United States Department of Agriculture

National Agricultural Statistics Service

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Agricultural Chemical Usage
2001 Field Crops Summary

May 2002

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Overview: The agricultural chemical use estimates in this report refer to on-farm use of commercial fertilizers and pesticides on targeted crops for the 2001 crop year. Farm and ranch operators were enumerated late in the growing season or after the farm operator had indicated planned applications were completed. The chemical use data were not summarized for geographical areas other than published in this report.

The data were compiled from the Agricultural Resources Management Study (ARMS) and (the Objective Yield Survey,) with data collection occurring primarily during the months of October-December of 2001. Relevant portions of the survey instruments used in data collection are included in the back of this publication.

Targeted crops from the (2001 Objective Yield Survey) include upland cotton, fall potatoes, and soybeans. Corn was the target crop from the ARMS. Program State data are not comparable to previous years' data for upland cotton, fall potatoes, and soybeans due to fewer States being included in the Objective Yield Survey Program.

Agricultural Chemical Use Survey Coverage, 2001 and 2000

Crop	2001			2000		
	States Surveyed	Reports Summarized	US Acreage Included	States Surveyed	Reports Summarized	US Acreage Included
	-- Number --		Percent	-- Number --		Percent
Corn	19	2,989	93	18	2,608	93
Cotton, Upland	7	790	82	11	1,835	94
Fall Potatoes	7	429	71	-	-	-
Soybeans	8	1,081	71	18	2,524	97

This report excludes pesticides used for seed treatments and postharvest applications to the commodity. Spot treatments, which account for a small percentage (approximately 1%) of total applications, are also excluded.

Highlights

Corn: Nitrogen was applied to 96 percent of the 2001 corn acreage in the 19 Program States: Colorado, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, New York, North Carolina, North Dakota, Ohio, Pennsylvania, South Dakota, Texas, and Wisconsin. Growers in Nebraska, New York, Ohio, and Texas reported 100 percent of the acreage treated with nitrogen. Corn growers used an average of 1.8 applications per acre while applying 73 pounds of nitrogen per treatment. In the Program States, 79 percent of the planted corn acreage received phosphates, while potash was applied to 65 percent of the acreage.

Herbicides were applied to 98 percent of the corn acreage in 2001. Atrazine continued to be the most commonly used herbicide with 75 percent of the reported acreage being treated. It was applied at a rate of 1.07 pounds per acre. Acetochlor, S-Metolachlor, and Dicamba were the next three most widely used herbicides and were applied to 26, 19, and 15 percent, respectively; of the reported acreage in the Program States.

In 2001, 29 percent of the corn acreage was treated with insecticides. Chlorpyrifos was the most commonly used insecticide, representing 3.7 million out of the total 9.0 million pounds of insecticide applied in the 19 Program States. Chlorpyrifos was applied at the rate of 1.04 pounds per acre.

Upland Cotton: Nitrogen fertilizer was applied on 76 percent of the upland cotton acreage during 2001 in the 7 Program States: Arkansas, California, Georgia, Louisiana, Mississippi, North Carolina, and Texas. The area treated with phosphates totaled 48 percent of the planted acreage in the Program States. Georgia reported the greatest use of phosphates, treating 92 percent of the planted acreage. Potash was applied to 41 percent of the area planted to upland cotton in 2001 for the 7 Program States. Once again, Georgia reported the highest percentage of acres treated with potash at 93 percent.

Herbicides were applied to 90 percent of the upland cotton planted acreage in the Program States. Glyphosate continued to be the most commonly used herbicide reported, and it was applied to 57 percent of the acreage. Trifluralin was applied to 30 percent of the planted acres, followed by Diuron which was applied to 26 percent.

Insecticide applications were made to 68 percent of the upland cotton planted acres in 2001 for the 7 Program States. Malathion, at approximately 17.8 million pounds, continued to be the active ingredient with the highest total pounds applied for upland cotton in the Program States. Aldicarb and Acephate were the next two most widely used insecticides in upland cotton, with 1.8 and 1.5 million pounds applied, respectively.

Area treated with other chemicals was 55 percent of the 2001 planted acreage. Ethephon was the active ingredient, under this pesticide class, with the highest total amount applied at 4.47 million pounds applied to 34 percent of the upland cotton planted acres in the Program States.

Fall Potatoes: Seven fall potato producing States were included in the 2001 survey: Idaho, Maine, Minnesota, North Dakota, Oregon, Washington, and Wisconsin. Nitrogen fertilizer was applied to 98 percent of the fall potato acreage in these States. The number of nitrogen applications in the Program States averaged 3.4 per acre with a total of 184.4 million pounds applied. Phosphate was applied to 95 percent of the acres in the States surveyed with a total of 142.2 million pounds being applied. Potash was applied to 86 percent of the fall potato acreage.

Herbicides were applied to 82 percent of the fall potato acreage in 2001 in the 7 Program States. Metribuzin was the most widely applied herbicide and it was used on 64 percent of the planted acreage while Pendimethalin was applied to 28 percent of the planted acres. Insecticides were applied to 93 percent of the 2001 fall potato acreage. The two most common reported insecticides were Imidacloprid and Cyfluthrin which were applied to 41 and 22 percent of the fall potato acreage, respectively. Esfenvalerate and Phorate were both applied on 20 percent of the planted acres.

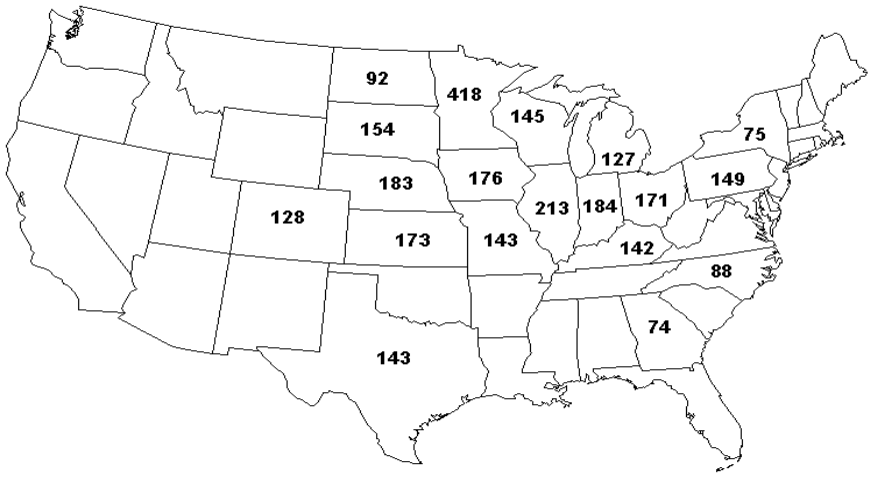
Fungicide treatments were applied to 85 percent of the fall potato acreage in the Program States. Chlorothalonil was used the most, as it was applied on 61 percent of the acreage, followed by Mancozeb on 51 percent of the fall potato acreage. Usage of other chemicals, primarily desiccants, varied widely among the 7 States with an average of 61 percent of the fall potato acreage being treated. Diquat was the most commonly used other chemical in the Program States, and was applied to 31 percent of the planted area.

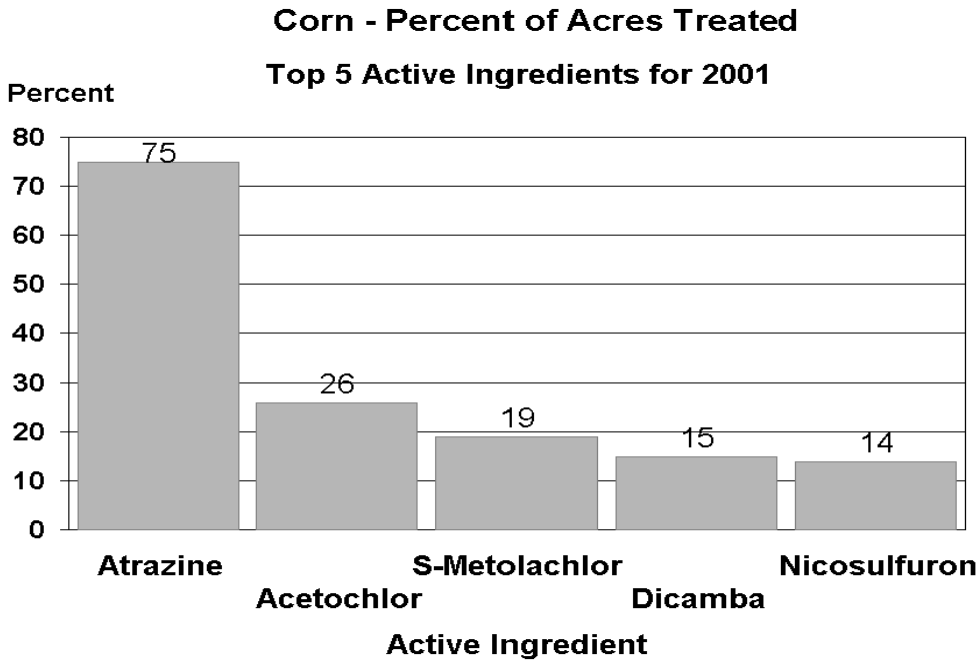
Soybeans: Soybean producers in the 8 Program States (Arkansas, Illinois, Indiana, Iowa, Minnesota, Missouri, Nebraska, and Ohio) applied nitrogen fertilizer to 11 percent of the area planted to soybeans. The percent of acres treated ranged from 3 percent in Arkansas to 22 percent in Nebraska. The average number of nitrogen applications per acre was 1.0 with an average application rate of 22 pounds per acre. Phosphate was applied to 17 percent of the soybean planted acreage while Potash was applied to 20 percent of the planted soybean acreage in the 8 Program States.

