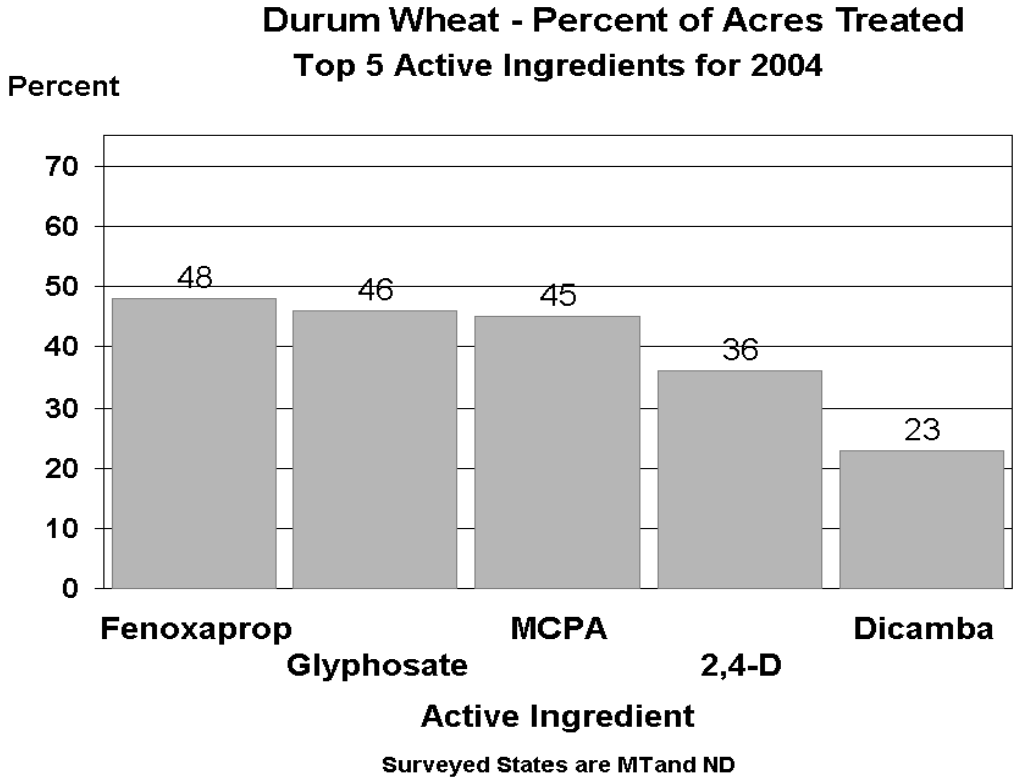
Insecticide applications were made to 7 percent of the winter wheat planted acres in 2004. Chlorpyrifos, the most widely used insecticide, was only applied to 3 percent of Program State acres planted.

Fungicides were applied to 2 percent of Program State acreage. No active ingredients were applied to more than 1 percent of the total Program State acreage.

Program States Surveyed for 2004 Field Crops Chemical Usage Survey					
	Durum Wheat	Peanuts	Soybeans	Other Spring Wheat	Winter Wheat
Alabama		+			
Arkansas			+		
Colorado					+
Florida		+			
Georgia		+			
Idaho				+	+
Illinois			+		+
Indiana			+		
Iowa			+		
Kansas			+		+
Michigan					+
Minnesota			+	+	
Missouri			+		+
Montana	+			+	+
Nebraska			+		+
North Carolina		+			
North Dakota	+		+	+	
Ohio			+		+
Oklahoma					+
Oregon				+	+
South Dakota			+	+	+
Texas		+			+
Washington				+	+

Durum Wheat: Number of Usable Reports, 2004





Durum Wheat: Fertilizer Use by State, 2004
Percent of Acres Treated and Total Applied

State	Planted Acreage	Percent of Acres Treated and Total Applied					
		Nitrogen		Phosphate		Potash	
	1,000 Acres	*Percent*	*Mil. lbs*	*Percent*	*Mil. lbs*	*Percent*	*Mil. lbs*
MT	570	96	32.5	84	11.8	10	0.6
ND	1,750	95	115.3	70	35.1	6	1.1
Total	2,320	95	147.8	73	46.9	7	1.7

Durum Wheat: Fertilizer Primary Nutrient Applications, Program States and Total, 2004

Primary Nutrient	Planted Acreage	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	1,000 Acres	*Percent*	*Number*	*Pounds per Acre*	*Pounds per Acre*	*Mil. lbs*
Montana	570					
Nitrogen		96	1.8	32	59	32.5
Phosphate		84	1.2	21	25	11.8
Potash		10	1.2	9	11	0.6
North Dakota	1,750					
Nitrogen		95	1.9	37	69	115.3
Phosphate		70	1.2	25	29	35.1
Potash		6	1.1	10	11	1.1
Total	2,320					
Nitrogen		95	1.9	36	67	147.8
Phosphate		73	1.2	24	28	46.9
Potash		7	1.1	9	11	1.7

Durum Wheat: Active Ingredients and Publication Status By Program States, 2004

Active Ingredient	Program States		
	ALL	MT	ND
Herbicides			
2,4-D	P	P	P
2,4-D, Dimeth. salt	P	*	*
2,4-DP, Dimeth. salt	P	*	*
Acetic acid (2,4-D)	P	*	*
Bromoxynil	P	*	*
Bromoxynil octanoate	P	*	*
Butoxy. ester 2,4-D	*	*	*
Clodinafop-propargil	P	P	P
Clopyralid	*	*	*
Dicamba	P	P	P
Dicamba, Sodium salt	*	*	*
Fenoxaprop	P	P	P
Flucarbazone-sodium	P		P
Fluroxypyr	P	*	*
Fluroxypyr 1-methylh	P	*	*
Glyphosate	P	P	P
Glyphosate diam salt	*	*	
MCPA	P	P	P
MCPA, dimethyl. salt	*	*	*
MCPA-EHE	*		*
Metsulfuron-methyl	*	*	
Sulfosate	*		*
Thifensulfuron	P	*	*
Triallate	*	*	*
Triasulfuron	*	*	*
Tribenuron-methyl	P	P	P
Trifluralin	P	P	P
Fungicides			
Propiconazole	*		*

P Usage data are published for this active ingredient.
* Usage data are not published for this active ingredient.

Durum Wheat: Pesticide, Planted Acreage, Percent of Area Receiving Applications and Total Applied Program States and Total, 2004

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*
MT	570	99	508						
ND [1]	1,750	99	1,216						
Total [1]	2,320	99	1,724						

[1] Insufficient reports to publish data for one or more pesticide classes.

Durum Wheat: Agricultural Chemical Applications, Program States, 2004 [1]

Active Ingredient	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	36	1.0	0.37	0.38	321
2,4-D, Dimeth. salt	2	1.1	0.21	0.23	13
2,4-DP, Dimeth. salt	6	1.0	0.26	0.26	36
Acetic acid (2,4-D)	5	1.0	0.25	0.25	31
Bromoxynil	3	1.0	0.20	0.20	13
Bromoxynil octanoate	18	1.3	0.23	0.29	118
Clodinafop-propargil	16	1.0	0.05	0.05	19
Dicamba	23	1.3	0.07	0.09	51
Fenoxaprop	48	1.1	0.05	0.06	67
Flucarbazone-sodium	4	1.0	0.01	0.01	1
Fluroxypyr	9	1.0	0.08	0.08	15
Fluroxypyr 1-methylh	5	1.0	0.06	0.06	7
Glyphosate	46	1.1	0.41	0.45	482
MCPA	45	1.1	0.28	0.30	321
Thifensulfuron	14	1.0	0.01	0.01	4
Tribenuron-methyl	16	1.0	0.005	0.005	2
Trifluralin	10	1.0	0.41	0.41	92

[1] Planted acreage in 2004 for the 2 Program States was 2.3 million acres. States included are MT and ND.

Durum Wheat: Agricultural Chemical Applications, Montana, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	27	1.0	0.25	0.26	40
Clodinafop-propargil	28	1.0	0.07	0.07	11
Dicamba	56	1.5	0.07	0.10	32
Fenoxaprop	29	1.7	0.05	0.09	15
Glyphosate	48	1.3	0.39	0.48	131
MCPA	30	1.6	0.25	0.40	69
Tribenuron-methyl	12	1.0	0.004	0.004	([2])
Trifluralin	15	1.0	0.43	0.43	37

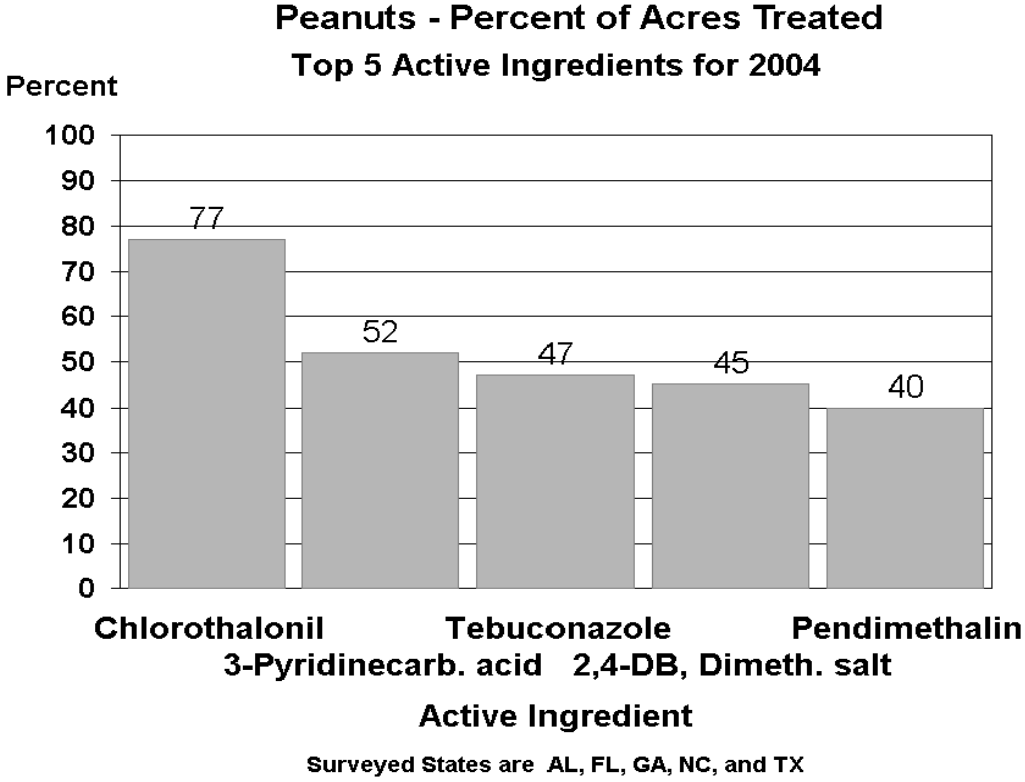
[1] Planted acreage in 2004 for Montana was 570,000 acres.
[2] Total applied is less than 500 lbs.

Durum Wheat: Agricultural Chemical Applications, North Dakota, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	39	1.0	0.40	0.41	281
Clodinafop-propargil	13	1.0	0.04	0.04	8
Dicamba	12	1.0	0.09	0.09	19
Fenoxaprop	55	1.0	0.05	0.05	52
Flucarbazone-sodium	5	1.0	0.01	0.01	1
Glyphosate	45	1.0	0.42	0.44	351
MCPA	50	1.0	0.28	0.28	251
Tribenuron-methyl	17	1.0	0.005	0.005	1
Trifluralin	8	1.0	0.40	0.40	56

[1] Planted acreage in 2004 for North Dakota was 1.8 million acres.

Peanuts: Number of Usable Reports, 2004



Peanuts: Fertilizer Use by State, 2004
Percent of Acres Treated and Total Applied

State	Planted Acreage	Percent of Acres Treated and Total Applied					
		Nitrogen		Phosphate		Potash	
	1,000 Acres	*Percent*	*Mil. lbs*	*Percent*	*Mil. lbs*	*Percent*	*Mil. lbs*
AL	200	70	4.3	79	8.6	75	12.4
FL	145	71	3.3	80	5.4	94	12.7
GA	620	48	5.3	59	17.5	51	23.7
NC	105	37	1.0	35	1.2	64	6.7
TX	240	86	14.4	77	10.6	62	9.3
Total	1,310	60	28.3	66	43.3	63	64.8

Peanuts: Fertilizer Primary Nutrient Applications, Program States and Total, 2004

Primary Nutrient	Planted Acreage	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	1,000 Acres	*Percent*	*Number*	*Pounds per Acre*	*Pounds per Acre*	*Mil. lbs*
Alabama	200					
Nitrogen		70	1.2	26	31	4.3
Phosphate		79	1.2	46	54	8.6
Potash		75	1.2	70	82	12.4
Florida	145					
Nitrogen		71	1.3	24	33	3.3
Phosphate		80	1.2	40	47	5.4
Potash		94	1.2	76	93	12.7
Georgia	620					
Nitrogen		48	1.2	15	18	5.3
Phosphate		59	1.1	42	48	17.5
Potash		51	1.1	65	74	23.7
North Carolina	105					
Nitrogen		37	1.3	20	25	1.0
Phosphate		35	1.0	32	33	1.2
Potash		64	1.1	94	101	6.7
Texas	240					
Nitrogen		86	1.7	41	70	14.4
Phosphate		77	1.1	53	57	10.6
Potash		62	1.1	57	63	9.3
Total	1,310					
Nitrogen		60	1.3	27	36	28.3
Phosphate		66	1.1	45	50	43.3
Potash		63	1.1	69	79	64.8

Peanuts: Active Ingredients and Publication Status By Program States, 2004

Active Ingredient	Program States					
	ALL	AL	FL	GA	NC	TX
Herbicides						
2,4-D	P	*	P	P		*
2,4-DB, Dimeth. salt	P	P	P	P	P	P
3-Pyridinecarb. acid	P	P	P	P	P	P
Acifluorfen	P	P	P	*	P	*
Alachlor	*				*	
Bentazon	P	*	P	P	P	*
Carfentrazone-ethyl	*	*				
Chlorimuron-ethyl	P	P	P	*	*	
Clethodim	P	*	P	P	P	*
Diclosulam	P	P	*	P	P	*
Dimethenamid	*			*	*	
Dimethenamid-P	*				*	*
Ethalfluralin	P	P	P	P	*	*
Fluazifop-P-butyl	*	*	*			
Flumioxazin	P			*	P	*
Glyphosate	P	*	P	P	*	P
Glyphosate diam salt	*	*				
Imazethapyr	P	*		*	P	P
Metolachlor	P	*		*	P	*
Paraquat	P	P	*	P	P	*
Pendimethalin	P	P	P	P	P	P
Pyridinecarb. acid	P	P	P	P	*	*
S-Metolachlor	P	P	P	P	P	P
Sethoxydim	P	P	P	P	P	P
Trifluralin	P	P	*	*	*	P

See footnote(s) at end of table.

--continued

Peanuts: Active Ingredients and Publication Status By Program States, 2004 (continued)

Active Ingredient	Program States					
	ALL	AL	FL	GA	NC	TX
Insecticides						
Acephate	P	P	*	*	P	
Aldicarb	P	P	*	P	P	*
Bt (Bacillus thur.)	*		*			
Carbaryl	P		P	*	*	*
Chlorpyrifos	P	*	*	P	P	
Cyfluthrin	*		*			
Cypermethrin	*	*				
Dimethoate	*		*			
Disulfoton	P	*	*		*	*
Esfenvalerate	P	*	P	P	P	*
Lambda-cyhalothrin	P	P	*	P	P	*
Methomyl	P	*	P	P	*	
Phorate	P	P	P	P	*	*
Propargite	*	*				(1)
Spinosad	*			*		
Zeta-cypermethrin	*		*			
Fungicides						
Azoxystrobin	P	*	*	P	P	P
Basic copper sulfate	*		*			
Boscalid	*				*	
Chlorothalonil	P	P	P	P	P	P
Copper hydroxide	*		*			
Fluazinam	P				P	
Flutolanil	P	*		P	*	
Mancozeb	*		*			
Maneb	*		*			
Mefenoxam	*					*
Metalaxyl	*					*
PCNB	*					*
Propiconazole	P	P	P	P	P	P
Pyraclostrobin	P	P	P	P	P	P
Sulfur	P	*	P	*	*	*
Tebuconazole	P	P	P	P	P	P
Thiophanate-methyl	P	*	*	*		*
Trifloxystrobin	P	P	P	*	*	*
Other Chemicals						
Chloropicrin	*			*		
Dichloropropene	*		*	*		
Metam-sodium	P				P	

P Usage data are published for this active ingredient.
* Usage data are not published for this active ingredient.
[1] Active ingredient used only as a spot treatment; rate per acre, application number, total applied, and area applied not available.

Peanuts: Pesticide, Planted Acreage, Percent of Area Receiving Applications and Total Applied Program States and Total, 2004

State	Planted Acreage	Area Receiving and Total Applied							
		Herbicide		Insecticide [1]		Fungicide		Other	
	1,000 Acres	*Percent*	*1,000 lbs*	*Percent*	*1,000 lbs*	*Percent*	*1,000 lbs*	*Percent*	*1,000 lbs*
AL	200	100	277	81	200	100	896		
FL [2]	145	100	298	88	199	100	835		
GA [2]	620	99	878	77	569	99	2,275		
NC	105	100	221	92	161	96	164	43	1,404
TX	240	94	258	3	2	67	154		
Total	1,310	98	1,932	66	1,131	93	4,324	4	1,741

[1] Total Applied excludes Bt's (Bacillus thuringiensis) and other biologicals. Quantities are not available because amounts of active ingredient are not comparable between products.
[2] Insufficient reports to publish data for one or more pesticide classes.

Peanuts: Agricultural Chemical Applications, Program States, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	4	1.6	0.49	0.76	37
2,4-DB, Dimeth. salt	45	1.5	0.23	0.34	203
3-Pyridinecarb. acid	52	1.0	0.01	0.01	7
Acifluorfen	14	1.0	0.31	0.32	61
Bentazon	30	1.1	0.49	0.54	211
Chlorimuron-ethyl	7	1.0	0.009	0.009	1
Clethodim	9	1.3	0.14	0.19	22
Diclosulam	13	1.0	0.02	0.02	4
Ethalfluralin	36	1.0	0.70	0.70	327
Flumioxazin	4	1.0	0.07	0.07	4
Glyphosate	18	1.2	0.67	0.80	187
Imazethapyr	4	1.0	0.03	0.03	2
Metolachlor	3	1.0	1.89	1.89	66
Paraquat	36	1.0	0.16	0.17	77
Pendimethalin	40	1.0	0.80	0.81	425
Pyridinecarb. acid	12	1.0	0.05	0.05	8
S-Metolachlor	13	1.1	1.28	1.41	232
Sethoxydim	5	1.3	0.18	0.23	16
Trifluralin	3	1.1	0.62	0.68	24
Insecticides					
Acephate	7	1.5	0.58	0.88	81
Aldicarb	27	1.1	1.08	1.16	404
Carbaryl	1	1.8	0.56	1.02	15
Chlorpyrifos	9	1.1	1.61	1.85	209
Disulfoton	1	1.0	0.82	0.82	12
Esfenvalerate	15	1.2	0.04	0.05	9
Lambda-cyhalothrin	9	1.3	0.02	0.03	3
Methomyl	9	1.6	0.40	0.63	76
Phorate	24	1.0	1.00	1.00	321
Fungicides					
Azoxystrobin	17	1.5	0.26	0.40	90
Chlorothalonil	77	3.8	0.92	3.50	3,542
Fluazinam	1	1.8	0.45	0.80	9
Flutolanil	7	1.6	0.67	1.08	95
Propiconazole	29	2.3	0.07	0.17	64
Pyraclostrobin	22	1.7	0.17	0.29	83
Sulfur	4	2.4	0.94	2.20	106
Tebuconazole	47	2.3	0.19	0.44	271
Thiophanate-methyl	2	1.0	0.21	0.22	5
Trifloxystrobin	4	2.4	0.06	0.16	9
Other Chemicals					
Metam-sodium	3	1.0	31.19	31.19	1,404

[1] Planted acreage in 2004 for the 5 Program States was 1.3 million acres. States included are AL, FL, GA, NC, and TX.

Peanuts: Agricultural Chemical Applications, Alabama, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-DB, Dimeth. salt	65	1.3	0.25	0.34	44
3-Pyridinecarb. acid	53	1.0	0.01	0.01	1
Acifluorfen	16	1.1	0.38	0.42	13
Chlorimuron-ethyl	8	1.0	0.009	0.009	([2])
Diclosulam	26	1.0	0.02	0.02	1
Ethalfluralin	53	1.0	0.70	0.70	74
Paraquat	49	1.0	0.15	0.15	15
Pendimethalin	29	1.0	0.85	0.85	49
Pyridinecarb. acid	20	1.0	0.03	0.03	1
S-Metolachlor	6	1.1	1.11	1.19	15
Sethoxydim	11	1.3	0.16	0.21	4
Trifluralin	2	1.0	0.51	0.51	2
Insecticides					
Acephate	18	2.1	0.70	1.50	54
Aldicarb	17	1.0	1.21	1.21	41
Lambda-cyhalothrin	14	1.1	0.03	0.03	1
Phorate	48	1.0	0.97	0.97	93
Fungicides					
Chlorothalonil	91	4.7	0.93	4.39	803
Propiconazole	45	3.2	0.07	0.21	19
Pyraclostrobin	13	2.4	0.15	0.36	9
Tebuconazole	37	2.5	0.19	0.49	37
Trifloxystrobin	14	3.2	0.06	0.20	5

[1] Planted acreage in 2004 for Alabama was 200,000 acres.
[2] Total applied is less than 500 lbs.

Peanuts: Agricultural Chemical Applications, Florida, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	10	1.1	0.57	0.61	9
2,4-DB, Dimeth. salt	42	2.2	0.26	0.56	34
3-Pyridinecarb. acid	47	1.0	0.01	0.01	1
Acifluorfen	25	1.0	0.38	0.38	14
Bentazon	31	1.5	0.51	0.74	33
Chlorimuron-ethyl	20	1.1	0.01	0.01	([2])
Clethodim	24	1.4	0.14	0.19	7
Glyphosate	44	1.3	0.63	0.83	54
Pendimethalin	49	1.0	0.81	0.81	58
Pyridinecarb. acid	43	1.1	0.06	0.06	4
S-Metolachlor	27	1.0	1.26	1.29	51
Sethoxydim	10	1.0	0.12	0.12	2
Insecticides					
Carbaryl	8	2.0	0.53	1.05	13
Esfenvalerate	31	1.7	0.05	0.09	4
Methomyl	31	2.6	0.41	1.05	47
Phorate	42	1.0	1.01	1.01	61
Fungicides					
Chlorothalonil	87	4.9	1.14	5.56	704
Propiconazole	29	1.3	0.07	0.09	4
Pyraclostrobin	20	2.3	0.16	0.37	11
Sulfur	16	1.5	1.49	2.20	52
Tebuconazole	48	1.6	0.16	0.25	18
Trifloxystrobin	9	1.2	0.10	0.11	1

[1] Planted acreage in 2004 for Florida was 145,000 acres.
[2] Total applied is less than 500 lbs.

Peanuts: Agricultural Chemical Applications, Georgia, 2004 [1]

Active Ingredient	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	5	1.8	0.49	0.86	28
2,4-DB, Dimeth. salt	44	1.5	0.22	0.32	87
3-Pyridinecarb. acid	66	1.0	0.009	0.01	4
Bentazon	38	1.0	0.47	0.49	116
Clethodim	8	1.4	0.13	0.19	9
Diclosulam	16	1.0	0.02	0.02	2
Ethalfluralin	46	1.0	0.73	0.73	206
Glyphosate	12	1.1	0.70	0.79	60
Paraquat	47	1.0	0.17	0.17	50
Pendimethalin	40	1.0	0.87	0.88	216
Pyridinecarb. acid	8	1.0	0.06	0.06	3
S-Metolachlor	3	1.0	1.84	1.84	34
Sethoxydim	4	1.5	0.21	0.30	8
Insecticides					
Aldicarb	38	1.1	1.05	1.17	275
Chlorpyrifos	10	1.0	1.90	1.90	113
Esfenvalerate	16	1.0	0.03	0.03	3
Lambda-cyhalothrin	11	1.3	0.02	0.03	2
Methomyl	9	1.0	0.42	0.42	24
Phorate	22	1.0	1.03	1.03	140
Fungicides					
Azoxystrobin	15	1.8	0.26	0.48	45
Chlorothalonil	92	3.8	0.86	3.25	1,856
Flutolanil	11	1.6	0.69	1.08	77
Propiconazole	33	2.3	0.07	0.17	34
Pyraclostrobin	24	1.5	0.18	0.28	41
Tebuconazole	55	2.6	0.20	0.50	170

[1] Planted acreage in 2004 for Georgia was 620,000 acres.
[2] Total applied is less than 500 lbs.

Peanuts: Agricultural Chemical Applications, North Carolina, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-DB, Dimeth. salt	73	1.2	0.21	0.27	20
3-Pyridinecarb. acid	22	1.0	0.01	0.01	([2])
Acifluorfen	35	1.1	0.29	0.32	12
Bentazon	54	1.1	0.49	0.53	30
Clethodim	20	1.0	0.16	0.16	3
Diclosulam	9	1.0	0.02	0.02	([2])
Flumioxazin	15	1.0	0.07	0.07	1
Imazethapyr	8	1.0	0.02	0.02	([2])
Metolachlor	4	1.0	1.87	1.90	9
Paraquat	33	1.1	0.15	0.16	6
Pendimethalin	36	1.0	0.69	0.71	27
S-Metolachlor	62	1.2	1.21	1.49	97
Sethoxydim	5	1.1	0.17	0.18	1
Insecticides					
Acephate	23	1.3	0.56	0.72	18
Aldicarb	50	1.0	1.13	1.13	60
Chlorpyrifos	28	1.0	1.82	1.82	53
Esfenvalerate	20	1.2	0.03	0.03	1
Lambda-cyhalothrin	12	1.3	0.02	0.03	([2])
Fungicides					
Azoxystrobin	16	1.5	0.27	0.40	7
Chlorothalonil	62	1.6	0.85	1.37	89
Fluazinam	11	1.8	0.45	0.80	9
Propiconazole	28	1.6	0.07	0.11	3
Pyraclostrobin	42	1.6	0.16	0.26	11
Tebuconazole	82	2.1	0.20	0.41	35
Other Chemicals					
Metam-sodium	43	1.0	31.19	31.19	1,404

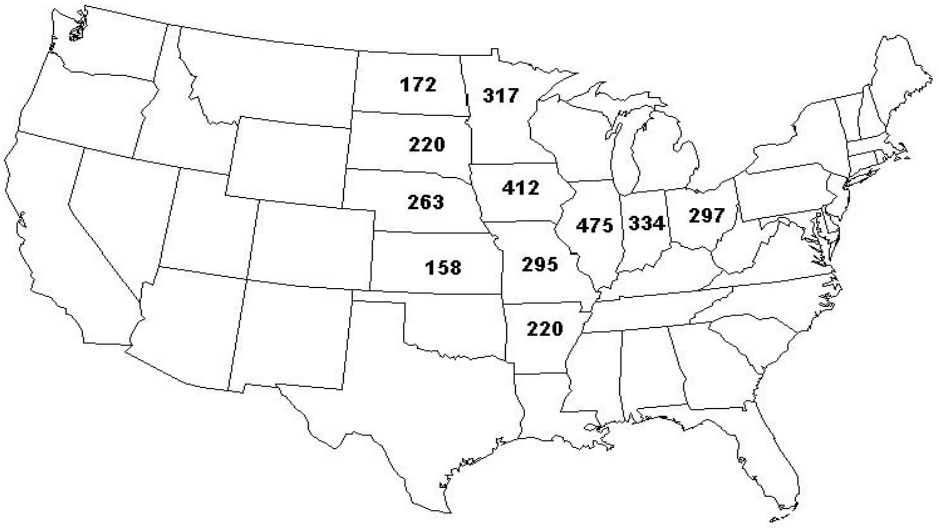
[1] Planted acreage in 2004 for North Carolina was 105,000 acres.
[2] Total applied is less than 500 lbs.

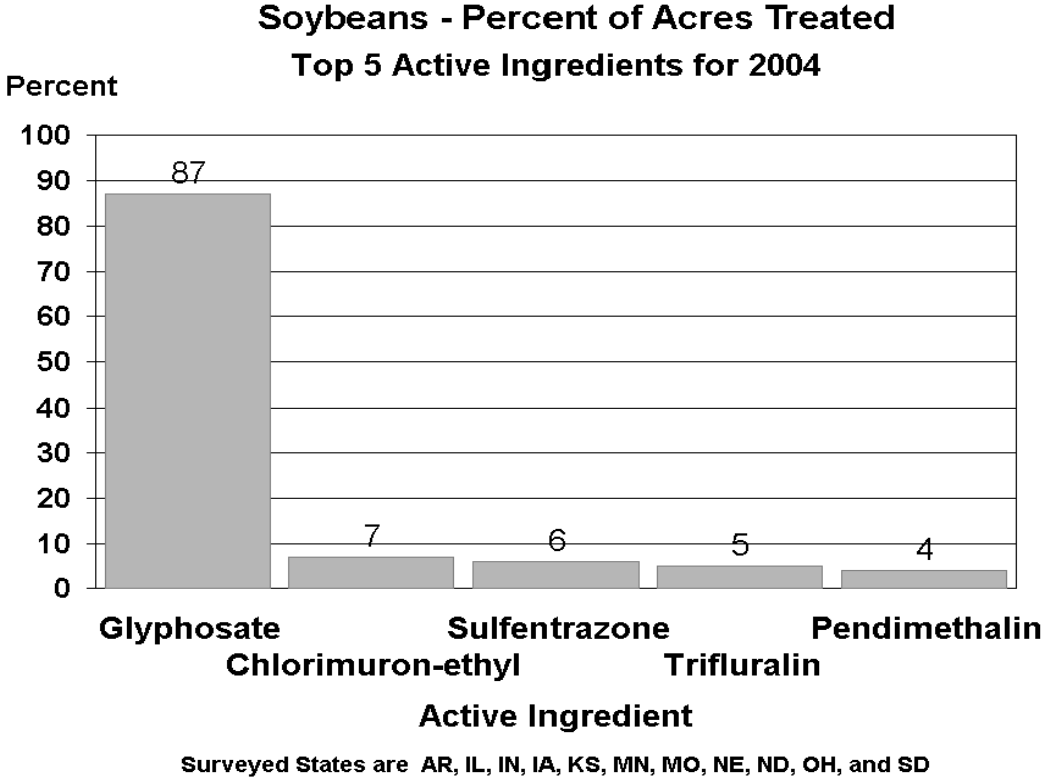
Peanuts: Agricultural Chemical Applications, Texas, 2004 [1]

Active Ingredient	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-DB, Dimeth. salt	20	1.3	0.29	0.36	17
3-Pyridinecarb. acid	29	1.0	0.009	0.009	1
Glyphosate	24	1.2	0.69	0.83	49
Imazethapyr	15	1.0	0.03	0.03	1
Pendimethalin	46	1.0	0.68	0.68	74
S-Metolachlor	11	1.0	1.23	1.23	34
Sethoxydim	1	1.0	0.24	0.25	1
Trifluralin	11	1.1	0.60	0.68	17
Fungicides					
Azoxystrobin	36	1.1	0.27	0.31	27
Chlorothalonil	27	1.4	0.95	1.38	91
Propiconazole	6	1.1	0.19	0.22	3
Pyraclostrobin	18	1.2	0.20	0.24	10
Tebuconazole	18	1.4	0.19	0.27	12

[1] Planted acreage in 2004 for Texas was 240,000 acres.
[2] Total applied is less than 500 lbs.

Soybeans: Number of Usable Reports, 2004





Soybeans: Fertilizer Use by State, 2004
Percent of Acres Treated and Total Applied

State	Planted Acreage	Percent of Acres Treated and Total Applied					
		Nitrogen		Phosphate		Potash	
	1,000 Acres	*Percent*	*Mil. lbs*	*Percent*	*Mil. lbs*	*Percent*	*Mil. lbs*
AR	3,200	10	9.3	38	67.2	38	98.4
IL	9,950	14	49.5	18	185.1	32	525.2
IN	5,550	15	30.7	25	121.4	40	331.5
IA	10,200	10	38.4	11	99.8	15	157.2
KS	2,800	22	22.0	25	34.2	5	7.1
MN	7,300	19	41.3	18	81.2	16	85.6
MO	5,000	20	23.4	35	128.1	38	206.3
NE	4,800	25	24.6	28	76.8	7	12.4
ND	3,750	64	61.3	63	113.1	11	15.7
OH	4,450	20	19.0	24	73.0	43	282.0
SD	4,150	42	38.6	45	116.0	8	12.5
Total	61,150	21	358.1	26	1,095.9	23	1,733.9

Soybeans: Fertilizer Primary Nutrient Applications, Program States and Total, 2004

Primary Nutrient	Planted Acreage	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	1,000 Acres	*Percent*	*Number*	*Pounds per Acre*	*Pounds per Acre*	*Mil. lbs*
Arkansas	3,200					
Nitrogen		10	1.4	22	31	9.3
Phosphate		38	1.3	42	55	67.2
Potash		38	1.3	61	81	98.4
Illinois	9,950					
Nitrogen		14	1.6	22	36	49.5
Phosphate		18	1.6	66	103	185.1
Potash		32	1.6	103	164	525.2
Indiana	5,550					
Nitrogen		15	1.6	24	38	30.7
Phosphate		25	1.5	58	88	121.4
Potash		40	1.5	100	150	331.5
Iowa	10,200					
Nitrogen		10	1.6	24	39	38.4
Phosphate		11	1.5	58	90	99.8
Potash		15	1.5	71	103	157.2
Kansas	2,800					
Nitrogen		22	1.9	19	36	22.0
Phosphate		25	1.5	32	48	34.2
Potash		5	1.8	29	52	7.1
Minnesota	7,300					
Nitrogen		19	1.7	17	30	41.3
Phosphate		18	1.5	39	60	81.2
Potash		16	1.6	46	76	85.6
Missouri	5,000					
Nitrogen		20	1.5	16	24	23.4
Phosphate		35	1.5	49	72	128.1
Potash		38	1.5	73	109	206.3
Nebraska	4,800					
Nitrogen		25	1.4	14	20	24.6
Phosphate		28	1.4	41	57	76.8
Potash		7	1.4	27	37	12.4
North Dakota	3,750					
Nitrogen		64	1.4	19	25	61.3
Phosphate		63	1.3	36	48	113.1
Potash		11	1.5	26	39	15.7
Ohio	4,450					
Nitrogen		20	1.5	14	22	19.0
Phosphate		24	1.5	46	68	73.0
Potash		43	1.4	103	148	282.0

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Soybeans: Fertilizer Primary Nutrient Applications, Program States and Total, 2004 (continued)

Primary Nutrient	Planted Acreage	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	1,000 Acres	*Percent*	*Number*	*Pounds per Acre*	*Pounds per Acre*	*Mil. lbs*
South Dakota	4,150					
Nitrogen		42	1.5	15	22	38.6
Phosphate		45	1.4	44	62	116.0
Potash		8	1.6	22	36	12.5
Total	61,150					
Nitrogen		21	1.5	18	28	358.1
Phosphate		26	1.5	47	69	1,095.9
Potash		23	1.5	81	121	1,733.9

Soybeans: Active Ingredients and Publication Status By Program States, 2004

Active Ingredient	Program States						
	ALL	AR	IL	IN	IA	KS	MN
Herbicides							
2,4-D	P		P	P	*	*	
2,4-D, Dimeth. salt	*			*			
2,4-DB, Dimeth. salt	*						
2,4-DP, Dimeth. salt	P	*	*	P	*		
Acetamide	P		*	*	*	*	
Acetic acid (2,4-D)	P		P	P	*		*
Acetochlor	*						*
Acifluorfen	P	*	*		*	*	
Alachlor	P			*	*	*	*
Atrazine	*		*	*			
Barban	*		*			*	
Bentazon	P	*					
Butoxy. ester 2,4-D	P		*	P	*	*	
Carfentrazone-ethyl	*		*			*	
Chlorimuron-ethyl	P	P	P	P	P	P	*
Clethodim	P	*	P	*	P	P	P
Clomazone	*	(1)	*		*		
Cloransulam-methyl	P	*	P	P	P		P
Dicamba	*			(1)			
Dicamba, Dimet. salt	*			*			
Dichlorprop	*		*				
Dimethenamid-P	*						
Ethalfluralin	*				*		
Fenoxaprop	P		P	P	*	*	*
Fluazifop-P-butyl	P		P	P	*		*
Flumetsulam	P		*	*	*		
Flumiclorac-pentyl	P	*	*		*	*	*
Flumioxazin	P		P	P	*	*	*
Fomesafen	P	P	P	P	P		P
Glyphosate	P	P	P	P	P	P	P
Glyphosate diam salt	P	*	P	P	*	*	*
Imazamethabenz	*	*					
Imazamox	P		P		P		P
Imazaquin	P	*	*	P		*	
Imazethapyr	P		P	P	P	*	P
Lactofen	P		P	*	P	*	*
Linuron	*						*
MCPA, sodium salt	P		*	P		*	
Mesotrione	*				*		
Metolachlor	P	*	*	*			*
Metribuzin	P		P	*	P	*	
Nicosulfuron	*			(1)	*		
Paraquat	P		*	*			
Pendimethalin	P		P	P	P	P	P
Primisulfuron	*			(1)	*		
Propanoic acid	*			*			
Prosulfuron	*				*		
Quizalofop-P-ethyl	P		*	*			*
Quizalofop-ethyl	*				*		
Rimsulfuron	*				*		
S-Metolachlor	P	*	P	*	P		*
Sethoxydim	P	*	*	*	*		*
Simazine	*				*		
Sulfentrazone	P		P	P	P	*	*
Sulfosate	P	*	P	*	P	*	P
Thifensulfuron	P		P	*	*	*	*
Tribenuron-methyl	P			P			
Triclopyr	(1)	(1)					
Trifluralin	P	*	P		P	*	P

See footnote(s) at end of table. --continued

Soybeans: Active Ingredients and Publication Status By Program States, 2004 (continued)

Active Ingredient	Program States						
	ALL	AR	IL	IN	IA	KS	MN
Insecticides							
Benzoic acid	*	*					
Carbofuran	*						*
Chlorpyrifos	P		*				
Cyfluthrin	*						
Dimethoate	*	*				*	
Endosulfan	*	*					
Esfenvalerate	P				*		
Fipronil	*						
Imidacloprid	*		*				
Lambda-cyhalothrin	P	P	*	*	P	*	*
Methyl parathion	P	*					
Permethrin	P				*		
Zeta-cypermethrin	P	*	*	*		*	
Fungicides							
Azoxystrobin	P	P	*	*			
Mefenoxam	*						
PCNB	*						
Triadimefon	*						
Other Chemicals							
Garlic oil	*						

See footnote(s) at end of table.

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Soybeans: Active Ingredients and Publication Status By Program States, 2004 (continued)

Active Ingredient	Program States				
	MO	NE	ND	OH	SD
Herbicides					
2,4-D	P	*		P	
2,4-D, Dimeth. salt					
2,4-DB, Dimeth. salt	*				
2,4-DP, Dimeth. salt	*			*	
Acetamide		P		*	*
Acetic acid (2,4-D)	*			P	*
Acetochlor					
Acifluorfen			*		
Alachlor		P			
Atrazine		*		*	
Barban					*
Bentazon		*	P	*	
Butoxy. ester 2,4-D	*	*		P	*
Carfentrazone-ethyl	*	*			
Chlorimuron-ethyl	P	P		P	*
Clethodim	*	*	*	P	P
Clomazone				*	
Cloransulam-methyl	*	*	*	P	*
Dicamba		*	*		
Dicamba, Dimet. salt					
Dichlorprop					
Dimethenamid-P		*			
Ethalfluralin			*		
Fenoxaprop	*			*	*
Fluazifop-P-butyl	*			*	*
Flumetsulam	*				
Flumiclorac-pentyl	P				
Flumioxazin	*	*		P	*
Fomesafen	*	*	P	P	
Glyphosate	P	P	P	P	P
Glyphosate diam salt	P	P	*	P	P
Imazamethabenz					
Imazamox		*	P	*	*
Imazaquin	*	*		P	
Imazethapyr	*	P	P	P	P
Lactofen	*			*	
Linuron					
MCPA, sodium salt				P	
Mesotrione					
Metolachlor					
Metribuzin	*	P		P	*
Nicosulfuron					
Paraquat	*	*			
Pendimethalin	P	P	*	*	P
Primisulfuron					
Propanoic acid					
Prosulfuron					
Quizalofop-P-ethyl	*		*	*	*
Quizalofop-ethyl				*	*
Rimsulfuron					
S-Metolachlor	*			P	*
Sethoxydim			P		
Simazine	*				
Sulfentrazone	P	P	*	P	*
Sulfosate	*	*		P	P
Thifensulfuron	*		*	P	
Tribenuron-methyl	*			*	
Triclopyr					
Trifluralin	P	P	P	*	P

See footnote(s) at end of table.

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Soybeans: Active Ingredients and Publication Status By Program States, 2004 (continued)

Active Ingredient	Program States				
	MO	NE	ND	OH	SD
Insecticides					
Benzoic acid				*	
Carbofuran					
Chlorpyrifos		P			*
Cyfluthrin		*		*	*
Dimethoate					
Endosulfan					
Esfenvalerate		*	*		P
Fipronil		*			
Imidacloprid					
Lambda-cyhalothrin	*	*		P	P
Methyl parathion		*			
Permethrin		*	*		*
Zeta-cypermethrin	*	*		*	*
Fungicides					
Azoxystrobin	*			*	
Mefenoxam		*			
PCNB		*			
Triadimefon				*	
Other Chemicals					
Garlic oil			*		

P Usage data are published for this active ingredient.
* Usage data are not published for this active ingredient.
[1] Active ingredient used only as a spot treatment; rate per acre, application number, total applied, and area applied not available.

Soybeans: Pesticide, Planted Acreage, Percent of Area Receiving Applications and Total Applied Program States and Total, 2004

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	3,200	92	3,642	7	57	6	23		
IL [1]	9,950	98	10,832	1	15				
IN [1]	5,550	99	7,037						
IA	10,200	98	11,964	1	5				
KS [1]	2,800	97	3,225						
MN [1]	7,300	98	8,289						
MO [1]	5,000	98	5,394						
NE [1]	4,800	94	5,625	15	274				
ND [1]	3,750	99	4,460						
OH	4,450	98	5,597	3	6	2	8		
SD	4,150	96	4,763	19	70				
Total [1]	61,150	97	70,828	4	497	1	52		

[1] Insufficient reports to publish data for one or more pesticide classes.

Soybeans: Agricultural Chemical Applications, Program States, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	2	1.1	0.46	0.51	771
2,4-DP, Dimeth. salt	1	1.1	0.42	0.46	200
Acetamide	1	1.0	0.23	0.23	99
Acetic acid (2,4-D)	1	1.0	0.47	0.47	375
Acifluorfen	*	1.0	0.20	0.20	52
Alachlor	*	1.0	1.46	1.46	240
Bentazon	*	1.5	0.72	1.05	221
Butoxy. ester 2,4-D	1	1.0	0.39	0.41	236
Chlorimuron-ethyl	7	1.0	0.02	0.02	77
Clethodim	2	1.0	0.10	0.10	145
Cloransulam-methyl	2	1.0	0.03	0.03	36
Fenoxaprop	1	1.1	0.11	0.12	88
Fluazifop-P-butyl	1	1.1	0.03	0.04	25
Flumetsulam	*	1.0	0.04	0.04	9
Flumiclorac-pentyl	1	1.0	0.02	0.02	6
Flumioxazin	1	1.0	0.07	0.07	57
Fomesafen	2	1.2	0.20	0.23	346
Glyphosate	87	1.5	0.73	1.08	57,701
Glyphosate diam salt	2	1.3	0.70	0.91	1,184
Imazamox	2	1.0	0.03	0.03	27
Imazaquin	1	1.1	0.09	0.10	36
Imazethapyr	3	1.0	0.05	0.05	97
Lactofen	1	1.0	0.11	0.11	56
MCPA, sodium salt	1	1.0	0.68	0.68	272
Metolachlor	*	1.0	1.60	1.60	164
Metribuzin	2	1.0	0.24	0.24	278
Paraquat	*	1.0	0.67	0.67	115
Pendimethalin	4	1.0	0.86	0.87	2,082
Quizalofop-P-ethyl	*	1.0	0.05	0.05	12
S-Metolachlor	1	1.0	1.22	1.28	725
Sethoxydim	*	1.2	0.21	0.25	59
Sulfentrazone	6	1.1	0.11	0.12	462
Sulfosate	2	1.2	1.20	1.49	1,613
Thifensulfuron	1	1.0	0.002	0.002	1
Tribenuron-methyl	*	1.0	0.007	0.007	1
Trifluralin	5	1.0	0.83	0.84	2,689
Insecticides					
Chlorpyrifos	1	1.0	0.45	0.45	309
Esfenvalerate	*	1.0	0.06	0.06	13
Lambda-cyhalothrin	1	1.0	0.02	0.02	16
Methyl parathion	*	1.0	0.34	0.34	48
Permethrin	*	1.0	0.10	0.10	11
Zeta-cypermethrin	*	1.0	0.03	0.03	9
Fungicides					
Azoxystrobin	1	1.0	0.13	0.14	44

* Area applied is less than 0.5 percent.
[1] Planted acreage in 2004 for the 11 Program States was 61.2 million acres. States included are AR, IL, IN, IA, KS, MN, MO, NE, ND, OH, and SD.

Soybeans: Agricultural Chemical Applications, Arkansas, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Chlorimuron-ethyl	2	1.2	0.008	0.01	1
Fomesafen	5	1.6	0.14	0.23	41
Glyphosate	90	1.7	0.73	1.21	3,495
Insecticides					
Lambda-cyhalothrin	4	1.0	0.01	0.01	1
Fungicides					
Azoxystrobin	6	1.0	0.12	0.13	23

[1] Planted acreage in 2004 for Arkansas was 3.2 million acres.

Soybeans: Agricultural Chemical Applications, Illinois, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	5	1.0	0.42	0.42	224
Acetic acid (2,4-D)	4	1.0	0.43	0.43	167
Chlorimuron-ethyl	10	1.0	0.02	0.02	17
Clethodim	3	1.0	0.09	0.09	24
Cloransulam-methyl	2	1.0	0.03	0.03	8
Fenoxaprop	2	1.0	0.11	0.11	24
Fluazifop-P-butyl	2	1.0	0.03	0.03	7
Flumioxazin	3	1.0	0.06	0.06	20
Fomesafen	3	1.0	0.24	0.24	79
Glyphosate	83	1.3	0.74	0.99	8,232
Glyphosate diam salt	5	1.2	0.64	0.80	430
Imazamox	3	1.0	0.03	0.03	9
Imazethapyr	3	1.0	0.06	0.06	15
Lactofen	2	1.0	0.10	0.10	16
Metribuzin	3	1.0	0.30	0.30	76
Pendimethalin	3	1.0	1.00	1.00	328
S-Metolachlor	1	1.0	1.26	1.26	143
Sulfentrazone	9	1.1	0.09	0.10	92
Sulfosate	2	1.2	1.22	1.50	351
Thifensulfuron	1	1.0	0.001	0.001	([2])
Trifluralin	3	1.0	0.99	0.99	283

[1] Planted acreage in 2004 for Illinois was 10.0 million acres.
[2] Total applied is less than 500 lbs.

Soybeans: Agricultural Chemical Applications, Indiana, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	4	1.0	0.39	0.39	94
2,4-DP, Dimeth. salt	3	1.1	0.46	0.53	88
Acetic acid (2,4-D)	4	1.0	0.54	0.54	117
Butoxy. ester 2,4-D	3	1.0	0.43	0.43	80
Chlorimuron-ethyl	12	1.0	0.02	0.02	12
Cloransulam-methyl	1	1.0	0.02	0.02	2
Fenoxaprop	3	1.0	0.15	0.15	25
Fluazifop-P-butyl	3	1.0	0.04	0.04	7
Flumioxazin	2	1.0	0.05	0.05	6
Fomesafen	5	1.0	0.27	0.27	78
Glyphosate	92	1.5	0.74	1.13	5,765
Glyphosate diam salt	2	1.5	0.91	1.35	129
Imazaquin	2	1.2	0.07	0.08	9
Imazethapyr	2	1.0	0.04	0.04	5
MCPA, sodium salt	3	1.0	0.67	0.67	98
Pendimethalin	2	1.0	0.68	0.68	64
Sulfentrazone	9	1.0	0.10	0.10	52
Tribenuron-methyl	2	1.0	0.009	0.009	1

[1] Planted acreage in 2004 for Indiana was 5.6 million acres.