In the 8 Program States, 96 percent of the soybean acreage was treated with herbicides. The most widely used herbicides were Glyphosate, applied to 73 percent of the soybean acreage, followed by Pendimethalin applied to 10 percent, and Imazethapyr applied to 9 percent of the planted acreage. Trifluralin and Fomesafen were both applied to 7 percent of the soybean acreage.

Soybean growers in the States surveyed applied insecticides to only 1 percent of the soybean acres planted. Although there were too few reports to publish insecticide data for most States, data are published for Arkansas, Iowa, Minnesota, Missouri, and Nebraska. Soybean growers also reported few fungicide applications.

Corn: Number of Usable Reports, 2001





Program States are CO, GA, IL, IN, IA, KS, KY, MI, MN, MO, NE, NY, NC, ND, OH, PA, SD, TX and WI

Corn: Fertilizer Use by State, 2001
Percent of Acres Treated and Total Amount Applied

State	Planted Acreage	Percent of Acres Treated and Total Applied					
		Nitrogen		Phosphate		Potash	
	1,000 Acres	*Pct*	*Mil. Lbs*	*Pct*	*Mil. Lbs*	*Pct*	*Mil. Lbs*
CO	1,220	93	141.5	65	32.1	24	10.8
GA	265	97	28.6	91	12.6	87	20.8
IL	11,000	99	1,682.8	81	720.6	85	1,092.2
IN	5,800	98	837.4	85	331.7	86	660.0
IA	11,700	87	1,272.8	62	415.8	60	482.4
KS	3,450	97	444.4	71	93.5	19	24.8
KY	1,200	91	173.4	87	92.5	82	99.9
MI	2,200	91	251.3	78	85.9	78	175.2
MN	6,800	97	750.2	90	283.4	81	340.5
MO	2,700	99	411.6	82	129.6	83	161.2
NE	8,100	100	1,067.0	77	219.4	25	42.8
NY	1,030	100	76.8	98	49.4	90	45.6
NC	700	98	81.8	85	41.6	84	56.6
ND	880	94	89.9	83	33.8	38	10.1
OH	3,400	100	572.1	92	210.8	89	338.9
PA	1,500	98	130.2	79	55.8	76	43.4
SD	3,800	95	393.8	69	119.4	32	38.9
TX	1,600	100	245.6	83	66.3	40	18.4
WI	3,400	98	355.3	95	120.9	89	169.5
Total	70,745	96	9,006.5	79	3,115.1	65	3,832.0

Corn: Fertilizer Primary Nutrient Applications, Program States and Total, 2001

Primary Nutrient	Planted Acreage	Area Applied	Applic-ations	Rate per Application	Rate per Crop Year	Total Applied
	1,000 Acres	*Percent*	*Number*	*Pounds per Acre*	*Pounds per Acre*	*Mil. Lbs*
Colorado	1,220					
Nitrogen		93	1.7	70	125	141.5
Phosphate		65	1.0	37	40	32.1
Potash		24	1.2	29	38	10.8
Georgia	265					
Nitrogen		97	1.9	57	111	28.6
Phosphate		91	1.0	49	52	12.6
Potash		87	1.0	90	90	20.8
Illinois	11,000					
Nitrogen		99	1.7	86	155	1,682.8
Phosphate		81	1.0	75	81	720.6
Potash		85	1.0	114	116	1,092.2
Indiana	5,800					
Nitrogen		98	2.2	64	148	837.4
Phosphate		85	1.4	47	68	331.7
Potash		86	1.2	105	132	660.0
Iowa	11,700					
Nitrogen		87	1.5	83	125	1,272.8
Phosphate		62	1.0	53	57	415.8
Potash		60	1.0	66	69	482.4
Kansas	3,450					
Nitrogen		97	1.4	89	133	444.4
Phosphate		71	1.0	36	38	93.5
Potash		19	1.0	39	39	24.8
Kentucky	1,200					
Nitrogen		91	1.4	107	159	173.4
Phosphate		87	1.0	84	89	92.5
Potash		82	1.0	101	102	99.9
Michigan	2,200					
Nitrogen		91	1.9	65	125	251.3
Phosphate		78	1.0	48	50	85.9
Potash		78	1.2	80	102	175.2
Minnesota	6,800					
Nitrogen		97	1.6	69	114	750.2
Phosphate		90	1.0	43	47	283.4
Potash		81	1.0	57	62	340.5
Missouri	2,700					
Nitrogen		99	1.4	103	153	411.6
Phosphate		82	1.0	57	59	129.6
Potash		83	1.0	70	72	161.2

Corn: Fertilizer Primary Nutrient Applications, Program States and Total, 2001

Primary Nutrient	Planted Acreage	Area Applied	Applic-ations	Rate per Application	Rate per Crop Year	Total Applied
	1,000 Acres	*Percent*	*Number*	*Pounds per Acre*	*Pounds per Acre*	*Mil. Lbs*
Nebraska	8,100					
Nitrogen		100	2.1	62	132	1,067.0
Phosphate		77	1.1	31	35	219.4
Potash		25	1.2	17	21	42.8
New York	1,030					
Nitrogen		100	1.5	50	75	76.8
Phosphate		98	1.0	47	49	49.4
Potash		90	1.0	45	49	45.6
North Carolina	700					
Nitrogen		98	2.0	57	120	81.8
Phosphate		85	1.3	54	70	41.6
Potash		84	1.1	87	96	56.6
North Dakota	880					
Nitrogen		94	1.6	65	109	89.9
Phosphate		83	1.1	40	46	33.8
Potash		38	1.0	31	31	10.1
Ohio	3,400					
Nitrogen		100	2.4	67	169	572.1
Phosphate		92	1.2	53	67	210.8
Potash		89	1.2	89	112	338.9
Pennsylvania	1,500					
Nitrogen		98	1.6	52	89	130.2
Phosphate		79	1.0	44	47	55.8
Potash		76	1.0	36	38	43.4
South Dakota	3,800					
Nitrogen		95	1.5	72	109	393.8
Phosphate		69	1.0	43	45	119.4
Potash		32	1.0	29	32	38.9
Texas	1,600					
Nitrogen		100	2.1	72	154	245.6
Phosphate		83	1.1	44	50	66.3
Potash		40	1.0	28	29	18.4
Wisconsin	3,400					
Nitrogen		98	1.9	55	107	355.3
Phosphate		95	1.0	35	38	120.9
Potash		89	1.1	48	56	169.5
Total	70,745					
Nitrogen		96	1.8	73	133	9,006.5
Phosphate		79	1.1	50	56	3,115.1
Potash		65	1.1	75	83	3,832.0