Soybeans: Agricultural Chemical Applications, Iowa, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Chlorimuron-ethyl	6	1.1	0.02	0.02	13
Clethodim	2	1.0	0.07	0.07	15
Cloransulam-methyl	3	1.0	0.02	0.02	6
Fomesafen	2	1.4	0.19	0.26	57
Glyphosate	87	1.4	0.74	1.01	9,012
Imazamox	1	1.0	0.03	0.03	4
Imazethapyr	5	1.1	0.05	0.06	28
Lactofen	1	1.0	0.10	0.10	15
Metribuzin	1	1.0	0.24	0.24	28
Pendimethalin	7	1.0	0.82	0.84	641
S-Metolachlor	1	1.0	1.52	1.52	204
Sulfentrazone	8	1.1	0.11	0.12	97
Sulfosate	2	1.6	1.09	1.74	368
Trifluralin	14	1.0	0.78	0.79	1,152
Insecticides					
Lambda-cyhalothrin	1	1.0	0.02	0.02	2

[1] Planted acreage in 2004 for Iowa was 10.2 million acres.

Soybeans: Agricultural Chemical Applications, Kansas, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Chlorimuron-ethyl	4	1.1	0.008	0.009	1
Clethodim	5	1.0	0.09	0.09	13
Glyphosate	93	1.7	0.67	1.13	2,936
Pendimethalin	4	1.0	0.79	0.79	81

[1] Planted acreage in 2004 for Kansas was 2.8 million acres.

Soybeans: Agricultural Chemical Applications, Minnesota, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Clethodim	3	1.1	0.15	0.16	38
Cloransulam-methyl	5	1.1	0.03	0.03	12
Fomesafen	3	1.2	0.17	0.20	41
Glyphosate	83	1.6	0.72	1.11	6,762
Imazamox	4	1.0	0.02	0.02	7
Imazethapyr	3	1.0	0.04	0.04	9
Pendimethalin	4	1.0	0.80	0.80	235
Sulfosate	2	1.0	1.16	1.16	198
Trifluralin	11	1.0	0.79	0.81	651

[1] Planted acreage in 2004 for Minnesota was 7.3 million acres.

Soybeans: Agricultural Chemical Applications, Missouri, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	4	1.7	0.63	1.08	238
Chlorimuron-ethyl	7	1.0	0.02	0.02	8
Flumiclorac-pentyl	3	1.1	0.02	0.02	2
Glyphosate	90	1.3	0.79	1.05	4,717
Glyphosate diam salt	1	1.2	0.74	0.87	42
Pendimethalin	2	1.0	0.92	0.92	81
Sulfentrazone	6	1.1	0.13	0.14	41
Trifluralin	2	1.2	1.08	1.26	130

[1] Planted acreage in 2004 for Missouri was 5.0 million acres.

Soybeans: Agricultural Chemical Applications, Nebraska, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Acetamide	5	1.0	0.15	0.15	39
Alachlor	2	1.0	1.48	1.48	130
Chlorimuron-ethyl	5	1.0	0.03	0.03	8
Glyphosate	87	1.5	0.73	1.06	4,447
Glyphosate diam salt	4	1.2	0.73	0.91	168
Imazethapyr	6	1.0	0.05	0.05	14
Metribuzin	6	1.0	0.19	0.19	55
Pendimethalin	9	1.0	0.88	0.88	380
Sulfentrazone	6	1.1	0.15	0.17	48
Trifluralin	5	1.0	0.75	0.75	165
Insecticides					
Chlorpyrifos	11	1.0	0.46	0.46	255

[1] Planted acreage in 2004 for Nebraska was 4.8 million acres.

Soybeans: Agricultural Chemical Applications, North Dakota, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Bentazon	4	1.6	0.79	1.28	185
Fomesafen	2	1.1	0.14	0.15	13
Glyphosate	88	1.9	0.65	1.20	3,963
Imazamox	5	1.0	0.02	0.02	4
Imazethapyr	5	1.1	0.04	0.05	9
Sethoxydim	3	1.4	0.23	0.32	37
Trifluralin	3	1.0	1.04	1.04	112

[1] Planted acreage in 2004 for North Dakota was 3.8 million acres.

Soybeans: Agricultural Chemical Applications, Ohio, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	5	1.0	0.46	0.47	114
Acetic acid (2,4-D)	3	1.0	0.52	0.52	58
Butoxy. ester 2,4-D	1	1.0	0.51	0.51	29
Chlorimuron-ethyl	16	1.0	0.02	0.02	14
Clethodim	5	1.0	0.11	0.11	25
Cloransulam-methyl	4	1.0	0.03	0.03	5
Flumioxazin	2	1.0	0.08	0.08	8
Fomesafen	2	1.0	0.26	0.26	21
Glyphosate	87	1.4	0.79	1.12	4,332
Glyphosate diam salt	2	1.2	0.81	0.95	81
Imazaquin	3	1.0	0.12	0.12	16
Imazethapyr	2	1.0	0.05	0.05	5
MCPA, sodium salt	3	1.0	0.79	0.79	96
Metribuzin	7	1.0	0.29	0.29	90
S-Metolachlor	5	1.1	1.17	1.33	267
Sulfentrazone	14	1.0	0.11	0.11	68
Sulfosate	2	1.3	1.21	1.62	162
Thifensulfuron	3	1.0	0.002	0.002	([2])
Insecticides					
Lambda-cyhalothrin	2	1.1	0.02	0.02	3

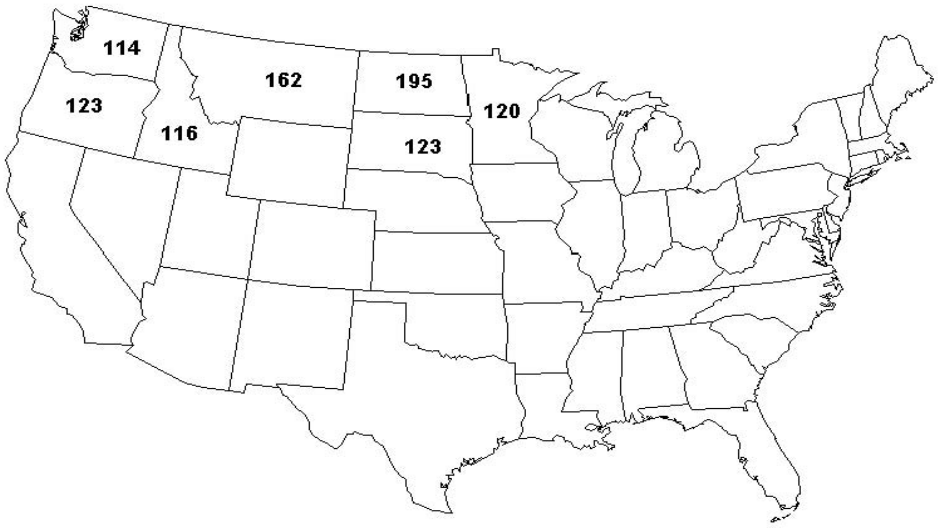
[1] Planted acreage in 2004 for Ohio was 4.5 million acres.
[2] Total applied is less than 500 lbs.

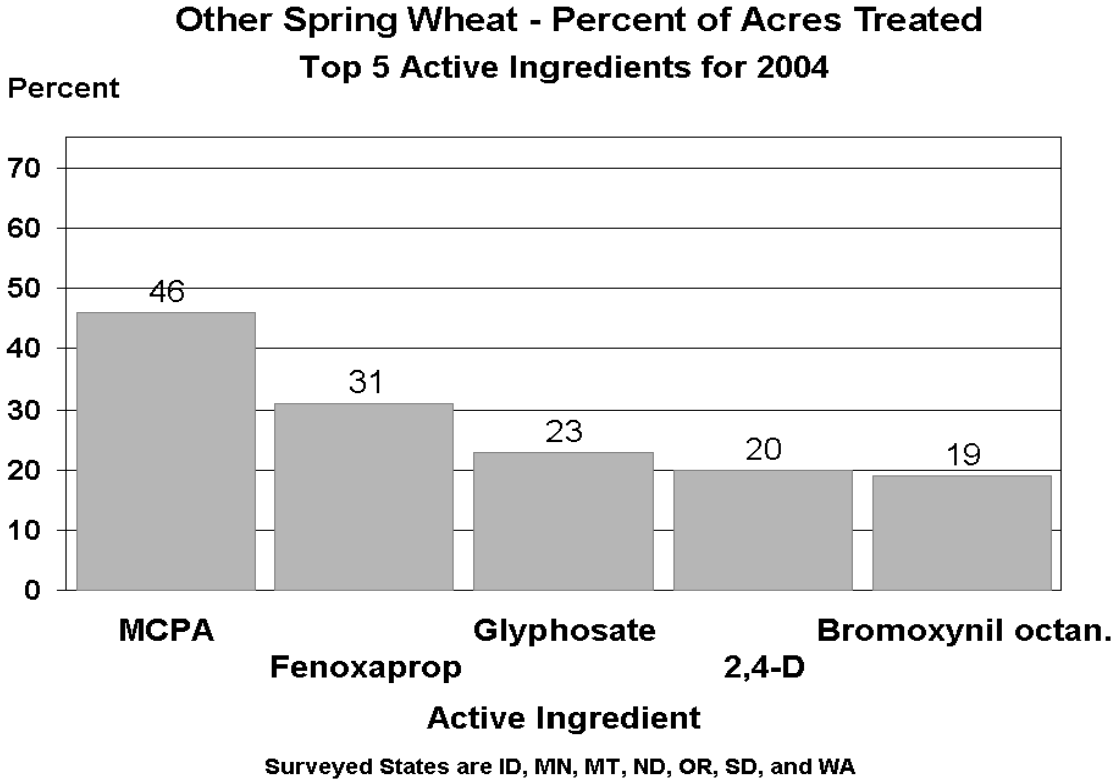
Soybeans: Agricultural Chemical Applications, South Dakota, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Clethodim	2	1.2	0.08	0.10	7
Glyphosate	89	1.6	0.68	1.09	4,040
Glyphosate diam salt	2	1.0	0.69	0.69	52
Imazethapyr	3	1.0	0.05	0.05	6
Pendimethalin	5	1.0	0.83	0.83	168
Sulfosate	5	1.2	1.26	1.47	276
Trifluralin	4	1.0	0.89	0.89	158
Insecticides					
Esfenvalerate	4	1.0	0.05	0.05	8
Lambda-cyhalothrin	10	1.0	0.02	0.02	8

[1] Planted acreage in 2004 for South Dakota was 4.2 million acres.

Other Spring Wheat: Number of Usable Reports, 2004





Other Spring Wheat: Fertilizer Use by State, 2004
Percent of Acres Treated and Total Applied

State	Planted Acreage	Percent of Acres Treated and Total Applied					
		Nitrogen		Phosphate		Potash	
	1,000 Acres	*Percent*	*Mil. lbs*	*Percent*	*Mil. lbs*	*Percent*	*Mil. lbs*
ID	500	93	56.1	63	12.7	23	4.4
MN	1,700	98	180.1	91	75.5	54	34.8
MT	3,000	79	134.6	69	72.6	13	9.0
ND	6,200	98	691.9	86	269.0	27	39.9
OR	180	91	9.7	28	1.7	9	0.5
SD	1,600	92	132.5	68	53.2	19	8.5
WA	530	100	45.4	67	7.4	9	2.1
Total	13,710	93	1,250.3	79	492.1	25	99.2

Other Spring Wheat: Fertilizer Primary Nutrient Applications, Program States and Total, 2004

Primary Nutrient	Planted Acreage	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	1,000 Acres	*Percent*	*Number*	*Pounds per Acre*	*Pounds per Acre*	*Mil. lbs*
Idaho	500					
Nitrogen		93	1.7	71	121	56.1
Phosphate		63	1.2	33	41	12.7
Potash		23	1.2	30	37	4.4
Minnesota	1,700					
Nitrogen		98	1.6	67	108	180.1
Phosphate		91	1.1	43	49	75.5
Potash		54	1.2	32	38	34.8
Montana	3,000					
Nitrogen		79	1.7	34	57	134.6
Phosphate		69	1.3	26	35	72.6
Potash		13	1.4	16	22	9.0
North Dakota	6,200					
Nitrogen		98	2.5	46	114	691.9
Phosphate		86	1.6	32	50	269.0
Potash		27	1.5	16	24	39.9
Oregon	180					
Nitrogen		91	1.2	50	59	9.7
Phosphate		28	1.1	32	34	1.7
Potash		9	1.0	33	34	0.5
South Dakota	1,600					
Nitrogen		92	1.7	54	90	132.5
Phosphate		68	1.2	40	49	53.2
Potash		19	1.3	22	28	8.5
Washington	530					
Nitrogen		100	1.4	59	86	45.4
Phosphate		67	1.2	17	21	7.4
Potash		9	1.1	38	43	2.1
Total	13,710					
Nitrogen		93	2.0	48	98	1,250.3
Phosphate		79	1.4	33	46	492.1
Potash		25	1.4	21	29	99.2

Other Spring Wheat: Active Ingredients and Publication Status By Program States, 2004

Active Ingredient	Program States							
	ALL	ID	MN	MT	ND	OR	SD	WA
Herbicides								
2,4-D	P	P	P	P	P	P	P	P
2,4-D, Dimeth. salt	P		*	*	*	*	*	P
2,4-DB, Dimeth. salt	*				*			
2,4-DP, Dimeth. salt	P	P	P	P	P	P	P	P
Acetic acid (2,4-D)	P	*	P	P	P	*	*	*
Alachlor	*	*			*			
Bromoxynil	P	P	P	P	P	P	P	P
Bromoxynil octanoate	P	P	P	*	P		P	*
Butoxy. ester 2,4-D	P	*		P	*	P	*	
Carfentrazone-ethyl	P			*		*		*
Chlorsulfuron	P			*		*		*
Clodinafop-propargil	P	P	P	P	P	*	*	P
Clopyralid	P	*	P	*	P	*	*	*
Dicamba	P	*	P	P	P	*	P	P
Dicamba, Dimet. salt	*		*				*	*
Dicamba, Sodium salt	P			*	*			*
Diclofop-methyl	*	*				*	*	
Difenzoquat	*	*		*				
Diuron	*							*
Fenoxaprop	P	P	P	P	P	P	P	P
Flucarbazone-sodium	P	*	P		P	*		P
Fluroxypyr	P	P	P	P	P	*	P	*
Fluroxypyr 1-methylh	P	*	*	*	P	*	*	
Glyphosate	P	P	P	P	P	P	P	P
Glyphosate diam salt	*			*				
Imazamethabenz	P	*		*				
Imazethapyr	*	*						
MCPA	P	P	P	P	P	P	P	P
MCPA, dimethyl. salt	P	P	P	*	*	P	P	P
MCPA-EHE	P		*		*			
Metribuzin	*	(1)				*		
Metsulfuron-methyl	P	*		P	*	P	P	P
Paraquat	*							*
Picloram	P			*				*
Prosulfuron	P	P				*		*
Quizalofop-P-ethyl	*				*			
Sulfosate	*		*	*	*			
Sulfosulfuron	*					*	*	*
Thifensulfuron	P	P	P	P	P	P	P	P
Tralkoxydim	P	P		*			*	
Triallate	P			*	*			P
Triasulfuron	P			P			*	*
Tribenuron-methyl	P	P	P	P	P	P	P	P
Trifluralin	P			*	*			

See footnote(s) at end of table.

--continued

Other Spring Wheat: Active Ingredients and Publication Status By Program States, 2004 (continued)

Active Ingredient	Program States							
	ALL	ID	MN	MT	ND	OR	SD	WA
Insecticides								
Carbofuran	*	*						
Chlorpyrifos	P	*				*	*	*
Cypermethrin	*				*			
Dimethoate	P	*	*					*
Esfenvalerate	*				*			
Lambda-cyhalothrin	*			*		*		*
Malathion	*					*		*
Methyl parathion	*		*					
Zeta-cypermethrin	P					P		
Fungicides								
Azoxystrobin	*					*	*	*
Propiconazole	P		*		P	P	P	P
Pyraclostrobin	P		P		*	*	P	*
Tebuconazole	P		P		P	*	P	
Thiophanate-methyl	*							*
Trifloxystrobin	P		*		*	P	*	

P Usage data are published for this active ingredient.
* Usage data are not published for this active ingredient.
[1] Active ingredient used only as a spot treatment; rate per acre, application number, total applied, and area applied not available.

Other Spring Wheat: Pesticide, Planted Acreage, Percent of Area Receiving Applications and Total Applied Program States and Total, 2004

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*
ID	500	92	288	4	6				
MN	1,700	99	1,054	10	28	46	84		
MT [1]	3,000	95	1,652						
ND [1]	6,200	97	3,452			28	190		
OR	180	95	133	4	1	9	2		
SD [1]	1,600	89	702			14	26		
WA	530	99	364	4	8	3	2		
Total	13,710	96	7,645	2	52	20	304		

[1] Insufficient reports to publish data for one or more pesticide classes.

Other Spring Wheat: Agricultural Chemical Applications, Program States, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	20	1.1	0.35	0.39	1,076
2,4-D, Dimeth. salt	1	1.0	0.19	0.19	39
2,4-DP, Dimeth. salt	4	1.0	0.41	0.41	212
Acetic acid (2,4-D)	8	1.0	0.27	0.27	297
Bromoxynil	16	1.0	0.24	0.24	515
Bromoxynil octanoate	19	1.0	0.25	0.25	647
Butoxy. ester 2,4-D	2	1.0	0.39	0.40	134
Carfentrazone-ethyl	*	1.0	0.006	0.006	([2])
Chlorsulfuron	*	1.0	0.01	0.01	([2])
Clodinafop-propargil	14	1.0	0.06	0.06	106
Clopyralid	6	1.0	0.07	0.07	60
Dicamba	11	1.1	0.08	0.09	135
Dicamba, Sodium salt	1	1.0	0.08	0.08	8
Fenoxaprop	31	1.0	0.06	0.06	270
Flucarbazone-sodium	7	1.0	0.02	0.02	17
Fluroxypyr	8	1.0	0.08	0.08	89
Fluroxypyr 1-methylh	6	1.0	0.09	0.09	75
Glyphosate	23	1.1	0.44	0.49	1,555
Imazamethabenz	*	1.0	0.10	0.10	4
MCPA	46	1.0	0.29	0.29	1,845
MCPA, dimethyl. salt	2	1.0	0.42	0.42	107
MCPA-EHE	3	1.0	0.29	0.29	105
Metsulfuron-methyl	5	1.0	0.003	0.003	2
Picloram	*	1.0	0.02	0.02	1
Prosulfuron	1	1.0	0.01	0.01	1
Thifensulfuron	16	1.0	0.009	0.009	19
Tralkoxydim	1	1.0	0.13	0.14	11
Triallate	1	1.0	1.19	1.19	161
Triasulfuron	1	1.0	0.01	0.01	2
Tribenuron-methyl	14	1.0	0.006	0.006	12
Trifluralin	1	1.0	0.33	0.33	49
Insecticides					
Chlorpyrifos	*	1.0	0.30	0.30	9
Dimethoate	*	1.0	0.27	0.27	7
Zeta-cypermethrin	*	1.0	0.02	0.02	([2])
Fungicides					
Propiconazole	9	1.0	0.07	0.07	87
Pyraclostrobin	6	1.0	0.06	0.06	48
Tebuconazole	12	1.0	0.10	0.10	162
Trifloxystrobin	1	1.0	0.04	0.04	7

* Area applied is less than 0.5 percent.
[1] Planted acreage in 2004 for the 7 Program States was 13.7 million acres. States included are ID, MN, MT, ND, OR, SD, and WA.
[2] Total applied is less than 500 lbs.

Other Spring Wheat: Agricultural Chemical Applications, Idaho, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	22	1.0	0.33	0.33	37
2,4-DP, Dimeth. salt	3	1.0	1.26	1.26	21
Bromoxynil	27	1.0	0.25	0.25	34
Bromoxynil octanoate	5	1.0	0.29	0.29	7
Clodinafop-propargil	35	1.0	0.05	0.05	8
Fenoxaprop	6	1.0	0.08	0.08	3
Fluroxypyr	19	1.0	0.12	0.12	11
Glyphosate	8	1.6	0.42	0.68	29
MCPA	45	1.0	0.37	0.37	83
MCPA, dimethyl. salt	6	1.0	0.67	0.67	19
Prosulfuron	5	1.0	0.02	0.02	([2])
Thifensulfuron	26	1.0	0.01	0.01	1
Tralkoxydim	6	1.0	0.16	0.16	5
Tribenuron-methyl	22	1.1	0.006	0.006	1

[1] Planted acreage in 2004 for Idaho was 500,000 acres.
[2] Total applied is less than 500 lbs.

Other Spring Wheat: Agricultural Chemical Applications, Minnesota, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	8	1.0	0.55	0.55	76
2,4-DP, Dimeth. salt	4	1.0	0.37	0.37	25
Acetic acid (2,4-D)	4	1.0	0.44	0.44	32
Bromoxynil	12	1.0	0.29	0.29	60
Bromoxynil octanoate	39	1.0	0.30	0.30	200
Clodinafop-propargil	13	1.0	0.05	0.05	12
Clopyralid	14	1.0	0.08	0.08	18
Dicamba	4	1.0	0.08	0.08	5
Fenoxaprop	30	1.0	0.08	0.08	43
Flucarbazone-sodium	13	1.0	0.02	0.02	5
Fluroxypyr	8	1.0	0.07	0.07	9
Glyphosate	7	1.0	0.63	0.63	75
MCPA	68	1.0	0.34	0.35	403
MCPA, dimethyl. salt	5	1.0	0.40	0.40	35
Thifensulfuron	15	1.0	0.008	0.008	2
Tribenuron-methyl	9	1.0	0.006	0.006	1
Fungicides					
Pyraclostrobin	13	1.1	0.06	0.06	14
Tebuconazole	33	1.0	0.10	0.10	56

[1] Planted acreage in 2004 for Minnesota was 1.7 million acres.

Other Spring Wheat: Agricultural Chemical Applications, Montana, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	33	1.2	0.30	0.37	370
2,4-DP, Dimeth. salt	2	1.0	0.31	0.31	20
Acetic acid (2,4-D)	20	1.0	0.20	0.20	121
Bromoxynil	9	1.0	0.24	0.24	68
Butoxy. ester 2,4-D	5	1.1	0.34	0.37	61
Clodinafop-propargil	24	1.0	0.07	0.07	51
Dicamba	28	1.1	0.08	0.08	70
Fenoxaprop	20	1.0	0.05	0.05	32
Fluroxypyr	2	1.0	0.07	0.07	4
Glyphosate	40	1.1	0.38	0.43	519
MCPA	13	1.0	0.28	0.28	112
Metsulfuron-methyl	10	1.0	0.003	0.003	1
Thifensulfuron	6	1.0	0.006	0.006	1
Triasulfuron	6	1.0	0.01	0.01	2
Tribenuron-methyl	8	1.0	0.004	0.004	1

[1] Planted acreage in 2004 for Montana was 3.0 million acres.

Other Spring Wheat: Agricultural Chemical Applications, North Dakota, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	13	1.0	0.40	0.40	328
2,4-DP, Dimeth. salt	2	1.0	0.48	0.48	73
Acetic acid (2,4-D)	6	1.0	0.33	0.33	128
Bromoxynil	20	1.0	0.22	0.22	269
Bromoxynil octanoate	25	1.0	0.23	0.23	357
Clodinafop-propargil	11	1.0	0.04	0.04	26
Clopyralid	7	1.0	0.07	0.07	32
Dicamba	6	1.0	0.08	0.08	27
Fenoxaprop	49	1.0	0.06	0.06	186
Flucarbazone-sodium	11	1.0	0.02	0.02	11
Fluroxypyr	11	1.0	0.08	0.08	57
Fluroxypyr 1-methylh	11	1.0	0.10	0.10	65
Glyphosate	19	1.1	0.49	0.52	623
MCPA	60	1.0	0.28	0.28	1,031
Thifensulfuron	16	1.0	0.01	0.01	10
Tribenuron-methyl	12	1.0	0.009	0.009	7
Fungicides					
Propiconazole	13	1.0	0.08	0.08	66
Tebuconazole	15	1.0	0.10	0.10	92

[1] Planted acreage in 2004 for North Dakota was 6.2 million acres.

Other Spring Wheat: Agricultural Chemical Applications, Oregon, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	36	1.0	0.49	0.50	33
2,4-DP, Dimeth. salt	12	1.0	0.44	0.44	10
Bromoxynil	5	1.0	0.24	0.24	2
Butoxy. ester 2,4-D	18	1.0	0.63	0.63	20
Fenoxaprop	1	1.0	0.10	0.10	([2])
Glyphosate	61	1.1	0.48	0.51	56
MCPA	6	1.0	0.28	0.28	3
MCPA, dimethyl. salt	2	1.0	0.46	0.46	2
Metsulfuron-methyl	32	1.0	0.003	0.003	([2])
Thifensulfuron	38	1.0	0.008	0.008	1
Tribenuron-methyl	39	1.0	0.004	0.004	([2])
Insecticides					
Zeta-cypermethrin	3	1.0	0.02	0.02	([2])
Fungicides					
Propiconazole	3	1.0	0.07	0.07	([2])
Trifloxystrobin	2	1.0	0.08	0.08	([2])

[1] Planted acreage in 2004 for Oregon was 180,000 acres.
[2] Total applied is less than 500 lbs.