Corn: Active Ingredients and Publication Status By Program States, 2001

Active Ingredient	Program States							
	ALL	CO	GA	IL	IN	IA	KS	KY
Herbicides								
2,4-D	P	P	*	P	P	P	P	*
2,4-D, Dimeth. salt	*						*	
Acetamide	P			P	P	P	P	
Acetic acid	P			P	*	*	*	*
Acetochlor	P	P		P	P	P	P	P
Alachlor	P	*			P	*	P	*
Ametryn	P		*					
Atrazine	P	P	P	P	P	P	P	P
Bentazon	P		*	P	*	*		
Bromoxynil	P			*	*	P	*	
Bromoxynil octanoate	*							
Butoxy. ester 2,4-D	P					*	*	
Butylate	*		*					
Carfentrazone-ethyl	P	P		*		*	P	
Chloramben	*						*	
Chlorimuron-ethyl	*			*				
Clopyralid	P	*		P	P	P	P	*
Cyanazine	P	*		*		*	*	*
Dicamba	P	P	*	P	P	P	P	*
Dicamba, Dimet. salt	P	P		P	*	P	*	*
Dicamba, Pot. salt	P	P		P	*	P	*	
Dicamba, Sodium Salt	P							
Dichlorprop	*							*
Diflufenzopyr-sodium	P	P		P	*	P	*	*
Dimethenamid	P	*		P	*	P	P	*
Dimethenamid-P	*			*				
Diuron	*							
EPTC	P		*	*		*		
Flumetsulam	P			P	P	P	P	*
Glufosinate-ammonium	P	*		*	*	P		*
Glyphosate	P	P	P	P	P	P	P	P
Glyphosate diam salt	*							
Halosulfuron	P	*		*			*	*
Imazapyr	P	*		P	P	P	P	P
Imazethapyr	P	*		P	P	P	P	P
Isoxaflutole	P	*		P	P	P	P	*
Linuron	*							
MCPA	P				*			
Mesotrione	P			*		*		
Metolachlor	P	*	*	P	P	P	P	P
Metribuzin	P			*	P	*	P	
Nicosulfuron	P	P	P	P	P	P	P	P
Oxyfluorfen	*							*
Paraquat	P	*	*	P	P			P
Pendimethalin	P	P	P		*	*	P	*
Primisulfuron	P		*	P	P	P	P	P
Propachlor	*						*	
Prosulfuron	P			P	P		P	*
Pyridate	P	*				*	*	
Rimsulfuron	P	P	*	P	P	P	P	P
S-Metolachlor	P	P	*	P	P	P	P	P
Sethoxydim	*						*	
Simazine	P			P	P		*	P
Sulfosate	P	*			*			*
Thifensulfuron	P	*			*		*	*
Triclopyr	*		*					
Tridiphane	*			*				
Trifluralin	*					*		
Vernolate	P							

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

Corn: Active Ingredients and Publication Status By Program States, 2001 (continued)

Active Ingredient	Program States						
	MI	MN	MO	NE	NY	NC	ND
Herbicides							
2,4-D	P	P	P	P	P	P	P
2,4-D, Dimeth. salt							
Acetamide	*		P	P		*	
Acetic acid	*	*		*	*	*	
Acetochlor	P	P	P	P		*	P
Alachlor	*	P	P	P	P	P	
Ametryn						*	
Atrazine	P	P	P	P	P	P	P
Bentazon		*					
Bromoxynil	*	P		P	*		*
Bromoxynil octanoate		*		*			
Butoxy. ester 2,4-D			*	*			
Butylate							
Carfentrazone-ethyl		P	*	*	*		
Chloramben							
Chlorimuron-ethyl							
Clopyralid	P	P	P	P			P
Cyanazine	*	*	*	*	*		
Dicamba	P	P	P	P	P	*	P
Dicamba, Dimet. salt	P	P	*	P			P
Dicamba, Pot. salt	*	P	*	*	*		
Dicamba, Sodium Salt		*		*			P
Dichlorprop						*	
Diflufenzopyr-sodium	P	P	*	P			P
Dimethenamid	P	P	P	P	*	P	*
Dimethenamid-P		*					
Diuron							
EPTC		P					P
Flumetsulam	P	P	P	P	P	*	*
Glufosinate-ammonium		P	P	*		*	*
Glyphosate	P	P	P	P	P	P	P
Glyphosate diam salt		*					
Halosulfuron				*	*		
Imazapyr	*	P	*	*			
Imazethapyr	*	P	*	P			
Isoxaflutole			*	P			*
Linuron							
MCPA							
Mesotrione	*	*					
Metolachlor	P	P	P	P	P	P	
Metribuzin			P	*		*	
Nicosulfuron	P	P	P	P	P	P	P
Oxyfluorfen							
Paraquat			*	*		P	
Pendimethalin	P	P		*	P		*
Primisulfuron	*	P	P	P	*	*	*
Propachlor							
Prosulfuron	*		*	P	*	*	
Pyridate			*	*			
Rimsulfuron	P	P	P	P	*	*	P
S-Metolachlor	P	P	P	P	P	*	
Sethoxydim		*	*				
Simazine			P			P	
Sulfosate	*	*	*	*		*	
Thifensulfuron	*	*	*	*		*	
Triclopyr							
Tridiphane							
Trifluralin							
Vernolate		P					*

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

Corn: Active Ingredients and Publication Status By Program States, 2001 (continued)

Active Ingredient	Program States				
	OH	PA	SD	TX	WI
Herbicides					
2,4-D	P	P	P	P	P
2,4-D, Dimeth. salt	*				*
Acetamide	P	*	*	*	*
Acetic acid	P	*	*		*
Acetochlor	P	P	P	*	P
Alachlor	*	*		*	P
Ametryn					
Atrazine	P	P	P	P	P
Bentazon			*		
Bromoxynil			P	*	
Bromoxynil octanoate					
Butoxy. ester 2,4-D				*	
Butylate					
Carfentrazone-ethyl			*	*	*
Chloramben					
Chlorimuron-ethyl					
Clopyralid	P	*	P	*	P
Cyanazine	P				*
Dicamba	P	P	P	P	P
Dicamba, Dimet. salt	P	*	*	*	*
Dicamba, Pot. salt	*		P	*	P
Dicamba, Sodium Salt	*				*
Dichlorprop	*				
Diflufenzopyr-sodium	P	*	*	*	*
Dimethenamid	P	P	P	P	P
Dimethenamid-P					
Diuron				*	
EPTC			P		
Flumetsulam	P	P	P	*	P
Glufosinate-ammonium	*		*		*
Glyphosate	P	P	P	P	P
Glyphosate diam salt					
Halosulfuron		*		*	*
Imazapyr	*	*	*	*	*
Imazethapyr	*	*	*	*	*
Isoxaflutole	P		P	*	
Linuron	*				
MCPA		*			
Mesotrione					
Metolachlor	P	P	P	*	P
Metribuzin	P	*		*	*
Nicosulfuron	P	P	P	P	P
Oxyfluorfen					
Paraquat	*	P			
Pendimethalin	P	P		P	P
Primisulfuron	*	P	P	P	P
Propachlor			*		
Prosulfuron	*	*		P	
Pyridate	*				
Rimsulfuron	P	P	P	P	P
S-Metolachlor	P	P	P	P	P
Sethoxydim					
Simazine	P	P			*
Sulfosate		*	*		
Thifensulfuron		P		*	*
Triclopyr					
Tridiphane					
Trifluralin		*			
Vernolate					*

See footnote(s) at end of table.

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Corn: Active Ingredients and Publication Status By Program States, 2001 (continued)

Active Ingredient	Program States							
	ALL	CO	GA	IL	IN	IA	KS	KY
Insecticides								
Bifenthrin	P	P		*	*	*	P	*
Carbaryl	*				*			
Carbofuran	P	*	P	*	*	*	*	*
Chlorethoxyfos	*			*	*			
Chlorpyrifos	P	P	*	P	P	*	P	
Cyfluthrin	P	*		P	P	*		
Diazinon	*							
Dimethoate	P	*					*	
Esfenvalerate	P	*		*			*	
Ethyl parathion	*				*			
Fipronil	P	*		*	*	*	*	
Lambda-cyhalothrin	P	*		P	*	*	*	P
Methomyl	*						*	
Methyl parathion	P	*		*			P	
Permethrin	P	*	*	P	P		*	P
Petroleum distillate	P						*	
Phorate	P							
Phosmet	*						*	
Propargite	P	P						*
Tebupirimphos	P	*		P	P	*		
Tefluthrin	P	*		P	P	*	*	*
Terbufos	P	P	P	P	P	*	*	
Fungicides								
Mancozeb	*					*		*
Propiconazole	*							
Sulfur	*	*						
Other Chemicals								
Pelargonic acid	*							

See footnote(s) at end of table.

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Corn: Active Ingredients and Publication Status By Program States, 2001 (continued)

Active Ingredient	Program States						
	MI	MN	MO	NE	NY	NC	ND
Insecticides							
Bifenthrin	*	*	*	*			*
Carbaryl							
Carbofuran		*	*	*			
Chlorethoxyfos							
Chlorpyrifos	P	P	P	P	*	*	
Cyfluthrin	*	P	*	P	*		
Diazinon			*				
Dimethoate				*			
Esfenvalerate							*
Ethyl parathion							
Fipronil	*	*	*	P			*
Lambda-cyhalothrin		*	P	*			*
Methomyl							
Methyl parathion	*			*			
Permethrin		*	P	P		*	
Petroleum distillate	*				*		
Phorate		*				*	
Phosmet							
Propargite							
Tebupirimphos	*	P	*	P	*		
Tefluthrin	*	P		P	P	*	*
Terbufos	*	P		P	*	P	
Fungicides							
Mancozeb							
Propiconazole	*						
Sulfur				*			
Other Chemicals							
Pelargonic acid							

See footnote(s) at end of table.

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Corn: Active Ingredients and Publication Status By Program States, 2001 (continued)

Active Ingredient	Program States				
	OH	PA	SD	TX	WI
Insecticides					
Bifenthrin		*		P	
Carbaryl				*	
Carbofuran	*	*		P	
Chlorethoxyfos	*				
Chlorpyrifos	P	P	*	P	*
Cyfluthrin	*	*		P	*
Diazinon					
Dimethoate				P	
Esfenvalerate				*	
Ethyl parathion					
Fipronil	*	*		*	P
Lambda-cyhalothrin	*	P	*	P	
Methomyl					
Methyl parathion				*	
Permethrin	P	P	*	*	*
Petroleum distillate	*				
Phorate				*	
Phosmet					
Propargite				*	
Tebupirimphos	*	*		P	*
Tefluthrin	P	P	*	*	P
Terbufos	*	P	*	P	*
Fungicides					
Mancozeb					
Propiconazole	*		*		
Sulfur					
Other Chemicals					
Pelargonic acid			*		

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

Corn: Pesticide, Planted Acreage,
Percent of Area Receiving Applications and Total Applied,
Program States and Total, 2001

State	Planted Acreage	Area Receiving and Total Applied							
		Herbicide		Insecticide [3]		Fungicide [3]		Other Chemicals [3]	
	1,000 Acres	*Pct*	*1,000 Lbs*	*Pct*	*1,000 Lbs*	*Pct*	*1,000 Lbs*	*Pct*	*1,000 Lbs*
CO [2]	1,220	92	1,506	51	431				
GA	265	95	398	34	57				
IL	11,000	100	31,868	42	1,787				
IN	5,800	99	16,007	47	1,103				
IA [2]	11,700	99	20,627	7	864				
KS	3,450	95	9,958	24	657				
KY [2]	1,200	97	2,834	18	43				
MI [2]	2,200	88	4,944	22	288				
MN [2]	6,800	99	13,446						
MO	2,700	97	7,232	37	167				
NE [2]	8,100	99	15,159	48	1,104				
NY	1,030	96	2,610	19	69				
NC	700	96	1,558	37	181				
ND	880	90	745						
OH [2]	3,400	99	9,986	26	647				
PA	1,500	99	4,484	60	550				
SD [2]	3,800	96	5,622	8	87				
TX	1,600	90	1,990	76	664				
WI	3,400	98	6,265	16	155				
Total [2]	70,745	98	157,239	29	9,004				

[2] Insufficient reports to publish data for one or more of the pesticide classes.
[3] Insufficient reports to publish data for one or more of the Program States.

Corn: Agricultural Chemical Applications, Program States, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	8	1.0	0.40	0.42	2,305
Acetamide	3	1.0	0.43	0.43	893
Acetic acid	2	1.0	0.41	0.42	482
Acetochlor	26	1.0	1.69	1.71	31,941
Alachlor	2	1.0	1.81	1.82	3,145
Ametryn	*	1.0	0.95	0.95	83
Atrazine	75	1.1	1.07	1.18	62,262
Bentazon	*	1.0	0.40	0.40	254
Bromoxynil	2	1.0	0.28	0.28	336
Butoxy. ester 2,4-D	*	1.0	0.46	0.46	34
Carfentrazone-ethyl	*	1.0	0.01	0.01	8
Clopyralid	10	1.0	0.10	0.10	722
Cyanazine	*	1.0	0.93	0.93	549
Dicamba	15	1.0	0.16	0.17	1,721
Dicamba, Dimet. salt	4	1.0	0.11	0.11	323
Dicamba, Pot. salt	5	1.0	0.35	0.35	1,171
Dicamba, Sodium Salt	*	1.0	0.13	0.13	20
Diflufenzopyr-sodium	4	1.0	0.05	0.05	136
Dimethenamid	11	1.0	0.94	0.98	7,640
EPTC	1	1.0	3.56	3.56	3,157
Flumetsulam	11	1.0	0.04	0.04	302
Glufosinate-ammonium	2	1.0	0.28	0.30	423
Glyphosate	13	1.1	0.66	0.77	6,868
Halosulfuron	*	1.0	0.03	0.03	17
Imazapyr	3	1.0	0.002	0.002	4
Imazethapyr	3	1.0	0.01	0.01	19
Isoxaflutole	9	1.0	0.07	0.07	439
MCPA	*	1.0	0.48	0.48	43
Mesotrione	*	1.0	0.09	0.09	7
Metolachlor	6	1.0	1.64	1.64	7,449
Metribuzin	2	1.0	0.11	0.11	117
Nicosulfuron	14	1.0	0.02	0.02	162
Paraquat	2	1.0	0.47	0.47	511
Pendimethalin	3	1.0	1.11	1.11	2,626
Primisulfuron	6	1.0	0.02	0.02	100
Prosulfuron	3	1.0	0.01	0.01	18
Pyridate	*	1.0	0.57	0.57	101
Rimsulfuron	9	1.0	0.01	0.01	64
S-Metolachlor	19	1.0	1.30	1.30	17,795
Simazine	2	1.0	1.06	1.06	1,658
Sulfosate	*	1.0	1.26	1.26	772
Thifensulfuron	*	1.0	0.006	0.006	2
Vernolate	*	1.0	1.78	1.80	305

See footnote(s) at end of table.

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Corn: Agricultural Chemical Applications, Program States, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Insecticides					
Bifenthrin	2	1.0	0.05	0.05	67
Carbofuran	*	1.0	0.83	0.83	476
Chlorpyrifos	4	1.1	1.04	1.22	3,663
Cyfluthrin	4	1.0	0.006	0.006	16
Dimethoate	*	1.0	0.51	0.51	164
Esfenvalerate	*	1.0	0.02	0.02	1
Fipronil	3	1.0	0.11	0.11	259
Lambda-cyhalothrin	2	1.0	0.02	0.02	23
Methyl parathion	1	1.3	0.40	0.53	386
Permethrin	3	1.0	0.10	0.11	236
Petroleum distillate	*	1.0	0.99	0.99	56
Phorate	*	1.0	0.87	0.87	73
Propargite	*	1.0	1.40	1.40	156
Tebupirimphos	4	1.0	0.12	0.12	371
Tefluthrin	6	1.0	0.12	0.12	466
Terbufos	3	1.0	1.02	1.02	2,491

* Area applied is less than one percent.

[1] Planted acres in 2001 for the 19 program states were 70.7 million acres. States included are CO, GA, IL, IN, IA, KS, KY, MI, MN, MO, NE, NY, NC, ND, OH, PA, SD, TX and WI.

Corn: Agricultural Chemical Applications, Colorado, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	12	1.4	0.30	0.44	67
Acetochlor	9	1.0	1.62	1.62	174
Atrazine	57	1.1	0.90	1.01	701
Carfentrazone-ethyl	2	1.0	0.01	0.01	([2])
Dicamba	30	1.0	0.15	0.16	58
Dicamba, Dimet. salt	13	1.0	0.12	0.12	19
Dicamba, Pot. salt	7	1.0	0.16	0.16	14
Diflufenzopyr-sodium	13	1.0	0.05	0.05	8
Glyphosate	27	1.4	0.37	0.54	177
Nicosulfuron	20	1.0	0.01	0.01	3
Pendimethalin	2	1.0	0.50	0.50	13
Rimsulfuron	21	1.0	0.01	0.01	2
S-Metolachlor	8	1.0	1.26	1.26	118
Insecticides					
Bifenthrin	4	1.1	0.08	0.09	4
Chlorpyrifos	4	1.0	1.02	1.02	47
Propargite	7	1.0	1.50	1.50	137
Terbufos	15	1.0	1.06	1.07	193

[1] Planted acres in 2001 for Colorado were 1.22 million acres.
[2] Total applied is less than 1,000 lbs.

Corn: Agricultural Chemical Applications, Georgia, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
Atrazine	83	1.0	1.34	1.40	308
Glyphosate	16	1.0	0.71	0.71	30
Nicosulfuron	7	1.0	0.03	0.03	1
Pendimethalin	10	1.0	0.84	0.84	23
Insecticides					
Carbofuran	5	1.0	0.58	0.58	8
Terbufos	27	1.0	0.65	0.65	46

[1] Planted acres in 2001 for Georgia were 265,000 acres.