Other Spring Wheat: Agricultural Chemical Applications, South Dakota, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	25	1.2	0.33	0.40	161
2,4-DP, Dimeth. salt	9	1.0	0.28	0.28	42
Bromoxynil	13	1.0	0.22	0.22	45
Bromoxynil octanoate	16	1.0	0.26	0.26	69
Dicamba	16	1.1	0.10	0.10	26
Fenoxaprop	4	1.0	0.07	0.07	4
Fluroxypyr	8	1.0	0.06	0.06	7
Glyphosate	14	1.4	0.45	0.63	143
MCPA	39	1.0	0.25	0.25	154
MCPA, dimethyl. salt	2	1.0	0.23	0.23	7
Metsulfuron-methyl	9	1.0	0.002	0.002	([2])
Thifensulfuron	22	1.0	0.008	0.008	3
Tribenuron-methyl	21	1.0	0.005	0.005	2
Fungicides					
Propiconazole	5	1.0	0.07	0.07	6
Pyraclostrobin	5	1.0	0.05	0.05	4
Tebuconazole	7	1.0	0.13	0.13	14

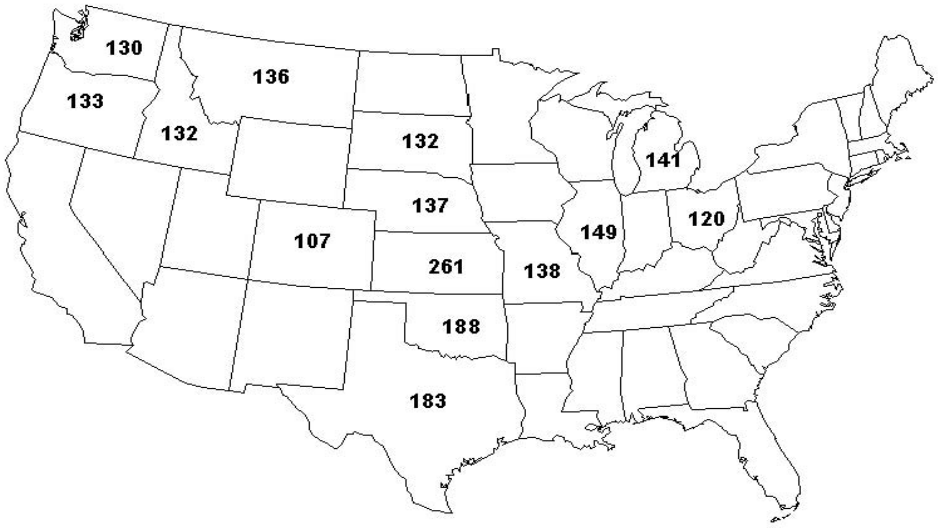
[1] Planted acreage in 2004 for South Dakota was 1.6 million acres.
[2] Total applied is less than 500 lbs.

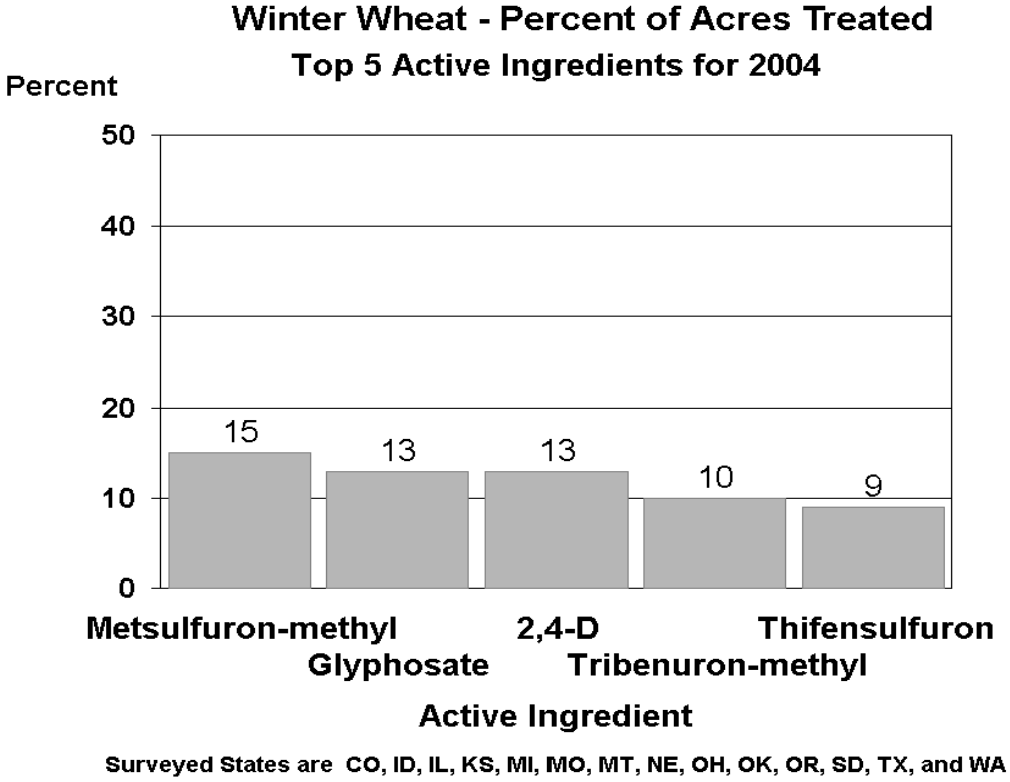
Other Spring Wheat: Agricultural Chemical Applications, Washington, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	37	1.2	0.31	0.36	72
2,4-D, Dimeth. salt	4	1.0	0.47	0.47	11
2,4-DP, Dimeth. salt	9	1.0	0.45	0.45	21
Bromoxynil	26	1.0	0.27	0.27	37
Clodinafop-propargil	21	1.0	0.05	0.05	6
Dicamba	9	1.0	0.09	0.09	4
Fenoxaprop	5	1.0	0.09	0.09	2
Flucarbazone-sodium	1	1.0	0.02	0.02	([2])
Glyphosate	48	1.0	0.43	0.43	110
MCPA	38	1.0	0.29	0.29	59
MCPA, dimethyl. salt	5	1.0	0.50	0.50	13
Metsulfuron-methyl	22	1.0	0.003	0.003	([2])
Thifensulfuron	36	1.0	0.008	0.008	2
Triallate	3	1.0	1.07	1.07	16
Tribenuron-methyl	38	1.0	0.005	0.005	1
Fungicides					
Propiconazole	2	1.0	0.11	0.11	1

[1] Planted acreage in 2004 for Washington was 530,000 acres.
[2] Total applied is less than 500 lbs.

Winter Wheat: Number of Usable Reports, 2004





Winter Wheat: Fertilizer Use by State, 2004
Percent of Acres Treated and Total Applied

State	Planted Acreage	Percent of Acres Treated and Total Applied					
		Nitrogen		Phosphate		Potash	
	1,000 Acres	*Percent*	*Mil. lbs*	*Percent*	*Mil. lbs*	*Percent*	*Mil. lbs*
CO	2,300	59	51.2	31	15.8	5	2.7
ID	750	89	89.2	62	18.5	31	6.1
IL	920	98	103.2	85	74.2	77	92.3
KS	10,000	90	788.6	62	281.8	6	23.4
MI	660	97	73.5	71	27.5	77	38.4
MO	1,050	97	125.9	84	52.9	86	70.0
MT	1,900	92	83.0	83	47.3	21	3.9
NE	1,850	73	76.4	42	24.3	3	1.2
OH	920	100	91.6	95	65.8	90	69.5
OK	6,200	92	571.0	62	147.8	13	22.0
OR	820	96	64.7	11	5.3	6	2.5
SD	1,650	77	105.8	58	44.6	7	5.1
TX	6,300	64	347.7	35	116.6	9	9.6
WA	1,800	97	161.2	24	11.6	3	1.4
Total	37,120	84	2,733.0	55	934.0	16	348.1

Winter Wheat: Fertilizer Primary Nutrient Applications, Program States and Total, 2004

Primary Nutrient	Planted Acreage	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	1,000 Acres	*Percent*	*Number*	*Pounds per Acre*	*Pounds per Acre*	*Mil. lbs*
Colorado	2,300					
Nitrogen		59	1.4	27	38	51.2
Phosphate		31	1.3	17	23	15.8
Potash		5	1.1	24	25	2.7
Idaho	750					
Nitrogen		89	2.0	68	134	89.2
Phosphate		62	1.4	29	40	18.5
Potash		31	1.5	18	26	6.1
Illinois	920					
Nitrogen		98	2.1	55	115	103.2
Phosphate		85	1.3	75	94	74.2
Potash		77	1.3	104	130	92.3
Kansas	10,000					
Nitrogen		90	2.2	39	87	788.6
Phosphate		62	1.5	29	45	281.8
Potash		6	1.4	26	37	23.4
Michigan	660					
Nitrogen		97	2.2	53	115	73.5
Phosphate		71	1.2	50	59	27.5
Potash		77	1.2	64	75	38.4
Missouri	1,050					
Nitrogen		97	2.0	61	124	125.9
Phosphate		84	1.2	50	60	52.9
Potash		86	1.2	66	78	70.0
Montana	1,900					
Nitrogen		92	1.6	30	47	83.0
Phosphate		83	1.1	28	30	47.3
Potash		21	1.1	9	10	3.9
Nebraska	1,850					
Nitrogen		73	1.8	32	57	76.4
Phosphate		42	1.2	26	31	24.3
Potash		3	1.7	13	22	1.2
Ohio	920					
Nitrogen		100	2.2	44	100	91.6
Phosphate		95	1.1	66	75	65.8
Potash		90	1.2	72	84	69.5
Oklahoma	6,200					
Nitrogen		92	2.3	44	100	571.0
Phosphate		62	1.5	26	39	147.8
Potash		13	1.4	19	26	22.0

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Winter Wheat: Fertilizer Primary Nutrient Applications, Program States and Total, 2004 (continued)

Primary Nutrient	Planted Acreage	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	1,000 Acres	*Percent*	*Number*	*Pounds per Acre*	*Pounds per Acre*	*Mil. lbs*
Oregon	820					
Nitrogen		96	1.4	57	82	64.7
Phosphate		11	1.6	35	57	5.3
Potash		6	1.3	38	50	2.5
South Dakota	1,650					
Nitrogen		77	1.6	51	83	105.8
Phosphate		58	1.2	38	47	44.6
Potash		7	1.3	33	43	5.1
Texas	6,300					
Nitrogen		64	1.8	47	86	347.7
Phosphate		35	1.4	37	53	116.6
Potash		9	1.1	15	17	9.6
Washington	1,800					
Nitrogen		97	1.5	61	93	161.2
Phosphate		24	1.6	18	27	11.6
Potash		3	1.6	17	28	1.4
Total	37,120					
Nitrogen		84	2.0	44	88	2,733.0
Phosphate		55	1.4	33	46	934.0
Potash		16	1.2	47	58	348.1

Winter Wheat: Active Ingredients and Publication Status By Program States, 2004

Active Ingredient	Program States							
	ALL	CO	ID	IL	KS	MI	MO	MT
Herbicides								
2,4-D	P	P	P	*	P	P	*	P
2,4-D, Dimeth. salt	P	*	*					P
2,4-DP, Dimeth. salt	P	P	P	*	P	P	P	P
Acetamide	P							
Acetic acid (2,4-D)	P	*	P	P	*	P	*	*
Acetochlor	*				*			
Acifluorfen	*							
Alachlor	*			*				
Atrazine	P	P			*			
Benefin	*							
Bromoxynil	P		P	*		*		P
Bromoxynil octanoate	P		P					*
Butoxy. ester 2,4-D	P	*	*			*	*	P
Carfentrazone-ethyl	P							*
Chlorsulfuron	P		*		P		*	*
Clodinafop-propargil	P		*					P
Clopyralid	P	*	*			*		*
Dicamba	P	P	P	*	P	*		P
Dicamba, Sodium salt	*							*
Diclofop-methyl	P						*	
Difenzoquat	*							
Diuron	P							
Fenoxaprop	P		*			*		
Flucarbazone-sodium	P		*					
Fluroxypyr	P		P		*			*
Fluroxypyr 1-methylh	P	*	*					*
Glyphosate	P	P	P	*	P	P	*	P
Glyphosate diam salt	*							
Halosulfuron	(1)				(1)			
Imazamethabenz	*		*					*
Imazamox	P	*	*					*
MCPA	P		P			*	*	P
MCPA, dimethyl. salt	P		P			*		*
MCPA, sodium salt	*							
Mesosulfuron-Methyl	P		*					
Metribuzin	P		*				P	
Metsulfuron-methyl	P	P	P		P		*	P
Oryzalin	*							
Paraquat	*							
Picloram	P				*			*
Prosulfuron	P		*			*		
Quinclorac	*		*					
Sulfentrazone	*							*
Sulfosulfuron	P		*		P			*
Thifensulfuron	P	P	P	P	*	P	P	P
Tralkoxydim	P		*					*
Triallate	P							*
Triasulfuron	P	*	*		P			P
Tribenuron-methyl	P	P	P	P	P	P	P	P

See footnote(s) at end of table. --continued

Winter Wheat: Active Ingredients and Publication Status By Program States, 2004 (continued)

Active Ingredient	Program States							
	ALL	CO	ID	IL	KS	MI	MO	MT
Insecticides								
Azinphos-methyl	*							
Carbaryl	*							
Carbofuran	*		*					
Chlorpyrifos	P	*	*					
Cypermethrin	*							
Dimethoate	P							
Disulfoton	*						*	
Ethyl parathion	P							
Lambda-cyhalothrin	P		P	*		P	P	*
Malathion	*		*					
Methyl parathion	*	*						
Permethrin	*							
Thiamethoxam	*							
Zeta-cypermethrin	P	*	*	*	*	P	*	
Fungicides								
Azoxystrobin	P			*	*	*	*	
Copper hydroxide	*					*		
Mancozeb	*							
Propiconazole	P			P	*	P	*	
Pyraclostrobin	P		*	*		*	*	
Tebuconazole	P				*	P		
Thiophanate-methyl	*							
Thiram	*			*				
Trifloxystrobin	P					*		
Other Chemicals								
Ethephon	*							
Metaldehyde	*							

See footnote(s) at end of table.

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Winter Wheat: Active Ingredients and Publication Status By Program States, 2004 (continued)

Active Ingredient	Program States						
	NE	OH	OK	OR	SD	TX	WA
Herbicides							
2,4-D	P	P	P	P	P	P	P
2,4-D, Dimeth. salt				*		*	P
2,4-DP, Dimeth. salt	P	P	P	P	P	*	P
Acetamide				P			
Acetic acid (2,4-D)	P	*	*	*	*	*	*
Acetochlor							
Acifluorfen							*
Alachlor							
Atrazine	*					*	*
Benefin							*
Bromoxynil				P	*		P
Bromoxynil octanoate				*	P		*
Butoxy. ester 2,4-D	*	P		P	*	*	*
Carfentrazone-ethyl		*		*	*		
Chlorsulfuron	P		P	P		*	P
Clodinafop-propargil				*			P
Clopyralid	(1)	*			*		*
Dicamba	P	P		P	P	*	P
Dicamba, Sodium salt							*
Diclofop-methyl				P		*	
Difenzoquat				*			
Diuron				*			*
Fenoxaprop					*		*
Flucarbazone-sodium				*			*
Fluroxypyr	*			*			*
Fluroxypyr 1-methylh	*				*		*
Glyphosate	P	*	P	P	P	P	P
Glyphosate diam salt	*						
Halosulfuron							
Imazamethabenz				*			
Imazamox	*		*	*			P
MCPA	(1)			P	P		P
MCPA, dimethyl. salt				P			*
MCPA, sodium salt		*					
Mesosulfuron-Methyl				*			*
Metribuzin				P			*
Metsulfuron-methyl	P		P	P	P	P	P
Oryzalin							*
Paraquat	*						
Picloram					*	*	(1)
Prosulfuron					*		P
Quinclorac							*
Sulfentrazone							
Sulfosulfuron	*		P	P	*		P
Thifensulfuron	P	P		P	P	*	P
Tralkoxydim							*
Triallate							*
Triasulfuron	P		*	P	P	*	P
Tribenuron-methyl	P	P		P	P	P	P

See footnote(s) at end of table.

--continued

Winter Wheat: Active Ingredients and Publication Status By Program States, 2004 (continued)

Active Ingredient	Program States						
	NE	OH	OK	OR	SD	TX	WA
Insecticides							
Azinphos-methyl				*			
Carbaryl				*			
Carbofuran							
Chlorpyrifos			P	*		P	
Cypermethrin						*	
Dimethoate			*	*		*	*
Disulfoton							
Ethyl parathion			*			*	
Lambda-cyhalothrin		*	*	*	*		
Malathion			*				
Methyl parathion			*			*	
Permethrin						*	
Thiamethoxam			*				
Zeta-cypermethrin			P	P			
Fungicides							
Azoxystrobin			*	*	*		
Copper hydroxide							
Mancozeb							*
Propiconazole	*	*	*	P	*		P
Pyraclostrobin	*				P		*
Tebuconazole					*		*
Thiophanate-methyl							*
Thiram							
Trifloxystrobin				*	*		*
Other Chemicals							
Ethephon				*			
Metaldehyde				*			

P Usage data are published for this active ingredient.
* Usage data are not published for this active ingredient.
[1] Active ingredient used only as a spot treatment; rate per acre, application number, total applied, and area applied not available.

Winter Wheat: Pesticide, Planted Acreage, Percent of Area Receiving Applications and Total Applied Program States and Total, 2004

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 [1]	2,300	54	908						
ID [1]	750	94	380	1	2				
IL [1]	920	35	41			9	11		
KS [1]	10,000	38	1,138						
MI	660	50	94	11	3	11	11		
MO [1]	1,050	35	109	8	9				
MT [1]	1,900	95	2,533						
NE [1]	1,850	51	537						
OH [1]	920	29	96						
OK [1]	6,200	34	267	24	511				
OR [1]	820	98	694	3	7	3	5		
SD [1]	1,650	66	646			13	21		
TX	6,300	19	810	7	189				
WA [1]	1,800	88	1,007			4	17		
Total [1]	37,120	45	9,260	7	745	2	98		

[1] Insufficient reports to publish data for one or more pesticide classes.

Winter Wheat: Agricultural Chemical Applications, Program States, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	13	1.4	0.33	0.45	2,173
2,4-D, Dimeth. salt	1	1.2	0.27	0.32	144
2,4-DP, Dimeth. salt	5	1.3	0.34	0.45	786
Acetamide	*	1.0	0.34	0.34	9
Acetic acid (2,4-D)	1	1.1	0.29	0.32	145
Atrazine	1	1.4	0.54	0.73	223
Bromoxynil	2	1.0	0.27	0.28	154
Bromoxynil octanoate	1	1.0	0.24	0.24	105
Butoxy. ester 2,4-D	2	1.1	0.53	0.57	352
Carfentrazone-ethyl	*	1.0	0.03	0.03	1
Chlorsulfuron	8	1.0	0.01	0.01	32
Clodinafop-propargil	1	1.0	0.04	0.04	10
Clopyralid	1	1.0	0.09	0.09	18
Dicamba	6	1.2	0.10	0.12	269
Diclofop-methyl	*	1.0	0.67	0.67	89
Diuron	*	1.0	1.10	1.10	20
Fenoxaprop	*	1.0	0.08	0.08	3
Flucarbazone-sodium	*	1.0	0.02	0.02	1
Fluroxypyr	1	1.0	0.09	0.09	30
Fluroxypyr 1-methylh	*	1.0	0.10	0.10	7
Glyphosate	13	1.9	0.42	0.78	3,648
Imazamox	1	1.0	0.03	0.03	9
MCPA	4	1.1	0.32	0.37	498
MCPA, dimethyl. salt	*	1.0	0.53	0.53	60
Mesosulfuron-Methyl	*	1.0	0.01	0.01	1
Metribuzin	1	1.7	0.27	0.46	135
Metsulfuron-methyl	15	1.1	0.002	0.002	13
Picloram	1	1.0	0.01	0.01	2
Prosulfuron	*	1.0	0.02	0.02	1
Sulfosulfuron	4	1.0	0.03	0.03	33
Thifensulfuron	9	1.1	0.008	0.009	29
Tralkoxydim	*	1.0	0.14	0.14	8
Triallate	*	1.0	1.08	1.08	85
Triasulfuron	4	1.1	0.02	0.02	25
Tribenuron-methyl	10	1.1	0.004	0.004	15
Insecticides					
Chlorpyrifos	3	1.0	0.36	0.36	438
Dimethoate	*	1.0	0.31	0.31	21
Ethyl parathion	1	1.0	0.63	0.63	133
Lambda-cyhalothrin	1	1.0	0.02	0.02	6
Zeta-cypermethrin	1	1.0	0.03	0.03	10
Fungicides					
Azoxystrobin	*	1.0	0.07	0.07	13
Propiconazole	1	1.0	0.10	0.10	35
Pyraclostrobin	1	1.1	0.09	0.10	22
Tebuconazole	1	1.0	0.04	0.04	15
Trifloxystrobin	*	1.2	0.07	0.08	2

* Area applied is less than 0.5 percent.

[1] Planted acreage in 2004 for the 14 Program States was 37.1 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, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	24	1.4	0.24	0.33	180
2,4-DP, Dimeth. salt	6	1.9	0.16	0.30	38
Atrazine	6	1.2	0.58	0.71	103
Dicamba	20	1.0	0.07	0.07	34
Glyphosate	23	1.5	0.48	0.70	365
Metsulfuron-methyl	17	1.3	0.002	0.003	1
Thifensulfuron	14	1.4	0.002	0.003	1
Tribenuron-methyl	14	1.4	0.001	0.002	1

[1] Planted acreage in 2004 for Colorado was 2.3 million acres.

Winter Wheat: Agricultural Chemical Applications, Idaho, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	33	1.0	0.44	0.44	107
2,4-DP, Dimeth. salt	2	1.0	0.43	0.43	8
Acetic acid (2,4-D)	3	1.0	0.50	0.50	12
Bromoxynil	22	1.0	0.22	0.22	37
Bromoxynil octanoate	5	1.0	0.33	0.33	13
Dicamba	3	1.0	0.09	0.09	2
Fluroxypyr	19	1.0	0.12	0.12	17
Glyphosate	5	1.5	0.52	0.77	30
MCPA	45	1.0	0.32	0.32	106
MCPA, dimethyl. salt	5	1.0	0.38	0.38	13
Metsulfuron-methyl	7	1.0	0.003	0.003	([2])
Thifensulfuron	31	1.0	0.01	0.01	3
Tribenuron-methyl	36	1.0	0.007	0.007	2
Insecticides					
Lambda-cyhalothrin	1	1.0	0.02	0.02	([2])

[1] Planted acreage in 2004 for Idaho was 750,000 acres.
[2] Total applied is less than 500 lbs.

Winter Wheat: Agricultural Chemical Applications, Illinois, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
Acetic acid (2,4-D)	2	1.0	0.39	0.39	8
Thifensulfuron	29	1.0	0.02	0.02	5
Tribenuron-methyl	26	1.0	0.008	0.008	2
Fungicides					
Propiconazole	4	1.2	0.10	0.12	4

[1] Planted acreage in 2004 for Illinois was 920,000 acres.

Winter Wheat: Agricultural Chemical Applications, Kansas, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	4	1.0	0.45	0.45	197
2,4-DP, Dimeth. salt	5	1.9	0.23	0.43	197
Chlorsulfuron	18	1.0	0.009	0.009	16
Dicamba	5	1.0	0.05	0.05	25
Glyphosate	8	1.7	0.43	0.74	572
Metsulfuron-methyl	20	1.0	0.002	0.002	4
Sulfosulfuron	3	1.0	0.01	0.01	3
Triasulfuron	4	1.0	0.01	0.01	4
Tribenuron-methyl	5	1.0	0.004	0.004	2

[1] Planted acreage in 2004 for Kansas was 10.0 million acres.

Winter Wheat: Agricultural Chemical Applications, Michigan, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	12	1.0	0.42	0.42	34
2,4-DP, Dimeth. salt	5	1.0	0.52	0.52	16
Acetic acid (2,4-D)	3	1.0	0.60	0.60	12
Glyphosate	2	1.0	0.74	0.74	9
Thifensulfuron	20	1.0	0.01	0.01	2
Tribenuron-methyl	16	1.0	0.006	0.006	1
Insecticides					
Lambda-cyhalothrin	3	1.0	0.02	0.02	1
Zeta-cypermethrin	8	1.0	0.04	0.04	2
Fungicides					
Propiconazole	4	1.0	0.08	0.08	2
Tebuconazole	8	1.0	0.11	0.11	6

[1] Planted acreage in 2004 for Michigan was 660,000 acres.