Corn: Agricultural Chemical Applications, Illinois, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	14	1.0	0.35	0.35	526
Acetamide	3	1.0	0.44	0.44	152
Acetic acid	4	1.0	0.26	0.26	106
Acetochlor	35	1.0	2.02	2.08	8,059
Atrazine	88	1.2	1.22	1.47	14,143
Bentazon	3	1.0	0.36	0.36	111
Clopyralid	7	1.0	0.10	0.10	75
Dicamba	18	1.0	0.11	0.11	228
Dicamba, Dimet. salt	7	1.0	0.11	0.11	81
Dicamba, Pot. salt	7	1.0	0.38	0.38	295
Diflufenzopyr-sodium	7	1.0	0.04	0.04	32
Dimethenamid	17	1.1	1.05	1.19	2,270
Flumetsulam	7	1.0	0.04	0.04	31
Glyphosate	12	1.0	0.58	0.58	786
Imazapyr	4	1.0	0.002	0.002	1
Imazethapyr	4	1.0	0.006	0.006	2
Isoxaflutole	6	1.0	0.06	0.06	41
Metolachlor	5	1.0	1.86	1.86	993
Nicosulfuron	13	1.0	0.01	0.01	18
Paraquat	2	1.0	0.35	0.35	94
Primisulfuron	7	1.0	0.02	0.02	18
Prosulfuron	4	1.0	0.008	0.008	3
Rimsulfuron	9	1.0	0.01	0.01	11
S-Metolachlor	19	1.0	1.41	1.44	3,056
Simazine	3	1.0	0.87	0.87	265
Insecticides					
Chlorpyrifos	9	1.0	1.10	1.10	1,033
Cyfluthrin	7	1.0	0.005	0.005	4
Lambda-cyhalothrin	5	1.0	0.02	0.02	11
Permethrin	5	1.2	0.10	0.12	60
Tebupirimphos	7	1.0	0.10	0.10	79
Tefluthrin	12	1.0	0.14	0.14	175
Terbufos	2	1.0	1.19	1.19	241

[1] Planted acres in 2001 for Illinois were 11.0 million acres.

Corn: Agricultural Chemical Applications, Indiana, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	9	1.0	0.40	0.40	216
Acetamide	6	1.0	0.39	0.39	128
Acetochlor	27	1.0	1.74	1.74	2,715
Alachlor	5	1.0	2.20	2.20	659
Atrazine	94	1.0	1.31	1.35	7,359
Clopyralid	2	1.0	0.10	0.10	9
Dicamba	8	1.0	0.10	0.10	46
Flumetsulam	2	1.0	0.04	0.04	4
Glyphosate	6	1.1	0.80	0.88	301
Imazapyr	3	1.0	0.002	0.002	([2])
Imazethapyr	3	1.0	0.007	0.007	1
Isoxaflutole	13	1.0	0.06	0.06	46
Metolachlor	14	1.0	1.53	1.53	1,247
Metribuzin	3	1.0	0.11	0.11	18
Nicosulfuron	3	1.0	0.01	0.01	2
Paraquat	4	1.0	0.56	0.56	115
Primisulfuron	14	1.0	0.03	0.03	20
Prosulfuron	10	1.0	0.009	0.009	5
Rimsulfuron	2	1.1	0.01	0.01	2
S-Metolachlor	32	1.0	1.24	1.25	2,327
Simazine	4	1.0	1.13	1.13	274
Insecticides					
Chlorpyrifos	6	1.0	1.35	1.35	483
Cyfluthrin	10	1.0	0.006	0.006	3
Permethrin	4	1.0	0.11	0.11	26
Tebupirimphos	10	1.0	0.12	0.12	70
Tefluthrin	14	1.0	0.11	0.11	95
Terbufos	6	1.0	1.06	1.06	352

[1] Planted acres in 2001 for Indiana were 5.80 million acres.
[2] Total applied is less than 1,000 lbs.

Corn: Agricultural Chemical Applications, Iowa, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	3	1.0	0.40	0.40	122
Acetamide	5	1.0	0.45	0.45	277
Acetochlor	17	1.0	1.93	1.93	3,908
Atrazine	67	1.0	0.87	0.94	7,417
Bromoxynil	2	1.0	0.38	0.38	77
Clopyralid	14	1.0	0.10	0.10	157
Dicamba	13	1.0	0.21	0.21	334
Dicamba, Dimet. salt	8	1.0	0.09	0.09	83
Dicamba, Pot. salt	10	1.0	0.35	0.35	388
Diflufenzopyr-sodium	8	1.0	0.04	0.04	33
Dimethenamid	19	1.0	0.80	0.80	1,777
Flumetsulam	14	1.0	0.04	0.04	58
Glufosinate-ammonium	4	1.0	0.33	0.33	144
Glyphosate	5	1.6	0.44	0.74	442
Imazapyr	3	1.0	0.003	0.003	1
Imazethapyr	3	1.0	0.008	0.008	3
Isoxaflutole	23	1.0	0.09	0.09	229
Metolachlor	5	1.0	1.88	1.88	1,191
Nicosulfuron	16	1.0	0.02	0.02	32
Primisulfuron	6	1.0	0.02	0.02	14
Rimsulfuron	11	1.0	0.01	0.01	14
S-Metolachlor	14	1.0	1.70	1.70	2,769

[1] Planted acres in 2001 for Iowa were 11.7 million acres.

Corn: Agricultural Chemical Applications, Kansas, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	8	1.2	0.29	0.37	100
Acetamide	2	1.0	0.24	0.24	15
Acetochlor	29	1.0	1.93	1.93	1,932
Alachlor	6	1.0	1.76	1.76	354
Atrazine	81	1.3	1.14	1.52	4,244
Carfentrazone-ethyl	4	1.0	0.01	0.01	1
Clopyralid	3	1.0	0.05	0.05	5
Dicamba	8	1.4	0.15	0.22	60
Dimethenamid	20	1.0	0.88	0.88	618
Flumetsulam	3	1.0	0.02	0.02	2
Glyphosate	38	1.1	0.64	0.75	965
Imazapyr	9	1.0	0.002	0.002	1
Imazethapyr	9	1.0	0.006	0.006	2
Isoxaflutole	4	1.0	0.04	0.04	7
Metolachlor	4	1.0	2.28	2.28	322
Metribuzin	2	1.0	0.08	0.08	7
Nicosulfuron	9	1.0	0.01	0.01	3
Pendimethalin	2	1.0	1.68	1.68	95
Primisulfuron	10	1.0	0.02	0.02	8
Prosulfuron	9	1.0	0.01	0.01	3
Rimsulfuron	8	1.2	0.01	0.01	3
S-Metolachlor	23	1.0	1.22	1.29	1,034
Insecticides					
Bifenthrin	10	1.0	0.07	0.07	26
Chlorpyrifos	3	1.0	0.46	0.46	46
Methyl parathion	7	1.2	0.46	0.57	136

[1] Planted acres in 2001 for Kansas were 3.45 million acres.

Corn: Agricultural Chemical Applications, Kentucky, 2001 [1]

Agricultural Chemical	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
Acetochlor	5	1.0	1.89	1.92	107
Atrazine	84	1.1	1.48	1.63	1,635
Glyphosate	11	1.0	0.72	0.75	96
Imazapyr	23	1.0	0.002	0.002	1
Imazethapyr	23	1.0	0.006	0.006	2
Metolachlor	8	1.0	1.37	1.37	133
Nicosulfuron	9	1.0	0.02	0.02	2
Paraquat	18	1.0	0.53	0.53	114
Primisulfuron	6	1.0	0.03	0.03	2
Rimsulfuron	3	1.0	0.008	0.008	([2])
S-Metolachlor	36	1.0	1.24	1.24	533
Simazine	8	1.0	1.11	1.11	104
Insecticides					
Lambda-cyhalothrin	8	1.0	0.01	0.01	1
Permethrin	4	1.0	0.10	0.10	5

[1] Planted acres in 2001 for Kentucky were 1.20 million acres.
[2] Total applied is less than 1,000 lbs.

Corn: Agricultural Chemical Applications, Michigan, 2001 [1]

Agricultural Chemical	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	10	1.0	0.52	0.52	111
Acetochlor	27	1.0	1.68	1.68	996
Atrazine	69	1.0	1.23	1.28	1,940
Clopyralid	22	1.0	0.09	0.09	46
Dicamba	13	1.0	0.23	0.24	70
Dicamba, Dimet. salt	3	1.0	0.08	0.08	5
Diflufenzopyr-sodium	3	1.0	0.03	0.03	2
Dimethenamid	5	1.0	1.04	1.04	111
Flumetsulam	23	1.0	0.04	0.04	18
Glyphosate	15	1.0	0.82	0.85	272
Metolachlor	6	1.0	1.33	1.33	183
Nicosulfuron	9	1.0	0.02	0.02	3
Pendimethalin	7	1.0	0.88	0.88	142
Rimsulfuron	7	1.0	0.01	0.01	2
S-Metolachlor	26	1.0	1.21	1.21	696
Insecticides					
Chlorpyrifos	9	1.0	1.01	1.01	191

[1] Planted acres in 2001 for Michigan were 2.20 million acres.