Winter Wheat: Agricultural Chemical Applications, Missouri, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-DP, Dimeth. salt	5	1.0	0.52	0.52	28
Metribuzin	7	1.0	0.54	0.54	41
Thifensulfuron	23	1.0	0.01	0.01	4
Tribenuron-methyl	23	1.0	0.007	0.007	2
Insecticides					
Lambda-cyhalothrin	8	1.1	0.02	0.02	2

[1] Planted acreage in 2004 for Missouri was 1.1 million acres.

Winter Wheat: Agricultural Chemical Applications, Montana, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	67	2.1	0.29	0.60	761
2,4-D, Dimeth. salt	10	1.3	0.24	0.32	64
2,4-DP, Dimeth. salt	3	1.0	0.42	0.42	22
Bromoxynil	4	1.0	0.24	0.24	17
Butoxy. ester 2,4-D	7	1.3	0.37	0.50	68
Clodinafop-propargil	3	1.0	0.03	0.03	2
Dicamba	21	1.4	0.08	0.10	41
Glyphosate	75	2.8	0.36	1.00	1,423
MCPA	7	1.0	0.25	0.25	34
Metsulfuron-methyl	22	1.1	0.003	0.003	1
Thifensulfuron	9	1.0	0.004	0.004	1
Triasulfuron	12	1.4	0.01	0.02	4
Tribenuron-methyl	10	1.0	0.002	0.002	([2])

[1] Planted acreage in 2004 for Montana was 1.9 million acres.
[2] Total applied is less than 500 lbs.

Winter Wheat: Agricultural Chemical Applications, Nebraska, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	24	1.2	0.29	0.36	155
2,4-DP, Dimeth. salt	5	1.3	0.39	0.52	49
Acetic acid (2,4-D)	2	1.0	0.23	0.23	7
Chlorsulfuron	2	1.0	0.009	0.009	([2])
Dicamba	6	1.4	0.04	0.06	7
Glyphosate	11	1.6	0.60	0.98	205
Metsulfuron-methyl	9	1.0	0.003	0.003	([2])
Thifensulfuron	9	1.0	0.01	0.01	2
Triasulfuron	16	1.0	0.01	0.01	4
Tribenuron-methyl	10	1.0	0.006	0.006	1

[1] Planted acreage in 2004 for Nebraska was 1.9 million acres.
[2] Total applied is less than 500 lbs.

Winter Wheat: Agricultural Chemical Applications, Ohio, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	5	1.0	0.56	0.56	28
2,4-DP, Dimeth. salt	4	1.0	0.71	0.71	24
Butoxy. ester 2,4-D	4	1.0	0.50	0.50	20
Dicamba	3	1.0	0.15	0.15	5
Thifensulfuron	8	1.0	0.01	0.01	1
Tribenuron-methyl	9	1.0	0.007	0.007	1

[1] Planted acreage in 2004 for Ohio was 920,000 acres.

Winter Wheat: Agricultural Chemical Applications, Oklahoma, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	4	1.0	0.14	0.14	30
2,4-DP, Dimeth. salt	4	1.0	0.35	0.35	80
Chlorsulfuron	17	1.0	0.01	0.01	12
Glyphosate	3	1.2	0.39	0.47	101
Metsulfuron-methyl	17	1.0	0.002	0.002	2
Sulfosulfuron	11	1.0	0.03	0.03	21
Insecticides					
Chlorpyrifos	14	1.0	0.32	0.32	286
Zeta-cypermethrin	4	1.0	0.02	0.02	5

[1] Planted acreage in 2004 for Oklahoma was 6.2 million acres.

Winter Wheat: Agricultural Chemical Applications, Oregon, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	38	1.0	0.36	0.38	117
2,4-DP, Dimeth. salt	11	1.0	0.53	0.53	50
Acetamide	3	1.0	0.34	0.34	9
Bromoxynil	5	1.1	0.19	0.20	8
Butoxy. ester 2,4-D	5	1.0	0.63	0.63	24
Chlorsulfuron	3	1.0	0.01	0.01	([2])
Dicamba	41	1.6	0.19	0.30	99
Diclofop-methyl	1	1.0	0.96	0.96	8
Glyphosate	28	1.1	0.32	0.37	85
MCPA	26	1.9	0.34	0.65	139
MCPA, dimethyl. salt	4	1.0	0.45	0.45	15
Metribuzin	18	2.4	0.23	0.56	85
Metsulfuron-methyl	55	1.0	0.002	0.002	1
Sulfosulfuron	9	1.2	0.02	0.03	2
Thifensulfuron	58	1.0	0.006	0.006	3
Triasulfuron	6	1.0	0.02	0.02	1
Tribenuron-methyl	58	1.0	0.003	0.003	1
Insecticides					
Zeta-cypermethrin	2	1.0	0.02	0.02	([2])
Fungicides					
Propiconazole	3	1.2	0.11	0.14	3

[1] Planted acreage in 2004 for Oregon was 820,000 acres.
[2] Total applied is less than 500 lbs.

Winter Wheat: Agricultural Chemical Applications, South Dakota, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	16	1.5	0.31	0.48	125
2,4-DP, Dimeth. salt	10	1.0	0.52	0.52	88
Bromoxynil octanoate	18	1.0	0.22	0.22	64
Dicamba	7	1.6	0.13	0.21	23
Glyphosate	19	1.6	0.45	0.75	228
MCPA	20	1.0	0.24	0.24	77
Metsulfuron-methyl	13	1.0	0.002	0.002	([2])
Thifensulfuron	14	1.2	0.008	0.009	2
Triasulfuron	3	1.0	0.03	0.03	1
Tribenuron-methyl	13	1.2	0.004	0.004	1
Fungicides					
Pyraclostrobin	8	1.1	0.08	0.10	13

[1] Planted acreage in 2004 for South Dakota was 1.7 million acres.
[2] Total applied is less than 500 lbs.

Winter Wheat: Agricultural Chemical Applications, Texas, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	5	1.0	0.49	0.49	160
Glyphosate	8	1.6	0.51	0.81	394
Metsulfuron-methyl	7	1.4	0.002	0.003	1
Tribenuron-methyl	4	1.6	0.002	0.003	1
Insecticides					
Chlorpyrifos	5	1.0	0.44	0.44	134

[1] Planted acreage in 2004 for Texas was 6.3 million acres.

Winter Wheat: Agricultural Chemical Applications, Washington, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1,000 lbs*
Herbicides					
2,4-D	32	1.0	0.46	0.47	267
2,4-D, Dimeth. salt	2	1.0	0.38	0.38	14
2,4-DP, Dimeth. salt	13	1.0	0.42	0.42	97
Bromoxynil	13	1.0	0.32	0.32	75
Chlorsulfuron	6	1.0	0.01	0.01	1
Clodinafop-propargil	3	1.0	0.05	0.05	3
Dicamba	8	1.0	0.15	0.15	22
Glyphosate	21	1.2	0.44	0.52	200
Imazamox	6	1.0	0.03	0.03	3
MCPA	19	1.0	0.40	0.40	135
Metsulfuron-methyl	30	1.0	0.002	0.002	1
Prosulfuron	2	1.0	0.02	0.02	1
Sulfosulfuron	12	1.1	0.03	0.03	6
Thifensulfuron	32	1.0	0.008	0.008	5
Triasulfuron	5	1.0	0.02	0.02	2
Tribenuron-methyl	29	1.0	0.004	0.004	2
Fungicides					
Propiconazole	4	1.0	0.10	0.10	7

[1] Planted acreage in 2004 for Washington was 1.8 million acres.

Agricultural Chemical Rate Per Crop Year - Highlights

This report contains a new set of tables that were created to provide useful and relevant information on the distribution of rate data. The following tables show the 10th percentile, median, 90th percentile, mean and coefficient of variation (cv) distribution of the most commonly used active ingredients for each commodity at the program state level. The active ingredient needed to have been reported in the Program State on at least 30 reports, in order to be published in the following tables.

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 rate uses. 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.

Durum Wheat: Agricultural Chemicals Rate Per Crop Year Distribution, Program States, 2004

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv (%)
Herbicides					
2,4-D	0.06	0.38	0.53	0.38	8
Clodinafop-propargil	0.02	0.04	0.09	0.05	15
Dicamba	0.03	0.06	0.25	0.09	14
Fenoxaprop	0.04	0.05	0.08	0.06	14
Glyphosate	0.28	0.38	0.75	0.45	7
MCPA	0.17	0.25	0.50	0.30	9

Peanuts: Agricultural Chemicals Rate Per Crop Year Distribution, Program States, 2004

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv (%)
Herbicides					
2,4-DB, Dimeth. salt	0.13	0.25	0.75	0.34	7
3-Pyridinecarb. acid	0.01	0.01	0.01	0.01	3
Acifluorfen	0.25	0.25	0.50	0.32	9
Bentazon	0.25	0.50	0.75	0.54	7
Chlorimuron-ethyl	0.004	0.008	0.016	0.009	15
Clethodim	0.11	0.14	0.25	0.19	11
Diclosulam	0.01	0.02	0.02	0.02	3
Ethalfluralin	0.56	0.75	0.75	0.70	2
Glyphosate	0.56	0.75	1.22	0.80	7
Paraquat	0.10	0.16	0.23	0.17	6
Pendimethalin	0.50	0.83	1.00	0.81	3
Pyridinecarb. acid	0.02	0.05	0.09	0.05	16
S-Metolachlor	0.95	1.43	1.91	1.41	6
Sethoxydim	0.07	0.19	0.38	0.23	20
Trifluralin	0.50	0.55	1.00	0.68	14
Insecticides					
Acephate	0.09	0.75	2.25	0.88	39
Aldicarb	0.60	1.05	1.50	1.16	9
Chlorpyrifos	0.90	1.95	2.10	1.85	11
Esfenvalerate	0.02	0.03	0.08	0.05	27
Lambda-cyhalothrin	0.01	0.03	0.03	0.03	7
Methomyl	0.30	0.45	1.20	0.63	18
Phorate	0.60	1.00	1.40	1.00	3
Fungicides					
Azoxystrobin	0.20	0.36	0.62	0.40	9
Chlorothalonil	1.04	3.00	6.75	3.50	6
Propiconazole	0.05	0.13	0.35	0.17	12
Pyraclostrobin	0.15	0.24	0.49	0.29	9
Tebuconazole	0.20	0.41	0.81	0.44	7
Trifloxystrobin	0.06	0.13	0.34	0.16	11

Soybeans: Agricultural Chemicals Rate Per Crop Year Distribution, Program States, 2004

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv (%)
Herbicides					
2,4-D	0.24	0.48	1.41	0.51	19
Acetic acid (2,4-D)	0.24	0.48	0.96	0.47	9
Chlorimuron-ethyl	0.01	0.02	0.03	0.02	5
Clethodim	0.06	0.09	0.16	0.10	10
Cloransulam-methyl	0.01	0.02	0.04	0.03	15
Fenoxaprop	0.01	0.13	0.19	0.12	8
Fluazifop-P-butyl	0.02	0.04	0.05	0.04	8
Flumioxazin	0.05	0.06	0.10	0.07	4
Fomesafen	0.09	0.24	0.35	0.23	6
Glyphosate	0.56	0.94	1.62	1.08	1
Glyphosate diam salt	0.66	0.75	1.50	0.91	6
Imazamox	0.02	0.03	0.03	0.03	6
Imazethapyr	0.02	0.06	0.06	0.05	6
Metribuzin	0.08	0.23	0.38	0.24	6
Pendimethalin	0.15	0.84	1.50	0.87	5
S-Metolachlor	0.79	1.26	1.77	1.28	6
Sulfentrazone	0.06	0.10	0.21	0.12	4
Sulfosate	0.75	1.25	2.44	1.49	7
Trifluralin	0.50	0.80	1.00	0.84	3
Insecticides					
Chlorpyrifos	0.09	0.50	0.50	0.45	9
Lambda-cyhalothrin	0.01	0.02	0.03	0.02	4

Other Spring Wheat: Agricultural Chemicals Rate Per Crop Year Distribution, Program States, 2004

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv (%)
Herbicides					
2,4-D	0.15	0.34	0.75	0.39	7
2,4-DP, Dimeth. salt	0.18	0.35	0.71	0.41	11
Acetic acid (2,4-D)	0.12	0.18	0.48	0.27	24
Bromoxynil	0.19	0.25	0.31	0.24	4
Bromoxynil octanoate	0.16	0.25	0.31	0.25	5
Clodinafop-propargil	0.03	0.05	0.08	0.06	12
Clopyralid	0.04	0.09	0.11	0.07	8
Dicamba	0.03	0.06	0.13	0.09	9
Fenoxaprop	0.04	0.06	0.09	0.06	4
Flucarbazone-sodium	0.01	0.02	0.02	0.02	7
Fluroxypyr	0.05	0.06	0.12	0.08	9
Fluroxypyr 1-methylh	0.08	0.09	0.13	0.09	6
Glyphosate	0.26	0.38	0.93	0.49	8
MCPA	0.19	0.25	0.43	0.29	3
MCPA, dimethyl. salt	0.25	0.38	0.75	0.42	11
Metsulfuron-methyl	0.001	0.003	0.004	0.003	9
Thifensulfuron	0.003	0.010	0.016	0.009	5
Tribenuron-methyl	0.001	0.005	0.009	0.006	22
Fungicides					
Propiconazole	0.03	0.06	0.11	0.07	18
Tebuconazole	0.06	0.11	0.11	0.10	3

Winter Wheat: Agricultural Chemicals Rate Per Crop Year Distribution, Program States, 2004

Active Ingredient	10th Percentile	Median	90th Percentile	Mean	cv (%)
Herbicides					
2,4-D	0.12	0.36	1.01	0.45	8
2,4-DP, Dimeth. salt	0.12	0.47	0.71	0.45	9
Acetic acid	0.09	0.33	0.49	0.32	11
Bromoxynil	0.13	0.25	0.40	0.28	9
Bromoxynil octanoate	0.16	0.23	0.39	0.24	10
Butoxy. ester 2,4-D	0.17	0.68	0.84	0.57	13
Chlorsulfuron	0.00	0.01	0.02	0.01	7
Dicamba	0.01	0.09	0.24	0.12	15
Glyphosate	0.23	0.66	1.50	0.78	6
MCPA	0.17	0.25	0.53	0.37	13
Metribuzin	0.09	0.28	1.13	0.46	36
Metsulfuron-methyl	0.001	0.002	0.004	0.002	6
Sulfosulfuron	0.01	0.03	0.05	0.03	12
Thifensulfuron	0.002	0.012	0.019	0.009	8
Triasulfuron	0.01	0.01	0.03	0.02	9
Tribenuron-methyl	0.001	0.006	0.009	0.004	8
Insecticides					
Lambda-cyhalothrin	0.02	0.02	0.03	0.02	7
Fungicides					
Propiconazole	0.03	0.11	0.11	0.10	8

Pest Management Practices - Highlights

The pest management questions were enhanced in 2003 to provide more relevant data on agricultural practices. The 2004 surveys continued using these modified questions. These questions more accurately capture current pest management practices for the specific crops. Some questions remained unchanged, so if the reader would like to do a year to year comparison, their results would still be valid. Durum wheat, soybeans, and other spring wheat were last asked about their pest management practices in 2002. Winter wheat was also surveyed in 2002, but the data available come from acres harvested, rather than acres planted. Peanuts were last surveyed in 1999.

Questions pertaining to scouting have changed between 2002 and 2004. Scouting is now classified as either scouting by general observation or scouting deliberately. Tillage practices is now a separate question from information regarding field edge, roadway and fence line maintenance.

Durum Wheat: Producers reported a high percentage of farms (94 percent) scouted for pests in durum wheat. Of the producers who scouted for pests, 90 percent checked their crops for weeds, 65 percent for insects/mites, and 63 percent for diseases. Scouting was done predominantly (99-100 percent) by the operator, partner, or a family member. No-till/minimum till farming practices (47 percent) and rotating crops to control for pests (41 percent) were two additional farming practices commonly used to control pests.

Peanuts: Of the producers sampled, 99 percent scouted for pests. Of these, 98 percent scouted for weeds, insects/mites, and diseases. To avoid pest infestations, 77 percent of the producers rotated their crops and 71 percent monitored weather to protect against pest infestations.

Soybeans: Scouting was the most prevalent form of pest management practice for soybeans, with 92 percent of those surveyed scouting through general observation, or deliberate scouting activities. Of those who completed scouting activities, 91 percent were monitoring for weeds, 77 percent for insects/mites, and 71 percent for diseases. To avoid pest pressures, 79 percent of growers rotated their crops. To manage pest pressures, 55 percent of those surveyed used no-till/minimum till, while 43 percent maintained field edges, lanes, ditches, roadways, or fence lines as a prevention practice.

Other Spring Wheat: Of other spring wheat producers, 65 percent deliberately scouted for pests, while 27 percent scouted by general observation. Of those who scouted, 92 percent monitored for weeds, 56 percent for insects/mites, and 64 percent for diseases. To prevent pest infestations, 63 percent of producers rotated their crops to avoid diseases, 35 percent used no-till/minimum till practices, and 33 percent alternated pesticides with different mechanisms of action to suppress pest infestations.

Winter Wheat: Of winter wheat producers, 78 percent scouted their fields for pests, with 29 percent using deliberate scouting activities. Of those producers who scouted, 75 percent were looking for weeds, 62 percent for insects/mites, and 58 percent for diseases. To avoid pest infestations, 35 percent of farmers rotated their crops to control for pests, while 34 percent of producers cleaned implements after working in the field as a prevention practice. Maintaining field edges, lanes, ditches, roadways, or fence lines was used as a prevention practice by 34 percent of farmers. To suppress pests, 24 percent of producers maintained ground cover/physical barriers.

Pest Management Practices, Percent of Farms Utilizing Practice, Durum Wheat, 2004

Practice	States		Program States
	MT	ND	
	Percent of Farms	*Percent of Farms*	*Percent of Farms*
Prevention Practices:			
No-till/minimum till used	56	44	47
Remove or plow down crop residue	12	15	14
Clean implements after fieldwork	49	37	39
Field edges/etc, chopped, mowed/etc.	3	10	9
Water management practices		*	*
Avoidance Practices:			
Adjust planting/harvesting dates	6	6	6
Rotate crops to control pests	9	50	41
Planting locations planned to avoid pests	3	10	8
Crop variety chosen for pest resistance	9	12	11
Monitoring Practices:			
Scouting by general observation	44	46	46
Deliberate scouting activites	55	46	48
Field was not scouted	1	7	6
Established scouting process/insect trap used	19	1	5
Scouting due to pest advisory warning	5		1
Scouting due to pest development model	3	1	2
Scouted for weeds	81	93	90
Scouting for weeds was done by:			
Operator, partner, or family member	100	100	100
An employee	*		*
Farm supply or chemical dealer			
Indep. crop consultant or comm. scout		*	*
Scouted for insects amd mites	68	64	65
Scouting for insects/mites was done by:			
Operator, partner, or family member	99	99	99
An employee	1		*
Farm supply or chemical dealer			
Indep. crop consultant or comm. scout		1	1
Scouted for diseases	45	68	63
Scouting for diseases was done by:			
Operator, partner, or family member	99	99	99
An employee	1		*
Farm supply or chemical dealer			
Indep. crop consultant or comm. scout		1	1
Records kept to track pests	6	6	6
Field mapping of weed problem	3	*	1
Soil/plant tissue analysis to detect pests	2		*
Weather monitoring	51	37	40
Suppression Practices:			
Biological pesticides			
Scouting used to make decisions	8	8	8
Maintain ground cover or physical barriers	46	21	26
Alternate pesticides with different MOA	13	23	21

* Less than 0.5 percent

Pest Management Practices, Percent of Acres Receiving Practice, Durum Wheat, 2004

Practice	States		Program States
	MT	ND	
	Percent of Acres	*Percent of Acres*	*Percent of Acres*
Prevention Practices:			
No-till/minimum till used	81	57	63
Remove or plow down crop residue	14	11	12
Clean implements after fieldwork	48	45	46
Field edges/etc, chopped, mowed/etc.	5	15	12
Water management practices		*	*
Avoidance Practices:			
Adjust planting/harvesting dates	17	6	9
Rotate crops to control pests	19	57	48
Planting locations planned to avoid pests	3	11	9
Crop variety chosen for pest resistance	17	13	14
Monitoring Practices:			
Scouting by general observation	37	55	51
Deliberate scouting activites	62	38	44
Field was not scouted	1	7	5
Established scouting process/insect trap used	22	3	8
Scouting due to pest advisory warning	8		2
Scouting due to pest development model	2	1	1
Scouted for weeds	98	93	95
Scouting for weeds was done by:			
Operator, partner, or family member	99	99	99
An employee	1		*
Farm supply or chemical dealer			
Indep. crop consultant or comm. scout		1	1
Scouted for insects amd mites	65	71	70
Scouting for insects/mites was done by:			
Operator, partner, or family member	99	99	99
An employee	1		*
Farm supply or chemical dealer			
Indep. crop consultant or comm. scout		1	1
Scouted for diseases	55	69	66
Scouting for diseases was done by:			
Operator, partner, or family member	99	99	99
An employee	1		*
Farm supply or chemical dealer			
Indep. crop consultant or comm. scout		1	1
Records kept to track pests	12	9	10
Field mapping of weed problem	1	2	2
Soil/plant tissue analysis to detect pests	4		1
Weather monitoring	49	37	40
Suppression Practices:			
Biological pesticides			
Scouting used to make decisions	12	3	5
Maintain ground cover or physical barriers	30	20	23
Alternate pesticides with different MOA	26	30	29

* Less than 0.5 percent

Pest Management Practices, Percent of Farms Utilizing Practice, Peanuts, 2004

Practice	States		
	AL	FL	GA
	Percent of Farms	*Percent of Farms*	*Percent of Farms*
Prevention Practices:			
No-till/minimum till used	10	40	22
Remove or plow down crop residue	52	70	60
Clean implements after fieldwork	35	53	53
Field cultivated for weed control	35	25	25
Field edges/etc, chopped, mowed/etc.	63	35	73
Water management practices	*		6
Avoidance Practices:			
Adjust planting/harvesting dates	9	23	25
Rotate crops to control pests	68	66	75
Planting locations planned to avoid pests	4	5	16
Growing trap crop to control insects	*		
Crop variety chosen for pest resistance	37	31	40
Monitoring Practices:			
Scouting by general observation	42	34	48
Deliberate scouting activites	58	66	52
Field was not scouted	*		
Established scouting process/insect trap used	14	27	31
Scouting due to pest advisory warning	4	1	8
Scouting due to pest development model	5		5
Scouted for weeds	100	100	98
Scouting for weeds was done by:			
Operator, partner, or family member	94	96	77
An employee	2		1
Farm supply or chemical dealer	2	2	2
Indep. crop consultant or comm. scout	3	2	21
Scouted for insects amd mites	100	99	100
Scouting for insects/mites was done by:			
Operator, partner, or family member	94	96	77
An employee	2		1
Farm supply or chemical dealer	2	2	1
Indep. crop consultant or comm. scout	3	2	21
Scouted for diseases	100	100	99
Scouting for diseases was done by:			
Operator, partner, or family member	94	96	77
An employee	2		1
Farm supply or chemical dealer	2	2	1
Indep. crop consultant or comm. scout	3	2	21
Records kept to track pests	18	36	20
Field mapping of weed problem	1		2
Soil/plant tissue analysis to detect pests	2	5	10
Weather monitoring	69	92	74
Suppression Practices:			
Biological pesticides	2	1	1
Beneficial organisms	*	*	
Scouting used to make decisions	12	9	27
Maintain ground cover or physical barriers	43	24	33
Adjust planting methods	7	19	38
Alternate pesticides with different MOA	34	26	26

* Less than 0.5 percent

Pest Management Practices, Percent of Farms Utilizing Practice, Peanuts, 2004 (continued)

Practice	States		Program States
	NC	TX	
	Percent of Farms	*Percent of Farms*	*Percent of Farms*
Prevention Practices:			
No-till/minimum till used	13	12	19
Remove or plow down crop residue	51	58	58
Clean implements after fieldwork	38	52	47
Field cultivated for weed control	31	77	31
Field edges/etc, chopped, mowed/etc.	56	69	64
Water management practices		12	4
Avoidance Practices:			
Adjust planting/harvesting dates	13	12	19
Rotate crops to control pests	91	78	77
Planting locations planned to avoid pests	15	11	12
Growing trap crop to control insects	1		*
Crop variety chosen for pest resistance	41	19	37
Monitoring Practices:			
Scouting by general observation	47	59	46
Deliberate scouting activites	51	38	53
Field was not scouted	2	3	1
Established scouting process/insect trap used	20	8	24
Scouting due to pest advisory warning	11	7	7
Scouting due to pest development model	7	9	5
Scouted for weeds	98	90	98
Scouting for weeds was done by:			
Operator, partner, or family member	85	88	84
An employee	2	1	1
Farm supply or chemical dealer			1
Indep. crop consultant or comm. scout	13	10	14
Scouted for insects amd mites	95	91	98
Scouting for insects/mites was done by:			
Operator, partner, or family member	81	85	83
An employee	2	1	1
Farm supply or chemical dealer			1
Indep. crop consultant or comm. scout	17	13	15
Scouted for diseases	96	89	98
Scouting for diseases was done by:			
Operator, partner, or family member	81	85	83
An employee	2	1	1
Farm supply or chemical dealer		*	1
Indep. crop consultant or comm. scout	17	13	15
Records kept to track pests	9	20	19
Field mapping of weed problem	10	*	3
Soil/plant tissue analysis to detect pests	3	1	6
Weather monitoring	69	33	71
Suppression Practices:			
Biological pesticides	4		2
Beneficial organisms	4	*	1
Scouting used to make decisions	12	9	19
Maintain ground cover or physical barriers	32	30	33
Adjust planting methods	13	4	23
Alternate pesticides with different MOA	37	4	28

* Less than 0.5 percent

Pest Management Practices, Percent of Acres Receiving Practice, Peanuts, 2004

Practice	States		
	AL	FL	GA
	Percent of Acres	*Percent of Acres*	*Percent of Acres*
Prevention Practices:			
No-till/minimum till used	8	45	24
Remove or plow down crop residue	40	70	56
Clean implements after fieldwork	47	50	54
Field cultivated for weed control	28	27	19
Field edges/etc, chopped, mowed/etc.	65	37	73
Water management practices	2		11
Avoidance Practices:			
Adjust planting/harvesting dates	11	29	29
Rotate crops to control pests	59	61	73
Planting locations planned to avoid pests	6	10	14
Growing trap crop to control insects	*		
Crop variety chosen for pest resistance	35	33	42
Monitoring Practices:			
Scouting by general observation	48	21	46
Deliberate scouting activites	52	79	54
Field was not scouted	*		
Established scouting process/insect trap used	21	38	29
Scouting due to pest advisory warning	3	3	13
Scouting due to pest development model	5		13
Scouted for weeds	99	100	99
Scouting for weeds was done by:			
Operator, partner, or family member	90	92	74
An employee	4		2
Farm supply or chemical dealer	1	4	*
Indep. crop consultant or comm. scout	5	4	24
Scouted for insects amd mites	100	100	100
Scouting for insects/mites was done by:			
Operator, partner, or family member	90	92	74
An employee	4		2
Farm supply or chemical dealer	1	4	*
Indep. crop consultant or comm. scout	5	4	24
Scouted for diseases	99	100	99
Scouting for diseases was done by:			
Operator, partner, or family member	90	92	74
An employee	4		2
Farm supply or chemical dealer	1	4	*
Indep. crop consultant or comm. scout	5	4	24
Records kept to track pests	24	47	21
Field mapping of weed problem	2		5
Soil/plant tissue analysis to detect pests	2	13	11
Weather monitoring	70	91	68
Suppression Practices:			
Biological pesticides	4	1	3
Beneficial organisms	*	2	
Scouting used to make decisions	13	13	27
Maintain ground cover or physical barriers	32	28	26
Adjust planting methods	8	23	31
Alternate pesticides with different MOA	39	26	30

* Less than 0.5 percent

Pest Management Practices, Percent of Acres Receiving Practice, Peanuts, 2004 (continued)

Practice	States		Program States
	NC	TX	
	Percent of Acres	*Percent of Acres*	*Percent of Acres*
Prevention Practices:			
No-till/minimum till used	11	18	22
Remove or plow down crop residue	50	55	54
Clean implements after fieldwork	40	67	54
Field cultivated for weed control	26	85	34
Field edges/etc, chopped, mowed/etc.	48	75	66
Water management practices		17	9
Avoidance Practices:			
Adjust planting/harvesting dates	16	11	22
Rotate crops to control pests	87	73	71
Planting locations planned to avoid pests	15	9	11
Growing trap crop to control insects	2		*
Crop variety chosen for pest resistance	39	15	35
Monitoring Practices:			
Scouting by general observation	41	56	45
Deliberate scouting activites	57	43	55
Field was not scouted	2	1	*
Established scouting process/insect trap used	27	12	25
Scouting due to pest advisory warning	14	7	9
Scouting due to pest development model	9	8	9
Scouted for weeds	98	86	96
Scouting for weeds was done by:			
Operator, partner, or family member	79	83	80
An employee	2	3	2
Farm supply or chemical dealer			1
Indep. crop consultant or comm. scout	19	15	17
Scouted for insects amd mites	93	90	98
Scouting for insects/mites was done by:			
Operator, partner, or family member	75	81	80
An employee	2	2	2
Farm supply or chemical dealer			1
Indep. crop consultant or comm. scout	22	17	17
Scouted for diseases	96	85	96
Scouting for diseases was done by:			
Operator, partner, or family member	76	79	79
An employee	2	3	2
Farm supply or chemical dealer		*	1
Indep. crop consultant or comm. scout	22	18	18
Records kept to track pests	16	25	25
Field mapping of weed problem	13	*	4
Soil/plant tissue analysis to detect pests	2	1	7
Weather monitoring	75	34	65
Suppression Practices:			
Biological pesticides	8		3
Beneficial organisms	2	*	*
Scouting used to make decisions	19	13	20
Maintain ground cover or physical barriers	36	42	31
Adjust planting methods	17	4	21
Alternate pesticides with different MOA	47	3	27

* Less than 0.5 percent

Pest Management Practices, Percent of Farms Utilizing Practice, Soybeans, 2004

Practice	States			
	AR	IL	IN	IA
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:				
No-till/minimum till used	41	51	59	56
Remove or plow down crop residue	44	10	9	16
Clean implements after fieldwork	26	27	16	27
Field cultivated for weed control	10	5	3	10
Field edges/etc, chopped, mowed/etc.	36	53	46	38
Water management practices	10	*		
Avoidance Practices:				
Adjust planting/harvesting dates	6	8	3	5
Rotate crops to control pests	41	75	78	75
Planting locations planned to avoid pests	5	14	5	17
Growing trap crop to control insects	1			
Crop variety chosen for pest resistance	37	40	36	50
Monitoring Practices:				
Scouting by general observation	49	50	43	37
Deliberate scouting activites	33	45	45	53
Field was not scouted	18	5	12	10
Established scouting process/insect trap used	9	23	12	14
Scouting due to pest advisory warning	6	4	5	14
Scouting due to pest development model	5	6	7	9
Scouted for weeds	81	95	88	85
Scouting for weeds was done by:				
Operator, partner, or family member	81	85	90	87
An employee	*	1	*	*
Farm supply or chemical dealer	7	12	5	11
Indep. crop consultant or comm. scout	13	2	4	2
Scouted for insects amd mites	71	79	61	80
Scouting for insects/mites was done by:				
Operator, partner, or family member	82	85	88	86
An employee	*	1		*
Farm supply or chemical dealer	8	11	6	12
Indep. crop consultant or comm. scout	10	3	5	2
Scouted for diseases	68	79	62	62
Scouting for diseases was done by:				
Operator, partner, or family member	82	85	88	86
An employee	*	1		1
Farm supply or chemical dealer	7	11	6	11
Indep. crop consultant or comm. scout	11	3	5	3
Records kept to track pests	14	25	11	7
Field mapping of weed problem	4	13	5	7
Soil/plant tissue analysis to detect pests	1	2	3	2
Weather monitoring	48	75	53	61
Suppression Practices:				
Biological pesticides	3	*	*	2
Scouting used to make decisions	29	35	17	30
Maintain ground cover or physical barriers	9	26	21	30
Adjust planting methods	8	33	12	19
Alternate pesticides with different MOA	5	19	17	15

* Less than 0.5 percent

Pest Management Practices, Percent of Farms Utilizing Practice, Soybeans, 2004 (continued)

Practice	States			
	KS	MN	MO	NE
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:				
No-till/minimum till used	61	32	59	70
Remove or plow down crop residue	10	19	21	12
Clean implements after fieldwork	42	51	26	22
Field cultivated for weed control	5	15	1	20
Field edges/etc, chopped, mowed/etc.	33	29	56	47
Water management practices	5	*		12
Avoidance Practices:				
Adjust planting/harvesting dates	16	2	5	3
Rotate crops to control pests	87	86	74	95
Planting locations planned to avoid pests	12	10	12	14
Growing trap crop to control insects	3		1	1
Crop variety chosen for pest resistance	39	33	39	57
Monitoring Practices:				
Scouting by general observation	56	38	48	36
Deliberate scouting activites	41	58	40	58
Field was not scouted	2	4	12	6
Established scouting process/insect trap used	12	17	7	14
Scouting due to pest advisory warning	3	16	6	20
Scouting due to pest development model	4	7	2	8
Scouted for weeds	98	96	88	91
Scouting for weeds was done by:				
Operator, partner, or family member	90	88	94	80
An employee	1		*	
Farm supply or chemical dealer	*	7	3	6
Indep. crop consultant or comm. scout	9	5	3	13
Scouted for insects amd mites	62	85	65	88
Scouting for insects/mites was done by:				
Operator, partner, or family member	85	88	95	77
An employee	1			
Farm supply or chemical dealer	1	6	3	9
Indep. crop consultant or comm. scout	14	5	2	14
Scouted for diseases	58	82	63	69
Scouting for diseases was done by:				
Operator, partner, or family member	85	89	96	75
An employee	1			
Farm supply or chemical dealer	1	6	2	7
Indep. crop consultant or comm. scout	14	5	2	18
Records kept to track pests	11	12	7	12
Field mapping of weed problem	3	5	5	11
Soil/plant tissue analysis to detect pests	2	4	6	11
Weather monitoring	68	69	47	51
Suppression Practices:				
Biological pesticides	3	*	*	5
Scouting used to make decisions	13	19	11	36
Maintain ground cover or physical barriers	33	24	23	43
Adjust planting methods	14	13	28	15
Alternate pesticides with different MOA	19	16	12	18

* Less than 0.5 percent

Pest Management Practices, Percent of Farms Utilizing Practice, Soybeans, 2004 (continued)

Practice	States			Program States
	ND	OH	SD	
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:				
No-till/minimum till used	45	69	64	55
Remove or plow down crop residue	28	18	23	17
Clean implements after fieldwork	40	26	31	29
Field cultivated for weed control	10	1	9	7
Field edges/etc, chopped, mowed/etc.	54	42	17	43
Water management practices				2
Avoidance Practices:				
Adjust planting/harvesting dates	7	*	6	5
Rotate crops to control pests	81	90	87	79
Planting locations planned to avoid pests	30	4	16	12
Growing trap crop to control insects				*
Crop variety chosen for pest resistance	38	34	34	40
Monitoring Practices:				
Scouting by general observation	22	64	36	45
Deliberate scouting activites	64	31	59	47
Field was not scouted	14	5	5	8
Established scouting process/insect trap used	17	10	24	15
Scouting due to pest advisory warning	16	5	15	9
Scouting due to pest development model	10	5	5	6
Scouted for weeds	86	95	95	91
Scouting for weeds was done by:				
Operator, partner, or family member	79	86	72	86
An employee		*		*
Farm supply or chemical dealer	3	13	11	8
Indep. crop consultant or comm. scout	19	1	17	5
Scouted for insects amd mites	70	86	90	77
Scouting for insects/mites was done by:				
Operator, partner, or family member	75	85	70	85
An employee		1		*
Farm supply or chemical dealer	3	13	13	9
Indep. crop consultant or comm. scout	22	1	17	6
Scouted for diseases	68	78	78	71
Scouting for diseases was done by:				
Operator, partner, or family member	75	84	67	85
An employee		1		*
Farm supply or chemical dealer	3	15	13	9
Indep. crop consultant or comm. scout	22	1	20	6
Records kept to track pests	25	13	24	14
Field mapping of weed problem	3	6	12	7
Soil/plant tissue analysis to detect pests	2	2	6	3
Weather monitoring	65	52	59	60
Suppression Practices:				
Biological pesticides	*			1
Scouting used to make decisions	27	19	37	25
Maintain ground cover or physical barriers	33	16	30	25
Adjust planting methods	19	9	19	19
Alternate pesticides with different MOA	6	18	7	15

* Less than 0.5 percent

Pest Management Practices, Percent of Acres Receiving Practice, Soybeans, 2004

Practice	States			
	AR	IL	IN	IA
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:				
No-till/minimum till used	40	54	59	59
Remove or plow down crop residue	41	15	11	16
Clean implements after fieldwork	23	28	19	26
Field cultivated for weed control	9	9	2	10
Field edges/etc, chopped, mowed/etc.	41	60	46	40
Water management practices	14	1		
Avoidance Practices:				
Adjust planting/harvesting dates	7	9	1	6
Rotate crops to control pests	49	75	78	78
Planting locations planned to avoid pests	6	13	6	16
Growing trap crop to control insects	2			
Crop variety chosen for pest resistance	35	46	37	56
Monitoring Practices:				
Scouting by general observation	55	47	42	33
Deliberate scouting activites	33	49	48	57
Field was not scouted	12	4	10	9
Established scouting process/insect trap used	7	23	11	18
Scouting due to pest advisory warning	4	6	5	18
Scouting due to pest development model	5	9	7	10
Scouted for weeds	86	96	90	86
Scouting for weeds was done by:				
Operator, partner, or family member	85	87	87	83
An employee	*	2	1	1
Farm supply or chemical dealer	4	9	8	13
Indep. crop consultant or comm. scout	11	2	4	4
Scouted for insects amd mites	79	87	66	83
Scouting for insects/mites was done by:				
Operator, partner, or family member	87	88	87	82
An employee	*	2		1
Farm supply or chemical dealer	4	8	8	14
Indep. crop consultant or comm. scout	9	3	5	4
Scouted for diseases	76	86	66	71
Scouting for diseases was done by:				
Operator, partner, or family member	87	88	87	81
An employee	*	2		2
Farm supply or chemical dealer	4	8	8	12
Indep. crop consultant or comm. scout	9	2	5	5
Records kept to track pests	19	24	11	11
Field mapping of weed problem	2	14	6	11
Soil/plant tissue analysis to detect pests	2	4	3	3
Weather monitoring	45	81	50	68
Suppression Practices:				
Biological pesticides	1	1	1	1
Scouting used to make decisions	31	38	18	33
Maintain ground cover or physical barriers	9	25	19	27
Adjust planting methods	9	28	10	24
Alternate pesticides with different MOA	3	20	16	13

* Less than 0.5 percent

Pest Management Practices, Percent of Acres Receiving Practice, Soybeans, 2004 (continued)

Practice	States			
	KS	MN	MO	NE
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:				
No-till/minimum till used	64	33	60	68
Remove or plow down crop residue	10	20	18	13
Clean implements after fieldwork	38	47	21	27
Field cultivated for weed control	5	16	2	22
Field edges/etc, chopped, mowed/etc.	33	36	50	49
Water management practices	10	1		17
Avoidance Practices:				
Adjust planting/harvesting dates	12	4	5	2
Rotate crops to control pests	90	91	71	92
Planting locations planned to avoid pests	13	8	9	14
Growing trap crop to control insects	2		1	2
Crop variety chosen for pest resistance	41	35	38	54
Monitoring Practices:				
Scouting by general observation	52	31	43	38
Deliberate scouting activites	47	62	42	55
Field was not scouted	1	8	15	7
Established scouting process/insect trap used	18	19	8	20
Scouting due to pest advisory warning	5	10	7	21
Scouting due to pest development model	5	9	3	9
Scouted for weeds	99	91	85	91
Scouting for weeds was done by:				
Operator, partner, or family member	81	82	89	77
An employee	2		*	
Farm supply or chemical dealer	1	8	7	8
Indep. crop consultant or comm. scout	16	10	4	15
Scouted for insects amd mites	65	84	63	87
Scouting for insects/mites was done by:				
Operator, partner, or family member	73	83	90	73
An employee	2			
Farm supply or chemical dealer	2	6	6	11
Indep. crop consultant or comm. scout	24	11	4	16
Scouted for diseases	56	76	60	68
Scouting for diseases was done by:				
Operator, partner, or family member	69	83	91	71
An employee	2			
Farm supply or chemical dealer	2	5	5	9
Indep. crop consultant or comm. scout	27	12	4	20
Records kept to track pests	16	17	10	11
Field mapping of weed problem	8	8	6	9
Soil/plant tissue analysis to detect pests	3	5	4	8
Weather monitoring	70	72	49	50
Suppression Practices:				
Biological pesticides	4	1	1	7
Scouting used to make decisions	19	23	12	37
Maintain ground cover or physical barriers	37	26	27	44
Adjust planting methods	16	11	23	19
Alternate pesticides with different MOA	24	19	13	17

* Less than 0.5 percent

Pest Management Practices, Percent of Acres Receiving Practice, Soybeans, 2004 (continued)

Practice	States			Program States
	ND	OH	SD	
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:				
No-till/minimum till used	55	69	65	56
Remove or plow down crop residue	19	13	17	17
Clean implements after fieldwork	39	26	27	29
Field cultivated for weed control	10	1	4	9
Field edges/etc, chopped, mowed/etc.	55	45	15	44
Water management practices				3
Avoidance Practices:				
Adjust planting/harvesting dates	4	1	4	5
Rotate crops to control pests	86	89	84	80
Planting locations planned to avoid pests	28	3	15	12
Growing trap crop to control insects				*
Crop variety chosen for pest resistance	30	32	30	42
Monitoring Practices:				
Scouting by general observation	24	63	38	41
Deliberate scouting activites	70	31	59	52
Field was not scouted	6	6	4	8
Established scouting process/insect trap used	15	9	22	16
Scouting due to pest advisory warning	11	7	13	11
Scouting due to pest development model	8	5	5	8
Scouted for weeds	94	93	96	91
Scouting for weeds was done by:				
Operator, partner, or family member	83	87	70	83
An employee		1		1
Farm supply or chemical dealer	4	10	13	8
Indep. crop consultant or comm. scout	13	1	17	7
Scouted for insects amd mites	73	83	91	80
Scouting for insects/mites was done by:				
Operator, partner, or family member	80	87	68	82
An employee		2		1
Farm supply or chemical dealer	4	11	14	9
Indep. crop consultant or comm. scout	16	1	18	8
Scouted for diseases	68	76	78	73
Scouting for diseases was done by:				
Operator, partner, or family member	80	86	65	82
An employee		2		1
Farm supply or chemical dealer	4	12	14	8
Indep. crop consultant or comm. scout	16	1	21	9
Records kept to track pests	23	10	25	16
Field mapping of weed problem	4	8	11	9
Soil/plant tissue analysis to detect pests	2	2	4	4
Weather monitoring	69	51	52	63
Suppression Practices:				
Biological pesticides	1			1
Scouting used to make decisions	24	18	37	28
Maintain ground cover or physical barriers	27	16	32	26
Adjust planting methods	20	12	18	19
Alternate pesticides with different MOA	7	20	6	15

* Less than 0.5 percent

Pest Management Practices, Percent of Farms Utilizing Practice, Other Spring Wheat, 2004

Practice	States			
	ID	MN	MT	ND
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:				
No-till/minimum till used	16	15	36	30
Remove or plow down crop residue	26	19	35	25
Clean implements after fieldwork	25	31	25	63
Field edges/etc, chopped, mowed/etc.	28	35	11	38
Water management practices	8		*	
Avoidance Practices:				
Adjust planting/harvesting dates	7	5	5	13
Rotate crops to control pests	48	79	22	76
Planting locations planned to avoid pests	2	11	3	10
Crop variety chosen for pest resistance	11	28	15	21
Monitoring Practices:				
Scouting by general observation	40	13	37	24
Deliberate scouting activites	55	78	37	75
Field was not scouted	5	9	25	1
Established scouting process/insect trap used	10	36	2	9
Scouting due to pest advisory warning	1	7	*	3
Scouting due to pest development model	1	8	1	4
Scouted for weeds	95	91	74	99
Scouting for weeds was done by:				
Operator, partner, or family member	70	67	98	77
An employee	2			
Farm supply or chemical dealer	23	14	2	5
Indep. crop consultant or comm. scout	6	19		18
Scouted for insects amd mites	48	79	42	51
Scouting for insects/mites was done by:				
Operator, partner, or family member	84	63	100	63
An employee	3			
Farm supply or chemical dealer	9	15		3
Indep. crop consultant or comm. scout	3	21		34
Scouted for diseases	43	78	38	69
Scouting for diseases was done by:				
Operator, partner, or family member	77	63	97	71
An employee	4			
Farm supply or chemical dealer	16	16	3	2
Indep. crop consultant or comm. scout	3	22		26
Records kept to track pests	13	42	10	18
Field mapping of weed problem	1	12	4	5
Soil/plant tissue analysis to detect pests	5	1		
Weather monitoring	33	62	27	57
Suppression Practices:				
Biological pesticides				2
Scouting used to make decisions	6	25	4	24
Maintain ground cover or physical barriers	13	19	21	29
Alternate pesticides with different MOA	13	22	24	47

* Less than 0.5 percent

Pest Management Practices, Percent of Farms Utilizing Practice, Other Spring Wheat, 2004 (continued)

Practice	States			Program States
	OR	SD	WA	
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:				
No-till/minimum till used	26	66	26	35
Remove or plow down crop residue	26	10	19	23
Clean implements after fieldwork	46	37	51	45
Field edges/etc, chopped, mowed/etc.	32	19	27	28
Water management practices	20		3	1
Avoidance Practices:				
Adjust planting/harvesting dates	4	2	19	8
Rotate crops to control pests	28	77	54	63
Planting locations planned to avoid pests	2	15	5	9
Crop variety chosen for pest resistance	12	11	38	19
Monitoring Practices:				
Scouting by general observation	28	32	12	27
Deliberate scouting activites	65	63	87	65
Field was not scouted	7	5	1	8
Established scouting process/insect trap used	12	32	34	16
Scouting due to pest advisory warning	5	3	4	3
Scouting due to pest development model	9	1	2	3
Scouted for weeds	89	95	99	92
Scouting for weeds was done by:				
Operator, partner, or family member	70	71	83	78
An employee	6			*
Farm supply or chemical dealer	23	18	17	9
Indep. crop consultant or comm. scout	*	11	1	13
Scouted for insects amd mites	82	66	75	56
Scouting for insects/mites was done by:				
Operator, partner, or family member	78	59	88	70
An employee	5			*
Farm supply or chemical dealer	17	25	12	10
Indep. crop consultant or comm. scout		16		20
Scouted for diseases	76	71	88	64
Scouting for diseases was done by:				
Operator, partner, or family member	76	61	81	72
An employee	5			*
Farm supply or chemical dealer	19	24	19	10
Indep. crop consultant or comm. scout		15		18
Records kept to track pests	27	24	13	20
Field mapping of weed problem	11	14	5	7
Soil/plant tissue analysis to detect pests	4	5	4	1
Weather monitoring	77	60	73	52
Suppression Practices:				
Biological pesticides	*	*		1
Scouting used to make decisions	11	29	19	20
Maintain ground cover or physical barriers	11	32	31	26
Alternate pesticides with different MOA	23	16	47	33

* Less than 0.5 percent

Pest Management Practices, Percent of Acres Receiving Practice, Other Spring Wheat, 2004

Practice	States			
	ID	MN	MT	ND
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:				
No-till/minimum till used	22	13	55	33
Remove or plow down crop residue	34	21	28	21
Clean implements after fieldwork	38	34	45	67
Field edges/etc, chopped, mowed/etc.	26	45	20	45
Water management practices	11		*	
Avoidance Practices:				
Adjust planting/harvesting dates	5	5	25	11
Rotate crops to control pests	53	84	19	83
Planting locations planned to avoid pests	6	16	3	18
Crop variety chosen for pest resistance	17	32	24	32
Monitoring Practices:				
Scouting by general observation	45	7	23	13
Deliberate scouting activites	53	86	69	85
Field was not scouted	2	7	8	2
Established scouting process/insect trap used	12	41	24	17
Scouting due to pest advisory warning	1	7	1	7
Scouting due to pest development model	3	10	1	5
Scouted for weeds	98	93	92	98
Scouting for weeds was done by:				
Operator, partner, or family member	79	59	98	70
An employee	3			
Farm supply or chemical dealer	15	18	2	6
Indep. crop consultant or comm. scout	4	22		24
Scouted for insects amd mites	57	82	45	63
Scouting for insects/mites was done by:				
Operator, partner, or family member	82	55	100	60
An employee	3			
Farm supply or chemical dealer	11	20		6
Indep. crop consultant or comm. scout	4	24		34
Scouted for diseases	58	80	58	73
Scouting for diseases was done by:				
Operator, partner, or family member	80	55	97	63
An employee	3			
Farm supply or chemical dealer	13	21	3	5
Indep. crop consultant or comm. scout	3	25		32
Records kept to track pests	19	51	37	23
Field mapping of weed problem	4	21	10	8
Soil/plant tissue analysis to detect pests	7	1		
Weather monitoring	39	63	56	71
Suppression Practices:				
Biological pesticides				4
Scouting used to make decisions	11	29	4	34
Maintain ground cover or physical barriers	23	19	23	38
Alternate pesticides with different MOA	20	24	37	50