Corn: Agricultural Chemical Applications, Minnesota, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	7	1.0	0.23	0.23	105
Acetochlor	42	1.0	1.47	1.47	4,227
Alachlor	*	1.0	1.67	1.67	85
Atrazine	51	1.0	0.83	0.86	2,976
Bromoxynil	3	1.0	0.16	0.16	34
Carfentrazone-ethyl	*	1.0	0.008	0.008	([2])
Clopyralid	23	1.0	0.11	0.11	170
Dicamba	17	1.0	0.25	0.25	292
Dicamba, Dimet. salt	5	1.0	0.15	0.15	51
Dicamba, Pot. salt	7	1.0	0.30	0.30	132
Diflufenzopyr-sodium	6	1.0	0.06	0.06	23
Dimethenamid	10	1.0	1.10	1.10	780
EPTC	7	1.0	3.35	3.35	1,702
Flumetsulam	23	1.0	0.04	0.04	64
Glufosinate-ammonium	6	1.0	0.33	0.34	134
Glyphosate	7	1.0	0.70	0.76	387
Imazapyr	*	1.0	0.002	0.002	([2])
Imazethapyr	*	1.0	0.006	0.006	([2])
Metolachlor	6	1.0	1.97	1.97	800
Nicosulfuron	21	1.0	0.02	0.02	29
Pendimethalin	3	1.0	1.02	1.02	196
Primisulfuron	3	1.0	0.02	0.02	5
Rimsulfuron	10	1.0	0.01	0.01	7
S-Metolachlor	8	1.0	1.72	1.72	876
Vernolate	1	1.0	1.71	1.74	155
Insecticides					
Chlorpyrifos	1	1.0	0.84	0.84	64
Cyfluthrin	*	1.0	0.005	0.005	([2])
Tebupirimphos	*	1.0	0.10	0.10	5
Tefluthrin	3	1.0	0.09	0.09	17
Terbufos	*	1.0	0.93	0.93	23

* Area applied is less than one percent.
[1] Planted acres in 2001 for Minnesota were 6.80 million acres.
[2] Total applied is less than 1,000 lbs.

Corn: Agricultural Chemical Applications, Missouri, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	15	1.0	0.60	0.60	243
Acetamide	5	1.0	0.53	0.53	68
Acetochlor	18	1.0	2.22	2.22	1,084
Alachlor	4	1.0	1.62	1.62	171
Atrazine	89	1.1	1.31	1.44	3,475
Clopyralid	8	1.0	0.11	0.11	23
Dicamba	9	1.0	0.23	0.23	58
Dimethenamid	14	1.0	1.01	1.01	380
Flumetsulam	9	1.0	0.04	0.04	10
Glufosinate-ammonium	8	1.3	0.23	0.30	62
Glyphosate	8	1.0	0.69	0.74	168
Metolachlor	10	1.0	2.02	2.02	543
Metribuzin	5	1.0	0.13	0.13	16
Nicosulfuron	11	1.0	0.02	0.02	6
Primisulfuron	2	1.0	0.03	0.03	1
Rimsulfuron	7	1.0	0.01	0.01	2
S-Metolachlor	21	1.0	1.22	1.22	710
Simazine	4	1.0	1.02	1.02	118
Insecticides					
Chlorpyrifos	2	1.0	1.04	1.04	56
Lambda-cyhalothrin	5	1.0	0.01	0.01	2
Permethrin	26	1.0	0.12	0.12	86

[1] Planted acres in 2001 for Missouri were 2.70 million acres.

Corn: Agricultural Chemical Applications, Nebraska, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	6	1.0	0.34	0.34	177
Acetamide	3	1.0	0.30	0.30	68
Acetochlor	29	1.0	1.18	1.18	2,815
Alachlor	5	1.0	2.20	2.20	832
Atrazine	86	1.0	0.89	0.92	6,424
Bromoxynil	1	1.0	0.39	0.39	36
Clopyralid	2	1.0	0.08	0.08	14
Dicamba	9	1.0	0.12	0.12	83
Dicamba, Dimet. salt	2	1.0	0.11	0.11	19
Diflufenzopyr-sodium	3	1.0	0.04	0.04	9
Dimethenamid	9	1.0	0.81	0.81	605
Flumetsulam	2	1.0	0.04	0.04	8
Glyphosate	15	1.1	0.76	0.85	1,056
Imazethapyr	4	1.0	0.02	0.02	6
Isoxaflutole	13	1.0	0.04	0.04	45
Metolachlor	5	1.0	1.31	1.31	554
Nicosulfuron	8	1.0	0.02	0.02	13
Primisulfuron	4	1.0	0.02	0.02	7
Prosulfuron	3	1.0	0.01	0.01	3
Rimsulfuron	6	1.0	0.01	0.01	5
S-Metolachlor	24	1.0	0.89	0.89	1,756
Insecticides					
Chlorpyrifos	3	1.0	0.88	0.88	214
Cyfluthrin	10	1.0	0.007	0.007	5
Fipronil	15	1.0	0.11	0.11	136
Permethrin	2	1.0	0.07	0.07	14
Tebupirimphos	10	1.0	0.14	0.14	108
Tefluthrin	8	1.0	0.10	0.10	68
Terbufos	6	1.0	0.99	0.99	442

[1] Planted acres in 2001 for Nebraska were 8.10 million acres.

Corn: Agricultural Chemical Applications, New York, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	5	1.0	0.37	0.37	20
Alachlor	21	1.0	1.63	1.63	346
Atrazine	89	1.0	1.10	1.13	1,043
Dicamba	24	1.0	0.06	0.06	16
Flumetsulam	15	1.0	0.07	0.07	12
Glyphosate	4	1.0	1.14	1.14	52
Metolachlor	15	1.0	1.39	1.39	209
Nicosulfuron	5	1.0	0.01	0.01	1
Pendimethalin	38	1.0	1.35	1.35	527
S-Metolachlor	23	1.0	1.28	1.28	308
Insecticides					
Tefluthrin	14	1.0	0.13	0.13	20

[1] Planted acres in 2001 for New York were 1.03 million acres.

Corn: Agricultural Chemical Applications, North Carolina, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	19	1.6	0.68	1.10	146
Alachlor	5	1.2	1.47	1.82	67
Atrazine	71	1.0	1.15	1.24	612
Dimethenamid	3	1.0	0.98	0.98	21
Glyphosate	21	1.3	0.62	0.81	120
Metolachlor	18	1.0	1.54	1.54	190
Nicosulfuron	14	1.0	0.04	0.04	3
Paraquat	18	1.0	0.55	0.55	68
Simazine	7	1.0	1.23	1.23	60
Insecticides					
Terbufos	23	1.0	0.65	0.65	103

[1] Planted acres in 2001 for North Carolina were 700,000 acres.

Corn: Agricultural Chemical Applications, North Dakota, 2001 [1]

Agricultural Chemical	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	4	1.2	0.40	0.49	17
Acetochlor	16	1.0	1.18	1.18	164
Atrazine	39	1.0	0.46	0.48	166
Clopyralid	20	1.0	0.09	0.09	17
Dicamba	34	1.0	0.12	0.13	38
Dicamba, Dimet. salt	11	1.0	0.11	0.11	11
Dicamba, Sodium Salt	9	1.0	0.12	0.12	9
Diflufenzopyr-sodium	19	1.0	0.05	0.05	8
EPTC	8	1.0	2.86	2.86	191
Glyphosate	11	1.3	0.46	0.63	63
Nicosulfuron	53	1.0	0.02	0.02	9
Rimsulfuron	22	1.0	0.01	0.01	2

[1] Planted acres in 2001 for North Dakota were 880,000 acres.

Corn: Agricultural Chemical Applications, Ohio, 2001 [1]

Agricultural Chemical	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	9	1.0	0.48	0.48	154
Acetamide	2	1.0	0.44	0.44	35
Acetic acid	3	1.0	0.46	0.46	51
Acetochlor	41	1.0	1.81	1.81	2,537
Atrazine	91	1.0	1.30	1.39	4,321
Clopyralid	3	1.0	0.10	0.10	9
Cyanazine	*	1.0	2.32	2.32	45
Dicamba	14	1.0	0.15	0.15	74
Dicamba, Dimet. salt	5	1.0	0.14	0.14	23
Diflufenzopyr-sodium	4	1.0	0.06	0.06	8
Dimethenamid	4	1.0	1.16	1.16	157
Flumetsulam	4	1.0	0.04	0.04	5
Glyphosate	15	1.0	0.62	0.64	323
Isoxaflutole	11	1.0	0.08	0.08	29
Metolachlor	7	1.0	1.36	1.36	303
Metribuzin	1	1.0	0.13	0.13	5
Nicosulfuron	9	1.0	0.01	0.01	4
Pendimethalin	3	1.0	1.01	1.01	118
Rimsulfuron	4	1.0	0.01	0.01	2
S-Metolachlor	24	1.0	1.23	1.23	988
Simazine	19	1.0	1.04	1.04	664
Insecticides					
Chlorpyrifos	5	1.0	1.09	1.09	187
Permethrin	2	1.0	0.12	0.12	9
Tefluthrin	2	1.0	0.12	0.12	6

* Area applied is less than one percent.
[1] Planted acres in 2001 for Ohio were 3.40 million acres.