* Less than 0.5 percent

Pest Management Practices, Percent of Acres Receiving Practice, Other Spring Wheat, 2004 (continued)

Practice	States			Program States
	OR	SD	WA	
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:				
No-till/minimum till used	37	70	36	40
Remove or plow down crop residue	21	6	20	21
Clean implements after fieldwork	69	27	48	52
Field edges/etc, chopped, mowed/etc.	29	17	22	34
Water management practices	10		4	1
Avoidance Practices:				
Adjust planting/harvesting dates	9	8	17	13
Rotate crops to control pests	20	82	56	66
Planting locations planned to avoid pests	2	11	8	13
Crop variety chosen for pest resistance	6	10	35	27
Monitoring Practices:				
Scouting by general observation	43	33	20	19
Deliberate scouting activites	54	60	77	77
Field was not scouted	4	8	4	4
Established scouting process/insect trap used	10	17	14	21
Scouting due to pest advisory warning	3	7	6	5
Scouting due to pest development model	2	1	2	4
Scouted for weeds	96	92	96	95
Scouting for weeds was done by:				
Operator, partner, or family member	72	74	83	76
An employee	7			*
Farm supply or chemical dealer	20	10	15	8
Indep. crop consultant or comm. scout	*	16	2	16
Scouted for insects amd mites	78	62	76	62
Scouting for insects/mites was done by:				
Operator, partner, or family member	71	63	81	68
An employee	7			*
Farm supply or chemical dealer	21	14	19	9
Indep. crop consultant or comm. scout		24		23
Scouted for diseases	77	69	84	70
Scouting for diseases was done by:				
Operator, partner, or family member	71	65	82	70
An employee	8			*
Farm supply or chemical dealer	21	14	18	9
Indep. crop consultant or comm. scout		21		21
Records kept to track pests	14	21	25	29
Field mapping of weed problem	8	10	9	10
Soil/plant tissue analysis to detect pests	7	3	4	1
Weather monitoring	81	55	61	63
Suppression Practices:				
Biological pesticides	*	*		2
Scouting used to make decisions	10	17	20	23
Maintain ground cover or physical barriers	11	34	28	31
Alternate pesticides with different MOA	23	18	39	38

* Less than 0.5 percent

Pest Management Practices, Percent of Farms Utilizing Practice, Winter Wheat, 2004

Practice	States			
	CO	ID	IL	KS
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:				
No-till/minimum till used	27	25	48	25
Remove or plow down crop residue	26	20	7	37
Clean implements after fieldwork	44	25	22	44
Field edges/etc, chopped, mowed/etc.	31	38	51	45
Water management practices		7		
Avoidance Practices:				
Adjust planting/harvesting dates	7	6	27	15
Rotate crops to control pests	20	66	85	32
Planting locations planned to avoid pests	1	8	18	9
Crop variety chosen for pest resistance	13	27	24	25
Monitoring Practices:				
Scouting by general observation	50	45	43	69
Deliberate scouting activites	40	42	37	12
Field was not scouted	10	13	20	19
Established scouting process/insect trap used	1	3	13	*
Scouting due to pest advisory warning		3	14	3
Scouting due to pest development model		5	6	*
Scouted for weeds	88	87	67	81
Scouting for weeds was done by:				
Operator, partner, or family member	74	79	94	94
An employee		1		
Farm supply or chemical dealer	25	19	3	3
Indep. crop consultant or comm. scout	1	1	3	3
Scouted for insects amd mites	59	57	58	55
Scouting for insects/mites was done by:				
Operator, partner, or family member	80	78	92	93
An employee		1		
Farm supply or chemical dealer	18	19	4	2
Indep. crop consultant or comm. scout	2	2	4	5
Scouted for diseases	52	72	63	54
Scouting for diseases was done by:				
Operator, partner, or family member	77	76	89	93
An employee		1		
Farm supply or chemical dealer	20	20	8	2
Indep. crop consultant or comm. scout	3	3	3	5
Records kept to track pests	14	16	11	5
Field mapping of weed problem	12	4	7	*
Soil/plant tissue analysis to detect pests		6	*	
Weather monitoring	5	43	23	13
Suppression Practices:				
Biological pesticides				
Scouting used to make decisions	1	13	17	4
Maintain ground cover or physical barriers	37	34	17	26
Alternate pesticides with different MOA	1	31	7	1

* Less than 0.5 percent

Pest Management Practices, Percent of Farms Utilizing Practice, Winter Wheat, 2004 (continued)

Practice	States			
	MI	MO	MT	NE
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:				
No-till/minimum till used	47	33	73	29
Remove or plow down crop residue	19	15	28	29
Clean implements after fieldwork	35	22	40	19
Field edges/etc, chopped, mowed/etc.	35	33	20	35
Water management practices	*		*	4
Avoidance Practices:				
Adjust planting/harvesting dates	20	10	24	25
Rotate crops to control pests	79	70	9	44
Planting locations planned to avoid pests	5	5	8	7
Crop variety chosen for pest resistance	24	14	42	16
Monitoring Practices:				
Scouting by general observation	29	54	37	58
Deliberate scouting activites	49	18	60	17
Field was not scouted	22	28	3	25
Established scouting process/insect trap used	12	2	2	3
Scouting due to pest advisory warning	14	1	*	1
Scouting due to pest development model	4	1	2	2
Scouted for weeds	73	72	97	74
Scouting for weeds was done by:				
Operator, partner, or family member	82	91	90	92
An employee	5	6		
Farm supply or chemical dealer	12	2	10	7
Indep. crop consultant or comm. scout	1	2		1
Scouted for insects amd mites	51	52	91	52
Scouting for insects/mites was done by:				
Operator, partner, or family member	75	87	90	91
An employee	7	8		
Farm supply or chemical dealer	12	2	10	8
Indep. crop consultant or comm. scout	6	3		1
Scouted for diseases	58	55	71	47
Scouting for diseases was done by:				
Operator, partner, or family member	73	88	100	89
An employee	6	7		
Farm supply or chemical dealer	19	2	*	9
Indep. crop consultant or comm. scout	2	3		2
Records kept to track pests	14	10	20	10
Field mapping of weed problem	5	7	2	13
Soil/plant tissue analysis to detect pests	3	3		*
Weather monitoring	31	12	48	16
Suppression Practices:				
Biological pesticides			*	
Scouting used to make decisions	24	10	4	11
Maintain ground cover or physical barriers	16	24	24	47
Alternate pesticides with different MOA	2		19	8

* Less than 0.5 percent

Pest Management Practices, Percent of Farms Utilizing Practice, Winter Wheat, 2004 (continued)

Practice	States			
	OH	OK	OR	SD
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:				
No-till/minimum till used	67	5	20	60
Remove or plow down crop residue	21	33	46	24
Clean implements after fieldwork	26	46	54	29
Field edges/etc, chopped, mowed/etc.	44	27	39	15
Water management practices			7	
Avoidance Practices:				
Adjust planting/harvesting dates	30	6	8	16
Rotate crops to control pests	76	6	26	66
Planting locations planned to avoid pests	4	1	*	8
Crop variety chosen for pest resistance	12	3	36	21
Monitoring Practices:				
Scouting by general observation	43	45	34	45
Deliberate scouting activites	28	28	62	44
Field was not scouted	29	27	4	11
Established scouting process/insect trap used	4	4	17	9
Scouting due to pest advisory warning	6	9	5	2
Scouting due to pest development model	1	3	9	2
Scouted for weeds	70	65	88	89
Scouting for weeds was done by:				
Operator, partner, or family member	92	94	63	85
An employee	*		3	*
Farm supply or chemical dealer	8	5	34	6
Indep. crop consultant or comm. scout	*	1		8
Scouted for insects amd mites	64	72	73	60
Scouting for insects/mites was done by:				
Operator, partner, or family member	91	95	68	82
An employee			3	*
Farm supply or chemical dealer	9	5	29	7
Indep. crop consultant or comm. scout		1		11
Scouted for diseases	66	60	64	64
Scouting for diseases was done by:				
Operator, partner, or family member	91	95	72	82
An employee			4	*
Farm supply or chemical dealer	9	5	24	7
Indep. crop consultant or comm. scout		1		11
Records kept to track pests	5	3	24	18
Field mapping of weed problem	2		3	1
Soil/plant tissue analysis to detect pests	*	3	3	1
Weather monitoring	10	15	63	26
Suppression Practices:				
Biological pesticides			2	
Scouting used to make decisions	11	8	19	8
Maintain ground cover or physical barriers	15	9	44	38
Alternate pesticides with different MOA	4	6	39	12

* Less than 0.5 percent

Pest Management Practices, Percent of Farms Utilizing Practice, Winter Wheat, 2004 (continued)

Practice	States		Program States
	TX	WA	
	Percent of Farms	*Percent of Farms*	*Percent of Farms*
Prevention Practices:			
No-till/minimum till used	11	23	28
Remove or plow down crop residue	37	66	30
Clean implements after fieldwork	26	49	34
Field edges/etc, chopped, mowed/etc.	28	41	34
Water management practices	3	5	1
Avoidance Practices:			
Adjust planting/harvesting dates	13	19	15
Rotate crops to control pests	19	31	35
Planting locations planned to avoid pests	2	20	5
Crop variety chosen for pest resistance	23	34	20
Monitoring Practices:			
Scouting by general observation	41	35	49
Deliberate scouting activites	28	64	29
Field was not scouted	31	1	22
Established scouting process/insect trap used	9	14	5
Scouting due to pest advisory warning	1	1	4
Scouting due to pest development model	11	6	4
Scouted for weeds	65	99	75
Scouting for weeds was done by:			
Operator, partner, or family member	98	75	91
An employee	1	4	1
Farm supply or chemical dealer	1	21	7
Indep. crop consultant or comm. scout			2
Scouted for insects amd mites	64	69	62
Scouting for insects/mites was done by:			
Operator, partner, or family member	99	74	91
An employee		5	1
Farm supply or chemical dealer	1	20	6
Indep. crop consultant or comm. scout			2
Scouted for diseases	54	80	58
Scouting for diseases was done by:			
Operator, partner, or family member	99	68	91
An employee		5	1
Farm supply or chemical dealer	1	27	6
Indep. crop consultant or comm. scout			2
Records kept to track pests	*	24	7
Field mapping of weed problem	*	9	3
Soil/plant tissue analysis to detect pests	1	3	1
Weather monitoring	5	73	16
Suppression Practices:			
Biological pesticides	1	8	*
Scouting used to make decisions	1	17	7
Maintain ground cover or physical barriers	19	33	24
Alternate pesticides with different MOA	9	42	7

* Less than 0.5 percent

Pest Management Practices, Percent of Acres Receiving Practice, Winter Wheat, 2004

Practice	States			
	CO	ID	IL	KS
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:				
No-till/minimum till used	41	33	57	22
Remove or plow down crop residue	28	18	6	30
Clean implements after fieldwork	55	32	25	41
Field edges/etc, chopped, mowed/etc.	36	24	52	48
Water management practices		4		
Avoidance Practices:				
Adjust planting/harvesting dates	20	6	27	15
Rotate crops to control pests	25	66	85	28
Planting locations planned to avoid pests	3	5	17	7
Crop variety chosen for pest resistance	14	37	29	24
Monitoring Practices:				
Scouting by general observation	73	44	41	59
Deliberate scouting activites	20	44	38	17
Field was not scouted	7	12	21	24
Established scouting process/insect trap used	1	2	17	*
Scouting due to pest advisory warning		2	10	6
Scouting due to pest development model		1	9	*
Scouted for weeds	92	88	70	76
Scouting for weeds was done by:				
Operator, partner, or family member	89	77	90	90
An employee		*		
Farm supply or chemical dealer	8	23	2	4
Indep. crop consultant or comm. scout	3	*	9	6
Scouted for insects amd mites	55	46	59	57
Scouting for insects/mites was done by:				
Operator, partner, or family member	92	87	87	89
An employee		1		
Farm supply or chemical dealer	3	12	2	3
Indep. crop consultant or comm. scout	5	1	10	8
Scouted for diseases	41	71	61	53
Scouting for diseases was done by:				
Operator, partner, or family member	90	73	84	88
An employee		1		
Farm supply or chemical dealer	3	24	6	3
Indep. crop consultant or comm. scout	7	3	10	8
Records kept to track pests	5	20	11	8
Field mapping of weed problem	5	7	9	1
Soil/plant tissue analysis to detect pests		10	*	
Weather monitoring	9	35	24	15
Suppression Practices:				
Biological pesticides				
Scouting used to make decisions	1	8	18	5
Maintain ground cover or physical barriers	44	40	20	22
Alternate pesticides with different MOA	1	27	7	1

* Less than 0.5 percent

Pest Management Practices, Percent of Acres Receiving Practice, Winter Wheat, 2004 (continued)

Practice	States			
	MI	MO	MT	NE
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:				
No-till/minimum till used	49	42	76	44
Remove or plow down crop residue	13	15	17	26
Clean implements after fieldwork	40	23	37	26
Field edges/etc, chopped, mowed/etc.	40	42	21	24
Water management practices	*		*	2
Avoidance Practices:				
Adjust planting/harvesting dates	27	12	24	15
Rotate crops to control pests	85	67	15	51
Planting locations planned to avoid pests	6	2	8	7
Crop variety chosen for pest resistance	26	26	46	21
Monitoring Practices:				
Scouting by general observation	24	57	34	57
Deliberate scouting activites	58	20	62	23
Field was not scouted	18	23	4	20
Established scouting process/insect trap used	15	3	4	7
Scouting due to pest advisory warning	18	1	1	1
Scouting due to pest development model	4	2	1	2
Scouted for weeds	76	76	95	80
Scouting for weeds was done by:				
Operator, partner, or family member	78	91	99	95
An employee	2	4		
Farm supply or chemical dealer	18	2	1	5
Indep. crop consultant or comm. scout	2	3		*
Scouted for insects amd mites	57	64	89	52
Scouting for insects/mites was done by:				
Operator, partner, or family member	71	90	99	95
An employee	3	4		
Farm supply or chemical dealer	18	3	1	5
Indep. crop consultant or comm. scout	7	4		1
Scouted for diseases	61	67	75	51
Scouting for diseases was done by:				
Operator, partner, or family member	70	89	100	92
An employee	3	4		
Farm supply or chemical dealer	24	3	*	5
Indep. crop consultant or comm. scout	4	4		3
Records kept to track pests	23	13	17	15
Field mapping of weed problem	6	5	3	16
Soil/plant tissue analysis to detect pests	3	4		2
Weather monitoring	30	18	32	22
Suppression Practices:				
Biological pesticides			*	
Scouting used to make decisions	34	11	5	16
Maintain ground cover or physical barriers	20	23	29	49
Alternate pesticides with different MOA	4		11	12

* Less than 0.5 percent

Pest Management Practices, Percent of Acres Receiving Practice, Winter Wheat, 2004 (continued)

Practice	States			
	OH	OK	OR	SD
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:				
No-till/minimum till used	62	10	33	62
Remove or plow down crop residue	16	33	48	22
Clean implements after fieldwork	28	56	61	34
Field edges/etc, chopped, mowed/etc.	40	36	30	20
Water management practices			3	
Avoidance Practices:				
Adjust planting/harvesting dates	31	8	18	15
Rotate crops to control pests	79	2	8	67
Planting locations planned to avoid pests	5	1	1	15
Crop variety chosen for pest resistance	16	6	59	26
Monitoring Practices:				
Scouting by general observation	41	39	21	35
Deliberate scouting activites	27	34	78	53
Field was not scouted	32	27	2	12
Established scouting process/insect trap used	5	8	13	14
Scouting due to pest advisory warning	9	7	2	2
Scouting due to pest development model	3	6	3	1
Scouted for weeds	68	61	96	88
Scouting for weeds was done by:				
Operator, partner, or family member	87	88	68	79
An employee	*		2	1
Farm supply or chemical dealer	12	10	30	9
Indep. crop consultant or comm. scout	*	2		12
Scouted for insects amd mites	60	72	66	62
Scouting for insects/mites was done by:				
Operator, partner, or family member	87	90	64	74
An employee			1	1
Farm supply or chemical dealer	13	9	35	10
Indep. crop consultant or comm. scout		1		15
Scouted for diseases	64	58	66	66
Scouting for diseases was done by:				
Operator, partner, or family member	88	88	67	74
An employee			2	1
Farm supply or chemical dealer	12	10	32	10
Indep. crop consultant or comm. scout		2		16
Records kept to track pests	6	7	25	25
Field mapping of weed problem	1		7	1
Soil/plant tissue analysis to detect pests	1	5	10	3
Weather monitoring	13	16	46	27
Suppression Practices:				
Biological pesticides			1	
Scouting used to make decisions	13	11	25	10
Maintain ground cover or physical barriers	14	9	51	48
Alternate pesticides with different MOA	4	11	37	15

* Less than 0.5 percent

Pest Management Practices, Percent of Acres Receiving Practice, Winter Wheat, 2004 (continued)

Practice	States		Program States
	TX	WA	
	Percent of Acres	*Percent of Acres*	*Percent of Acres*
Prevention Practices:			
No-till/minimum till used	11	16	28
Remove or plow down crop residue	35	65	30
Clean implements after fieldwork	30	39	40
Field edges/etc, chopped, mowed/etc.	35	24	37
Water management practices	6	5	1
Avoidance Practices:			
Adjust planting/harvesting dates	11	21	15
Rotate crops to control pests	23	17	29
Planting locations planned to avoid pests	2	7	5
Crop variety chosen for pest resistance	19	33	22
Monitoring Practices:			
Scouting by general observation	54	27	49
Deliberate scouting activites	19	72	31
Field was not scouted	27	*	20
Established scouting process/insect trap used	6	17	6
Scouting due to pest advisory warning	*	1	4
Scouting due to pest development model	5	3	3
Scouted for weeds	68	100	76
Scouting for weeds was done by:			
Operator, partner, or family member	87	82	88
An employee	11	1	2
Farm supply or chemical dealer	2	17	7
Indep. crop consultant or comm. scout			3
Scouted for insects amd mites	62	72	63
Scouting for insects/mites was done by:			
Operator, partner, or family member	98	81	90
An employee		1	*
Farm supply or chemical dealer	2	18	6
Indep. crop consultant or comm. scout			4
Scouted for diseases	56	81	58
Scouting for diseases was done by:			
Operator, partner, or family member	97	79	88
An employee		1	*
Farm supply or chemical dealer	3	20	7
Indep. crop consultant or comm. scout			4
Records kept to track pests	*	18	9
Field mapping of weed problem	*	8	3
Soil/plant tissue analysis to detect pests	7	2	3
Weather monitoring	9	75	20
Suppression Practices:			
Biological pesticides	1	2	*
Scouting used to make decisions	3	13	8
Maintain ground cover or physical barriers	17	46	25
Alternate pesticides with different MOA	4	36	8

* Less than 0.5 percent

Survey and Estimation Procedures

Survey Procedures: Data for durum wheat, peanuts, soybeans, other spring wheat and winter wheat were collected on two 2004 surveys, the Agricultural Resources Management Survey (ARMS), which collected 4,727 usable records, and the Conservation Effects Assessment Project (CEAP), which collected 2,232 usable records with commodities matching the ARMS survey.

Data collecting for the ARMS survey occurred during the months of September through December 2004. Screening samples were drawn from the NASS List Sampling Frame. This extensive sampling frame covers all types of farms and accounts for approximately 82% of all land in farms in the U.S. 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 2003. 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 durum wheat, peanuts, soybeans, spring wheat and winter wheat was selected, one field was randomly selected 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.

Data and sampling procedures were similar for CEAP data collection, enumeration occurred from September to December 2004. Although CEAP was a nation-wide, area-based sample survey, only a subset of CEAP data was used in this publication. Specifically, only those CEAP samples that matched the ARMS crops and states were included. The fertilizer, pesticide, and pest management questions were similar in the CEAP and ARMS questionnaires.

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 - 2004 Summary**" [Cr Pr 2-1(04)] for durum wheat, peanuts, soybeans, 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

Reliability: The surveys were designed so that the estimates are statistically representative of chemical use on the targeted crops in the surveyed 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 acres treated will be higher than the variability for estimates of application rates. This is because application rates have a narrower range of responses, 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 US level. For these active ingredients, cv's range from 1 to 15 percent at the US level and 2 to 55 percent at the state level. Active ingredients that are less frequently used have cv's that range from 2 to 70.

Terms and Definitions

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

Allelopathic: The release of chemical compounds from a plant that will inhibit the growth of another plant, such as weeds.

Application Rates: Refer to the average number of pounds of a fertilizer primary nutrient or pesticide active ingredient is 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. This report does not contain acre treatments. However, acre treatments can be calculated by multiplying the acres planted by the percent of area applied and the average number of applications.

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 operating.

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 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 2003, 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?)

Monitoring (continued):

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.

Trade Names, Common Names, and Classes

The following is a list showing common name, associated class, and trade name of active ingredients in this publication. The classes are herbicides (H), insecticides (I), fungicides (F), and other chemicals (O). This list is provided as an aid in reviewing pesticide data. Pre-mixes are not cataloged. The list is not complete for all pesticides used on durum wheat, peanuts, soybeans, spring wheat and winter wheat and NASS does not mean to imply use of any specific trade name.

Class	Common Name	Trade Name
H	2,4-D	Agsco, Amine, Barrage, Class, Clean Crop Low Vol, Curtail, Ded-Weed Sulv, Envy, Grazon P+D, Hi-Dep, Landmaster, LV 6, Riverside, RT Master, Salvo, Tiller, Turret, Unison, Weed Rhap, Weedar, Weedmaster, Weedone
H	2,4-D, Dimeth. salt	Banvel + 2,4-D, Riverdale Triplet Selective, Saber, Savage, Weedar
H	2,4-DB, Dimeth. salt	Butoxone, Butyrac
H	2,4-DP, Dimeth. salt	Amine
H	3-Pyridinecarb. acid	Cadre
I	Acephate	Orthene
H	Acetamide	Axiom, Define, Domain
H	Acetic acid	Agsco, Esteron, Double Up B+D, LV 4 2,4-D Ester, LV 400 2,4-D Weed Killer, Maestro D, Outlaw, Salvan, Starane + Salvo, Weedone
H	Acetochlor	Field Master, Harness
H	Acifluorfen	Blazer, Conclude Ultra B&G, Galaxy, Storm, Ultra Blazer
H	Alachlor	Arrow, Bronco, Freedom, Intrro, Lasso, Micro-Tech, Partner
I	Aldicarb	Temik
H	Atrazine	Aatrex, Aatrex Nine-O, Atrazine, Bicep, Bicep II, Bicep II Magnum, Buctril + Atrazine, Cinch ATZ, Field Master, Guardsman Max, Harness Xtra, Laddok
I	Azinphos-methyl	Guthion
F	Azoxystrobin	Quadris (Abound), Quilt
H	Barban	Carbyne
F	Basic copper sulfate	Microcop
H	Benefin	XL 2G
H	Bentazon	Basagran, Conclude Ultra, Galaxy, Laddok, Pledge, Rezult, Storm
I	Benzoic acid	Intrepid
I	Bifenthrin	Capture
F	Boscalid	Endura
H	Bromoxynil	Agsco, Bromox/MCPA, Bronate, Buctril, Buctril + Atrazine, Rhino
H	Bromoxynil octanoate	Bronate Advanced, Connect, Double Up B+D, Maestro D, WildCard Xtra

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Class	Common Name	Trade Name
I	Bt (Bacillus thur.)	Xentari Biological Insecticide
H	Butoxy. ester 2,4-D	2,4-D/Weedone LV6
I	Carbaryl	Sevin
I	Carbofuran	Furadan
H	Carfentrazone-ethyl	AIM, Affinity, Avalanche
I	Chlorfenapyr	Pirate
H	Chlorimuron-ethyl	Authority, Canopy, Classic, Synchrony
O	Chloropicrin	Telone
F	Chlorothalonil	Bravo, Chlorothalonil Plus Zinc, Echo, Tilt/Bravo
I	Chlorpyrifos	Chlorpyrifos, Govern, Lorsban, Nufos
H	Chlorsulfuron	Finesse, Glean
H	Clethodim	Arrow, Prism, Select
H	Clodinafop-propargil	Discover
H	Clomazone	Command
H	Clopyralid	Curtail, Stinger, WideMatch
H	Cloransulam-methyl	Amplify, FirstRate, Gangster, Gauntlet
H	Colletot. gloeospor	Collego (fungal spores)
F	Copper hydroxide	Kocide
I	Cyfluthrin	Baythroid
I	Cypermethrin	Ammo, Battery
H	Dicamba	Banvel, Banvel + 2,4-D, Clarity, Fallow Master, Oracle Dicamba, Outlaw, Rave, Weedmaster
H	Dicamba, Dime. salt	Riverdale Triplet Selective, Sterling
H	Dicamba, Sodium Salt	Dicamba
O	Dichloropropene	Telone
H	Dichlorprop	Weedone
H	Diclofop-methyl	Hoelon
H	Diclosulam	Strongarm
H	Difenzoquat	Avenge
H	Dimethenamid	Frontier
H	Dimethenamid-P	Guardsman Max, Outlook
I	Dimethoate	Dimethoate
I	Disulfoton	Di-Syston
H	Diuron	Diuron, Karmex, Surefire
I	Endosulfan	Methyl Parathion + Thiodan
I	Esfenvalerate	Asana
H	Ethalfluralin	Sonalan
O	Ethephon	Cerone, Ethephon
H	Ethofumesate	Nortron
I	Ethyl parathion	Parathion
H	Fenoxaprop	Cheyenne, Fusion, Puma, Silverado, Tiller
I	Fipronil	Regent
H	Fluazifop-P-butyl	Fusilade, Fusion, Typhoon
F	Fluazinam	Omega

--- continued

Class	Common Name	Trade Name
H	Flucarbazone-sodium	Everest
F	Fludioxonil	Maxim
H	Flumetsulam	Python
H	Fomesafen	Flexstar, Reflex, Typhoon
O	Garlic oil	Guardian Spray
H	Glufosinate-ammonium	Liberty
H	Glyphosate	Accord, Backdraft, Bronco, Buccaneer, Clear-Out, Cornerstone, Credit, Extreme, Fallow Master, Field Master, Gly Star, Gly-Flo, Glyfos, Glyphomax, Glyphosate, Honcho, Landmaster, Mad Dog Glyphosate, Mirage, Protocol, Ranger, Rattler, Roundup, RT Master
H	Glyphosate diam. salt	Sequence, Touchdown
H	Imazamethabenz	Assert
H	Imazamox	Beyond, Raptor
H	Imazaquin	Backdraft, Scepter, Squadron, Steel
H	Imazethapyr	Extreme, Pursuit, Steel
I	Imidacloprid	Provado
H	Lactofen	Cobra, Phoenix, Stellar
I	Lambda-cyhalothrin	Karate, Warrior
H	Linuron	Lorox
I	Malathion	Malathion
F	Mancozeb	Manzate, Penncozeb
F	Maneb	Manex
H	MCPA	Bromox, Bronate, Cheyenne, Chiptox MCPA, Class MCPA, Curtail, Dagger, MCP Ester, MCP Amine, Rhino, Rhonox, Starane + Sword, Sword, Weed Rhap, Weedone MCPA Ester, WildCard
H	MCPA, dimethyl. salt	MCPA Amine
H	MCPA-EHE	WideMatch, WildCard Xtra
F	Mefenoxam	Maxim, Ridomil Gold
H	Mesosulfuron-Methyl	Osprey
H	Mesotrione	Callisto
F	Metalaxyl	Ridomil
O	Metaldehyde	Deadline M-Ps
O	Metam-sodium	Metam Sodium, Vapam
I	Methomyl	Lannate
I	Methyl parathion	Methyl Parathion, Methyl Parathion + Thiodan, Penncap-M
H	Metolachlor	Bicep, Dual, Turbo
H	Metribuzin	Axiom, Boundary, Canopy, Domain, Lexone, Sencor, Turbo
H	Metsulfuron-methyl	Ally, Canvas, Finesse, Valuron
H	Nicosulfuron	Steadfast

--- continued

Class	Common Name	Trade Name
H	Norflurazon	Zorial
H	Oryzalin	XL 2G
H	Paraquat	Gramoxone, Gramoxone/Cyclone, Starfire, Surefire
F	PCNB	Ridomil Gold
H	Pendimethalin	Pendimax, Prowl, Pursuit, Squadron, Steel
I	Permethrin	Permethrin, Pounce
I	Phorate	Phorate, Thimet
H	Picloram	Grazon P+D, Tordon
H	Flumiclorac-pentyl	Resource, Stellar
H	Flumioxazin	Gangster, Valor
H	Fluroxypyr	Starane
H	Fluroxypyr 1-methyl	Starane + Sword, Starane + Salvo, WideMatch
F	Flutolanil	Artisan, Moncut
H	Primisulfuron	Exceed
I	Profenofos	Curacron
H	Propanil	Prop-Job
H	Propanoic acid	Riverdale Triplet Selective
I	Propargite	Comite
F	Propiconazole	Artisan Peanut, Bravo, Bumper, PropiMax, Quilt Stratego, Tilt
H	Prosulfuron	Exceed, Peak
F	Pyraclostrobin	Headline
H	Pyridinecarboxylic acid	Cadre
H	Quinclorac	Paramount
H	Quizalofop-ethyl	Assure
H	Quizalofop-P-ethyl	Assure
H	Rimsulfuron	Steadfast
H	Sethoxydim	Conclude Ultra B&G, Poast, Rezult
H	Simazine	Princep
H	S-Metolachlor	Bicep II Magnum, Boundary, Cinch ATZ, Dual II Magnum, Sequence
I	Spinosad	Tracer
H	Sulfentrazone	Authority, Blanket, Canopy, Command Xtra, Gauntlet, Spartan
H	Sulfosate	Touchdown
H	Sulfosulfuron	Maverick
F	Sulfur	Bravo S, Sulfur, Sul-Preme
F	Tebuconazole	Folicur
I	Thiamethoxam	Platinum
H	Thifensulfuron	Ally Extra, Canvas, Harmony, Pinnacle, Synchrony, X-TRA (Cheyenne)
F	Thiophanate-methyl	Tilt Plus, Topsin
F	Thiram	Thiram
H	Tralkoxydim	Achieve
F	Triadimefon	Bayleton T&O
H	Triallate	Buckle, Far-Go
H	Triasulfuron	Amber, Rave

Trade Names, Common Names, and Classes (continued)

Class	Common Name	Trade Name
H	Tribenuron-methyl	Ally Extra, Canvas, Express, Harmony, X-TRA (Cheyenne)
H	Triclopyr	Remedy
F	Trifloxystrobin	Stratego
H	Trifluralin	Buckle, Freedom, Treflan, Tri-4, Trifluralin, Trilin, Trust
I	Zeta-cypermethrin	Fury, Mustang

The following sections come from the Soybean Questionnaire. The questions used in the Fertilizer and Pesticide Application sections are the same throughout all five commodities. However, the Pest Management Practices Section has some questions that are pertinent to the commodity being surveyed.

C FERTILIZER and NUTRIENT APPLICATIONS---SELECTED FIELD C

	CODE	EDIT TABLE
1. **Were commercial FERTILIZERS applied to this field for the 2004 soybean crop?** ..... YES = 1	0202	0201

2. [*If COMMERCIAL fertilizer applied, continue, else go to* ***Section D****.]*

	NUMBER
3. **How many commercial fertilizer applications were made to this field for the 2004 crop?** (***Include*** *applications made by airplanes and commercial applicators*).	0203

4. **Now I need to record information for each application**

CHECKLIST

INCLUDE	EXCLUDE
☐ Custom applied fertilizers	☐ Micronutrients
☐ Fertilizers applied in the fall of 2003 and those applied earlier if this field was fallow in 2003.	☐ Unprocessed manure ☐ Fertilizer applied to previous crops in this field
☐ Commercially prepared manure	☐ Lime and Gypsum/landplaster

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

LINE	2 MATERIALS USED [*Enter percentage analysis or actual pounds of plant nutrients applied per acre.*] [*Show Common Fertilizers in Respondent Booklet.*] N Nitrogen	P_2O_5 Phosphate	K_2O Potash	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? 1 Broadcast, ground without incorporation 2 Broadcast, ground with incorporation 3 Broadcast, by air 4 In seed furrow 5 In irrigation water 6 Chisel, injected or knifed in 7 Banded/Sidedressed in or over row 8 Foliar or directed spray	7 How many Acres were Treated In this Application? ACRES
01	0205	0206	0207	0208	0209	0210	0211	0212 .___
02	0205	0206	0207	0208	0209	0210	0211	0212 .___
03	0205	0206	0207	0208	0209	0210	0211	0212 .___
04	0205	0206	0207	0208	0209	0210	0211	0212 .___
05	0205	0206	0207	0208	0209	0210	0211	0212 .___
06	0205	0206	0207	0208	0209	0210	0211	0212 .___
07	0205	0206	0207	0208	0209	0210	0211	0212 .___
08	0205	0206	0207	0208	0209	0210	0211	0212 .___

T – TYPE	TABLE	LINE
0	000	00

Now I have some questions about all the pesticides used on this field for the 2004 soybean crop including both custom applications and applications made by this operation.

	CODE	EDIT TABLE
1. **Were any herbicides, insecticides, fungicides or other chemicals used on the soybean field for the 2004 crop?** ..... YES = 1	0302	0301

[*Probe for applications made in the fall of 2003 (and those made earlier if this field was fallow).*]
[If *no pesticides applied, go to* ***Section E****.*]

nclude defoliants, fungicides, herbicides, insecticides, and pesticides

nclude 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 What products were applied to this field? *[Show product codes from Respondent Booklet.]*	3 Was this product bought in liquid or dry form? *[Enter L or D]*	4 Was this part of a tank mix? *[If tank mix, enter line number of first product in mix.]*	5 When was this applied? 1 BEFORE planting 3 AT planting 4 AFTER planting	6 OR 7 How much was applied per acre per application?	7 What was the total amount applied per application in this field?	8 *[Enter unit code.]* 1 Pounds 12 Gallons 13 Quarts 14 Pints 15 Liquid Ounces 28 Dry Ounces 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

2. [*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 air (*Aerial application*)	8 Foliar or directed spray
4 In Seed furrow	9 Spot treatments
5 In Irrigation water	

↓

[*If column 9 = 9, then column 6 and column 10 must be blank*]

LINE	9 How was this product applied? [*Enter code from above.*]	10 How many acres in this field were treated with this product? ACRES	11 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 2004 soybean 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.*]

		CODE
2. **Was weather data used to assist in determining either the need or when to make pesticide applications?**	YES = 1	0800
3. **Were any biological pesticides such as Bt** (*Bacillus thuringiensis*), **insect growth regulators neem or other natural/biological based products sprayed or applied to manage pests in this field?**	YES = 1	0801
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 2004, how was this field primarily scouted for insects, weeds, diseases, and/or beneficial organisms---**

		CODE
1	By conducting general observations while performing routine tasks? *[Enter code 1 and go to item 13.]*	0808
2	By deliberately going to the field specifically for scouting activities? *[Enter code 2 and go to item 11.]*	
3	This field was not scouted. *[Enter code 3 and go to item 18.]*	

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

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

		CODE
a. a pest advisory warning?	YES = 1	0810
b. a pest development model?	YES = 1	0811

13. **Was this soybean field scouted for--**

1	YES = 1	2 [*If* ***YES****, ask---*] **Was the infestation level for** [*column 1*]— 1 Worse than normal 2 Normal 3 Less than normal CODE	3 [*If column 1 =* ***YES****, ask---*] **Who did the majority of the scouting for** [*column 1*]--- 1 Operator, partner or family member 2 An employee 3 Farm supply or chemical dealer 4 Independent crop consultant or commercial scout CODE
a. weeds?	0812	0813	0814
b. insects	0815	0816	0817
c. diseases?	0818	0819	0820

		CODE
15. **Were written or electronic records kept for this field to track the activity or numbers of weeds, insects or diseases?**	YES = 1	0823

16. **Was scouting data compared to published information on infestation thresholds to determine when to take measures to manage pests in field?**	YES = 1	0824
17. **Was field mapping data used for making weed management decisions on this field?**	YES = 1	0825
18. **Were the services of a diagnostic laboratory used for pest identification or soil plant tissue pest analysis for this field?**	YES = 1	0826
19. **Were crop residues plowed down or removed in this field to manage pests?**	YES = 1	0828
20. **Were crops rotated in this field during the past 3 years for the purpose of managing pest problems?**	YES = 1	0829
21. **Were ground covers, mulches or other physical barriers maintained for this field to manage pest problems?**	YES = 1	0830
22. **Was a crop variety chosen to plant in this field because it had resistance to a specific pest?**	YES = 1	0831
23. **Was no-till or minimum till used to manage pests in this field?**	YES = 1	0832
24. **Were planting locations planned to avoid cross infestation of pests?**	YES = 1	0833
25. **Were planting or harvesting dates adjusted for this field to manage pests?**	YES = 1	0834
26. **Was row spacing or plant density adjusted in this field to manage pests?**	YES = 1	0835
27. **Was a trap crop grown to help manage insects in this field?** [***Include*** *planting of refuge for Bt soybeans.*]	YES = 1	0836
30. **Was this field cultivated for weed control during the growing season?**	YES = 1	0841
31. **Were field edges, lanes, ditches, roadways or fence lines chopped, mowed, plowed, or burned to manage pests for this field?**	YES = 1	0843
32. **Were equipment and implements cleaned after completing field work to reduce the spread of pests?**	YES = 1	0844
35. **Was this field flooded or irrigated for the 2004 crop?**	YES = 1	1211
[*If item 35 = YES, ask---*]		
a. Were water management practices such as irrigation scheduling, controlled drainage, or treatment of retention water used on this field to manage pests?	YES = 1	1208

Completion Code for Pest Management Data	
1- Incomplete/Refusal	0340

Index

-2-

2,4-D, 3-5, 9-11, 14, 17, 19, 20, 27, 29, 32-34, 36, 37, 42, 45-49, 54, 56, 59-67, 69, 70, 102, 103
2,4-D, Dimeth. salt, 102
2,4-DB, Dimeth. salt, 14, 17-22, 27, 29, 42, 68, 102
2,4-DP, Dimeth. salt, 9, 10, 27, 29, 32, 34, 42, 45-49, 54, 56, 59-66, 69, 70, 102

-A-

Acephate, 15, 17, 18, 21, 68, 102
Acetamide, 27, 29, 32, 36, 54, 56, 59, 65, 102
Acetic acid, 9, 10, 27, 29, 32-34, 37, 42, 45-47, 54, 56, 59-63, 69, 70, 102
Acetochlor, 27, 29, 54, 56, 102
Acifluorfen, 14, 17-19, 21, 27, 29, 32, 54, 56, 68, 102
Alachlor, 14, 27, 29, 32, 36, 42, 54, 56, 102
Aldicarb, 15, 17, 18, 20, 21, 68, 102
Atrazine, 27, 29, 54, 56, 59, 60, 102
Azinphos-methyl, 55, 57, 102
Azoxystrobin, 4, 15, 17, 20-22, 28, 30, 32, 33, 43, 55, 57, 59, 68, 102

-B-

Barban, 27, 29, 102
Basic copper sulfate, 15, 102
Benefin, 54, 56, 102
Bentazon, 14, 17, 19-21, 27, 29, 32, 37, 68, 102
Benzoic acid, 28, 30, 102
Bifenthrin, 102
Boscalid, 15, 102
Bromoxynil, 4, 9, 10, 42, 45-49, 54, 56, 59, 60, 63, 65, 66, 69, 70, 102
Bromoxynil octanoate, 4, 9, 10, 42, 45-48, 54, 56, 59, 60, 65, 69, 70, 102
Bt (Bacillus thur.), 15, 103
Butoxy. ester 2,4-D, 103

-C-

Carbaryl, 15, 17, 19, 55, 57, 103
Carbofuran, 28, 30, 43, 55, 57, 103
Carfentrazone-ethyl, 14, 27, 29, 42, 45, 54, 56, 59, 103
Chlorfenapyr, 103
Chlorimuron-ethyl, 14, 17-19, 27, 29, 32-37, 68, 69, 103
Chloropicrin, 15, 103
Chlorothalonil, 3, 15, 17-22, 68, 103
Chlorpyrifos, 5, 15, 17, 20, 21, 28, 30, 32, 36, 43, 45, 55, 57, 59, 64, 66, 68, 69, 103
Chlorsulfuron, 42, 45, 54, 56, 59, 61, 63-66, 70, 103
Clethodim, 14, 17, 19-21, 27, 29, 32-35, 37, 38, 68, 69, 103
Clodinafop-propargil, 9-11, 42, 45-47, 49, 54, 56, 59, 63, 66, 67, 69, 103
Clomazone, 27, 29, 103
Clopyralid, 9, 42, 45-47, 54, 56, 59, 69, 103
Cloransulam-methyl, 27, 29, 32-35, 37, 69, 103

-C (cont)-

Colletot. gloeospor, 103
Copper hydroxide, 15, 55, 57, 103
Cyfluthrin, 15, 28, 30, 103
Cypermethrin, 15, 28, 30, 32, 43, 45, 48, 55, 57, 59, 62, 64, 65, 103, 106

-D-

Dicamba, 9-11, 27, 29, 42, 45-49, 54, 56, 59-61, 63-67, 69, 70, 103
Dicamba, Dime. salt, 103
Dicamba, Sodium Salt, 9, 42, 45, 54, 56, 103
Dichloropropene, 15, 103
Dichlorprop, 27, 29, 103
Diclofop-methyl, 42, 54, 56, 59, 65, 103
Diclosulam, 14, 17, 18, 20, 21, 68, 103
Difenzoquat, 42, 54, 56, 103
Dimethenamid, 14, 27, 29, 103
Dimethenamid-P, 14, 27, 29, 103
Dimethoate, 15, 28, 30, 43, 45, 55, 57, 59, 103
Disulfoton, 15, 17, 55, 57, 103
Diuron, 42, 54, 56, 59, 103

-E-

Endosulfan, 28, 30, 103
Esfenvalerate, 15, 17, 19-21, 28, 30, 32, 38, 43, 68, 103
Ethalfluralin, 14, 17, 18, 20, 27, 29, 68, 103
Ethephon, 55, 57, 103
Ethofumesate, 103
Ethyl parathion, 55, 57, 59, 103

-F-

Fenoxaprop, 3, 4, 9-11, 27, 29, 32-34, 42, 45-49, 54, 56, 59, 67, 69, 103
Fipronil, 28, 30, 103
Fluazifop-P-butyl, 14, 27, 29, 32-34, 69, 103
Fluazinam, 15, 17, 21, 103
Flucarbazone-sodium, 9-11, 42, 45-47, 49, 54, 56, 59, 69, 104
Fludioxonil, 104
Flumetsulam, 27, 29, 32, 104
Flumiclorac-pentyl, 27, 29, 32, 36, 105
Flumioxazin, 14, 17, 21, 27, 29, 32-34, 37, 69, 105
Fluroxypyr, 9, 10, 42, 45-48, 54, 56, 59, 60, 69, 105
Fluroxypyr 1-methyl, 105
Flutolanil, 15, 17, 20, 105
Fomesafen, 27, 29, 32-35, 37, 69, 104

-G-

Garlic oil, 28, 30, 104
Glufosinate-ammonium, 104
Glyphosate, 3-5, 9-11, 14, 17, 19, 20, 22, 27, 29, 32-38, 42, 45-49, 54, 56, 59-70, 97, 98, 104
Glyphosate diam. salt, 104

-H-

Halosulfuron 54,56

-I-

Imazamethabenz, 27, 29, 42, 45, 54, 56, 104
Imazamox, 27, 29, 32-35, 37, 54, 56, 59, 66, 69, 104
Imazaquin, 27, 29, 32, 34, 37, 104
Imazethapyr, 14, 17, 21, 22, 27, 29, 32-38, 42, 69, 104
Imidacloprid, 28, 30, 104

-L-

Lactofen, 27, 29, 32-34, 104
Lambda-cyhalothrin, 15, 17, 18, 20, 21, 28, 30, 32-34, 37, 38, 43, 55, 57, 59, 60, 62, 68-70, 104
Linuron, 27, 29, 104

-M-

Malathion, 43, 55, 57, 104
Mancozeb, 15, 55, 57, 104
Maneb, 15, 104
MCPA, 3, 4, 9-11, 27, 29, 32, 34, 37, 42, 45-49, 54, 56, 59, 60, 63, 65-67, 69, 70, 102, 104
MCPA, dimethyl. salt, 9, 42, 45, 46, 48, 49, 54, 56, 59, 60, 65, 69, 104
MCPA-EHE, 9, 42, 45, 104
Mefenoxam, 15, 28, 30, 104
Mesosulfuron-Methyl, 54, 56, 59, 104
Mesotrione, 27, 29, 104
Metalaxyl, 15, 104
Metaldehyde, 55, 57, 104
Metam-sodium, 15, 17, 21, 104
Methomyl, 15, 17, 19, 20, 68, 104
Methyl parathion, 28, 30, 32, 43, 55, 57, 103, 104
Metolachlor, 14, 17-22, 27, 29, 32-34, 37, 68, 69, 104, 105
Metribuzin, 27, 29, 32-34, 36, 37, 42, 54, 56, 59, 62, 65, 69, 70, 104
Metsulfuron-methyl, 5, 9, 42, 45, 47-49, 54, 56, 59-61, 63-66, 69, 70, 104

-N-

Nicosulfuron, 27, 29, 104
Norflurazon, 105

-O-

Oryzalin, 54, 56, 105

-P-

Paraquat, 14, 17, 18, 20, 21, 27, 29, 32, 42, 54, 56, 68, 105
PCNB, 15, 28, 30, 105
Pendimethalin, 3, 4, 14, 17-22, 27, 29, 32-36, 38, 68, 69, 105
Permethrin, 28, 30, 32, 55, 57, 105
Phorate, 15, 17-20, 68, 105
Picloram, 42, 45, 54, 56, 59, 105
Primisulfuron, 27, 29, 105
Profenofos, 105
Propanil, 105
Propanoic acid, 27, 29, 105
Propargite, 15, 105
Prosulfuron, 27, 29, 42, 45, 46, 54, 56, 59, 66, 105
Pyraclostrobin, 15, 17-22, 43, 45, 46, 48, 55, 57, 59, 65, 68, 105
Pyridinecarboxylic acid, 105

-Q-

Quinclorac, 54, 56, 105
Quizalofop-ethyl, 27, 29, 105
Quizalofop-P-ethyl, 27, 29, 32, 42, 105

-R-

Rimsulfuron, 27, 29, 105

-S-

Sethoxydim, 14, 17-22, 27, 29, 32, 37, 68, 105
Simazine, 27, 29, 105
Spinosad, 15, 105
Sulfentrazone, 4, 27, 29, 32-34, 36, 37, 54, 56, 69, 105
Sulfosate, 9, 27, 29, 32-35, 37, 38, 42, 69, 105
Sulfosulfuron, 42, 54, 56, 59, 61, 64-66, 70, 105
Sulfur, 15, 17, 19, 105
S-Metolachlor, 14, 17-22, 27, 29, 32-34, 37, 68, 69, 105

-T-

Tebuconazole, 3, 4, 15, 17-22, 43, 45-48, 55, 57, 59, 62, 68, 69, 105
Thiamethoxam, 55, 57, 105
Thifensulfuron, 9, 10, 27, 29, 32, 33, 37, 42, 45-49, 54, 56, 59-66, 69, 70, 105
Thiophanate-methyl, 15, 17, 43, 55, 57, 105
Thiram, 55, 57, 105
Tralkoxydim, 42, 45, 46, 54, 56, 59, 105
Triadimefon, 28, 30, 105
Triallate, 9, 42, 45, 49, 54, 56, 59, 105
Triasulfuron, 9, 42, 45, 47, 54, 56, 59, 61, 63, 65, 66, 70, 105
Tribenuron-methyl, 9-11, 27, 29, 32, 34, 42, 45-49, 54, 56, 59-66, 69, 70, 106
Triclopyr 27,29
Trifloxystrobin, 15, 17-19, 43, 45, 48, 55, 57, 59, 68, 106
Trifluralin, 4, 9-11, 14, 17, 18, 22, 27, 29, 32-38, 42, 45, 68, 69, 106

-Z-

Zeta-cypermethrin, 15, 28, 30, 32, 43, 45, 48, 55, 57, 59, 62, 64, 65, 106

Report Features

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