Corn: Agricultural Chemical Applications, Pennsylvania, 2001 [1]

Agricultural Chemical	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	7	1.0	0.44	0.44	44
Acetochlor	10	1.0	2.02	2.02	317
Atrazine	86	1.0	1.18	1.20	1,536
Dicamba	16	1.0	0.10	0.10	23
Dimethenamid	4	1.0	1.21	1.21	75
Flumetsulam	8	1.0	0.09	0.09	10
Glyphosate	12	1.0	0.87	0.88	163
Metolachlor	15	1.0	1.42	1.42	327
Nicosulfuron	13	1.0	0.01	0.01	3
Paraquat	9	1.0	0.33	0.33	46
Pendimethalin	57	1.0	0.99	0.99	851
Primisulfuron	4	1.0	0.02	0.02	1
Rimsulfuron	15	1.0	0.01	0.01	2
S-Metolachlor	45	1.0	1.05	1.05	704
Simazine	4	1.0	0.73	0.73	48
Thifensulfuron	5	1.0	0.007	0.007	1
Insecticides					
Chlorpyrifos	30	1.0	1.09	1.09	486
Lambda-cyhalothrin	5	1.0	0.02	0.02	2
Permethrin	5	1.0	0.10	0.10	8
Tefluthrin	8	1.0	0.11	0.11	14
Terbufos	1	1.0	0.95	0.95	16

[1] Planted acres in 2001 for Pennsylvania were 1.50 million acres.

Corn: Agricultural Chemical Applications, South Dakota, 2001 [1]

Agricultural Chemical	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	4	1.0	0.54	0.54	86
Acetochlor	29	1.0	1.31	1.31	1,468
Atrazine	43	1.0	0.62	0.67	1,086
Bromoxynil	9	1.0	0.22	0.22	70
Clopyralid	15	1.0	0.13	0.13	74
Dicamba	27	1.0	0.16	0.16	161
Dicamba, Pot. salt	3	1.0	0.32	0.32	34
Dimethenamid	4	1.0	1.52	1.52	253
EPTC	3	1.0	3.43	3.43	440
Flumetsulam	16	1.0	0.05	0.05	28
Glyphosate	20	1.3	0.70	0.96	717
Isoxaflutole	8	1.0	0.09	0.09	27
Metolachlor	5	1.0	1.22	1.22	244
Nicosulfuron	19	1.0	0.02	0.02	14
Primisulfuron	11	1.0	0.02	0.02	9
Rimsulfuron	11	1.0	0.01	0.01	4
S-Metolachlor	11	1.0	1.98	1.98	840

[1] Planted acres in 2001 for South Dakota were 3.80 million acres.

Corn: Agricultural Chemical Applications, Texas, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	5	1.0	0.66	0.66	48
Atrazine	68	1.1	0.88	0.97	1,065
Dicamba	7	1.0	0.35	0.35	42
Dimethenamid	19	1.0	0.53	0.53	162
Glyphosate	12	1.2	0.66	0.84	156
Nicosulfuron	8	1.0	0.02	0.02	3
Pendimethalin	9	1.0	0.79	0.79	114
Primisulfuron	15	1.0	0.02	0.02	5
Prosulfuron	15	1.0	0.01	0.01	3
Rimsulfuron	3	1.0	0.009	0.009	([2])
S-Metolachlor	12	1.0	0.83	0.83	154
Insecticides					
Bifenthrin	21	1.0	0.03	0.03	11
Carbofuran	8	1.0	0.79	0.81	102
Chlorpyrifos	5	1.0	0.63	0.63	50
Cyfluthrin	15	1.0	0.006	0.006	1
Dimethoate	8	1.0	0.58	0.58	73
Lambda-cyhalothrin	3	1.0	0.03	0.03	2
Tebupirimphos	15	1.0	0.12	0.12	29
Terbufos	18	1.0	0.95	0.96	274

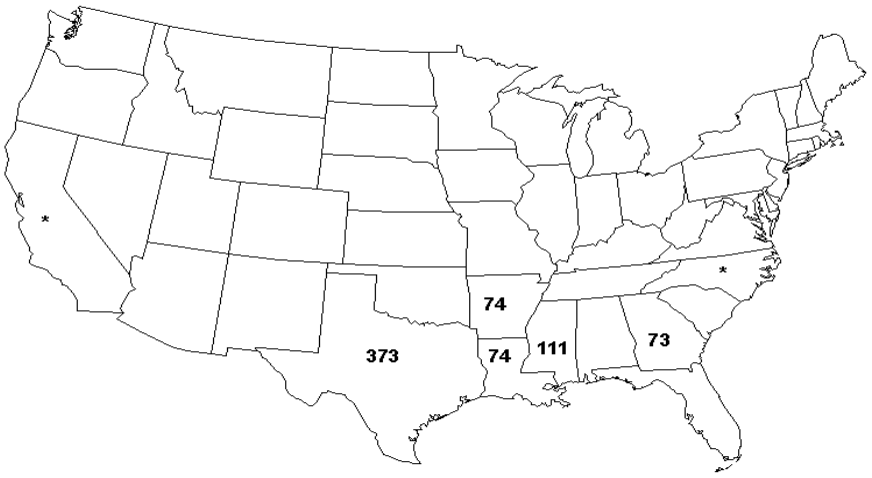
[1] Planted acres in 2001 for Texas were 1.60 million acres.
[2] Total applied is less than 1,000 lbs.

Corn: Agricultural Chemical Applications, Wisconsin, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	6	1.0	0.50	0.50	99
Acetochlor	26	1.0	1.54	1.57	1,391
Alachlor	3	1.0	1.86	1.86	215
Atrazine	59	1.0	0.83	0.90	1,811
Clopyralid	35	1.0	0.09	0.09	110
Dicamba	26	1.0	0.14	0.14	126
Dicamba, Pot. salt	11	1.0	0.42	0.42	152
Dimethenamid	7	1.0	1.11	1.11	248
Flumetsulam	38	1.0	0.03	0.03	43
Glyphosate	17	1.0	1.00	1.00	594
Metolachlor	3	1.0	1.71	1.71	171
Nicosulfuron	31	1.0	0.01	0.01	13
Pendimethalin	6	1.0	1.25	1.25	258
Primisulfuron	13	1.0	0.02	0.02	8
Rimsulfuron	23	1.0	0.008	0.008	6
S-Metolachlor	18	1.0	1.28	1.28	790
Insecticides					
Fipronil	4	1.0	0.09	0.09	12
Tefluthrin	7	1.0	0.13	0.13	32

[1] Planted acres in 2001 for Wisconsin were 3.40 million acres.

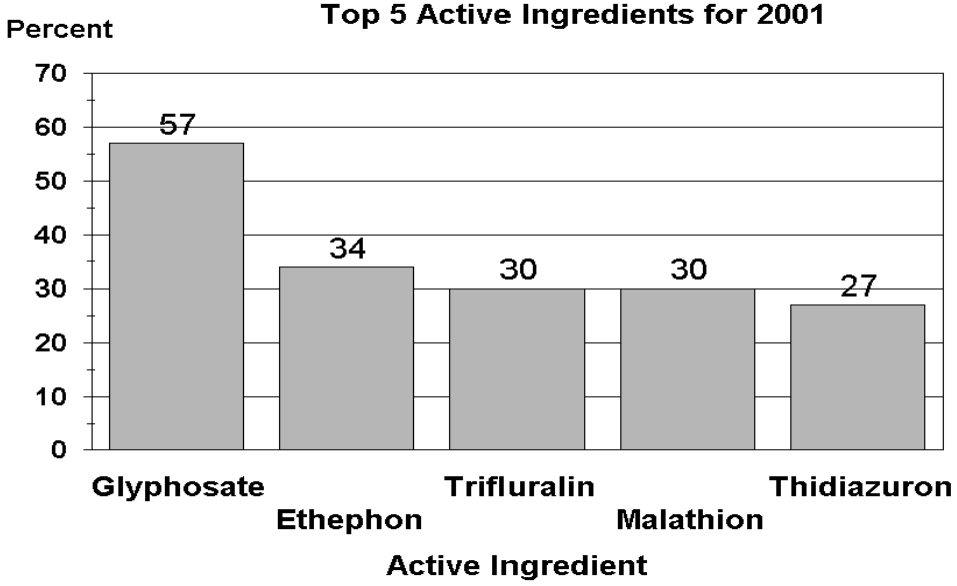
Upland Cotton: Number of Usable Reports, 2001



* State data not published due to insufficient number of reports.

Upland Cotton - Percent of Acres Treated

Top 5 Active Ingredients for 2001



Program states: AR, CA, GA, LA, MS, NC, and TX

Upland Cotton: Fertilizer Use by State, 2001
Percent of Acres Treated and Total Amount Applied

State	Planted Acreage	Percent of Acres Treated and Total Applied					
		Nitrogen		Phosphate		Potash	
	1,000 Acres	*Pct*	*Mil. Lbs*	*Pct*	*Mil. Lbs*	*Pct*	*Mil. Lbs*
AR	1,080	93	80.3	63	24.6	68	54.0
CA [1]	640						
GA	1,500	99	116.2	92	71.9	93	119.3
LA	870	95	70.8	50	18.4	52	35.1
MS	1,620	99	179.9	31	25.8	46	72.5
NC [1]	970						
TX	6,000	52	195.9	37	85.2	14	16.4
Total	12,680	76	778.1	48	263.3	41	401.9

[1] Insufficient reports to publish data for one or more of the fertilizer primary nutrients.

Upland Cotton: Fertilizer Primary Nutrient Applications, Program States and Total, 2001

Primary Nutrient	Planted Acreage	Area Applied	Applic-ations	Rate per Application	Rate per Crop Year	Total Applied
	1,000 Acres	*Percent*	*Number*	*Pounds per Acre*	*Pounds per Acre*	*Mil. Lbs*
Arkansas	1,080					
Nitrogen		93	1.4	57	80	80.3
Phosphate		63	1.0	34	36	24.6
Potash		68	1.0	69	73	54.0
California [1]	640					
Nitrogen						
Phosphate						
Potash						
Georgia	1,500					
Nitrogen		99	1.9	41	79	116.2
Phosphate		92	1.1	44	52	71.9
Potash		93	1.2	67	85	119.3
Louisiana	870					
Nitrogen		95	1.1	75	86	70.8
Phosphate		50	1.0	41	42	18.4
Potash		52	1.0	74	77	35.1
Mississippi	1,620					
Nitrogen		99	1.4	79	112	179.9
Phosphate		31	1.0	51	51	25.8
Potash		46	1.0	96	98	72.5
North Carolina [1]	970					
Nitrogen						
Phosphate						
Potash						
Texas	6,000					
Nitrogen		52	1.2	50	63	195.9
Phosphate		37	1.0	36	38	85.2
Potash		14	1.0	18	19	16.4
Total	12,680					
Nitrogen		76	1.4	55	81	778.1
Phosphate		48	1.0	39	43	263.3
Potash		41	1.1	66	76	401.9

[1] Insufficient reports to publish data for one or more of the fertilizer primary nutrients.

Upland Cotton: Active Ingredients and Publication Status By Program States, 2001

Active Ingredient	Program States							
	ALL	AR	CA	GA	LA	MS	NC	TX
Herbicides								
2,4-D	P	*			P	P		*
Atrazine	*							*
Bromoxynil	P	P	*				*	*
Carfentrazone-ethyl	P	*		*	P	P		*
Chlorimuron-ethyl	*					*		
Clethodim	P	*	*		*	*	*	P
Clomazone	*	*				*		
Cyanazine	P	P		*	*	P		*
DSMA	P	*		*	*	*		*
Diuron	P	P	*	P	P	P	*	P
Fenoxaprop	*							*
Fluazifop-P-butyl	*					*		*
Fluometuron	P	P		P	P	P	*	*
Glyphosate	P	P	*	P	P	P	*	P
Glyphosate diam salt	P				*	*	*	
Lactofen	P	*		*	P	*		
Linuron	P	*			P	P	*	*
MSMA	P	P	*	P	P	P	*	*
Metolachlor	P	*			*	*	*	*
Norflurazon	P	P		*		*	*	*
Oxyfluorfen	*					*		
Pendimethalin	P	P	*	P	*	P	*	P
Prometryn	P	P	*	*	P	P	*	P
Pyridate	*						*	*
Pyrithiobac-sodium	P	P	*	P	P	P	*	P
Quizalofop-P-ethyl	*				*			
S-Metolachlor	P	*	*		*	*	*	P
Sethoxydim	*		*		*		*	
Sulfosate	*					*		
Thifensulfuron	*	*					*	
Trifluralin	P	*	*	P	*	P	*	P

See footnote(s) at end of table.

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Upland Cotton: Active Ingredients and Publication Status By Program States, 2001

Active Ingredient	Program States							
	ALL	AR	CA	GA	LA	MS	NC	TX
Insecticides								
Abamectin	*		*					
Acephate	P	P	*	*	P	P	*	P
Aldicarb	P	P	*	P	P	P	*	P
Azinphos-methyl	*		*					*
Benzoic Acid	*							*
Bifenthrin	P	*	*		*			*
Bt (Bacillus thur.)	P	*	*					*
Carbaryl	*							*
Carbofuran	P		*		*	*		P
Chlorfenapyr	*					*		
Chlorpyrifos	P	*	*					
Cyfluthrin	P	P	*	P	P	P	*	P
Cypermethrin	P	P		*	P	P	*	*
Deltamethrin	P			P		*	*	*
Diazinon	*				*			
Dicofol	*		*					
Dicrotophos	P	P			P	P		P
Diflubenzuron	*							*
Dimethoate	P		*	*	*	*	*	
Disulfoton	*							*
Emamectin benzoate	*							*
Endosulfan	P		*				*	P
Esfenvalerate	P	*		*			*	*
Ethyl parathion	*							*
Fenpropathrin	*		*					
Fenvalerate	*					*	*	
Imidacloprid	P		*		*	P		*
Indoxacarb	*		*					
Lambda-cyhalothrin	P	P		P	P	P	*	*
Malathion	P	P			P	P		P
Methamidophos	*					*		
Methomyl	*			*				*
Methyl parathion	P			*	P	*		P
Naled	*		*					
Oxamyl	P	*				*		P
Permethrin	P				*	*		*
Petroleum distillate	*				*			
Phorate	P	*	*	*	*		*	P
Profenofos	*	*			*			
Propargite	P		*					
Pyriproxyfen	*		*					
Spinosad	P	*		*	P	*		*
Tebufenozide	*		*					
Thiamethoxam	P	*				*		
Thiodicarb	P		*		*			
Tralomethrin	P	*		P	*			*
Zeta-cypermethrin	P	P	*	*	P	P	*	P

See footnote(s) at end of table.

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Upland Cotton: Active Ingredients and Publication Status By Program States, 2001 (continued)

Active Ingredient	Program States							
	ALL	AR	CA	GA	LA	MS	NC	TX
Fungicides								
Azoxystrobin	P	*			*			
Carboxin	*					*		
Etridiazole	P	*	*		P	*	*	*
Iprodione	*				*			*
Mefenoxam	P				*		*	
Metalaxyl	*	*				*		
PCNB	P	*	*		P	P	*	*
Other Chemicals								
Arsenic acid	*			*				
Bacillus cereus	P	P	*	P	P	P	*	P
Cacodylic acid	P	*	*				*	
Cyclanilide	P	P	*	P		P	*	*
Cytokinins	P	*			*			*
Dimethipin	P	*	*	*	*	P		
Endothall	*	*		*				
Ethephon	P	P	*	P	P	P	*	P
Farnesol	*		*					
Gibberellic acid	*					*		*
Harpin protein	*				*	*		
Indolebutyric acid	P				*			*
Mepiquat chloride	P	P	*	P	P	P	*	P
Metam-sodium	*		*					
Monocarbamide dihyd.	P	*	*	P	P	*	*	P
Nerolidol	*		*					
Paraquat	P	P	*	P	P	P	*	P
Pelargonic acid	*					*		
Potassium gibber.	*				*			*
Sodium chlorate	P	*	*	*		P	*	P
Thidiazuron	P	P	*	P	P	P	*	P
Tribufos	P	P	*	P	P	P	*	P

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

**Upland Cotton: Pesticide, Planted Acreage,
Percent of Area Receiving Applications and Total Applied,
Program States and Total, 2001**

State	Planted Acreage	Area Receiving and Total Applied							
		Herbicide [3]		Insecticide [1 3]		Fungicide [3]		Other Chemicals [3]	
	1,000 Acres	*Pct*	*1,000 Lbs*	*Pct*	*1,000 Lbs*	*Pct*	*1,000 Lbs*	*Pct*	*1,000 Lbs*
AR	1,080	96	2,312	53	2,038	8	9	78	1,395
CA [2]	640								
GA	1,500	93	2,958	59	366			65	1,902
LA	870	95	2,552	93	2,217	16	70	88	931
MS	1,620	99	3,913	92	3,306	5	22	95	2,461
NC [2]	970								
TX	6,000	85	5,921	58	14,587	1	19	20	1,330
Total	12,680	90	21,098	68	23,810	4	212	55	13,435

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

Upland Cotton: Agricultural Chemical Applications, Program States, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	3	1.1	0.60	0.66	228
Bromoxynil	1	1.3	0.38	0.52	95
Carfentrazone-ethyl	5	1.1	0.02	0.02	11
Clethodim	2	1.0	0.11	0.11	28
Cyanazine	5	1.1	0.76	0.85	533
DSMA	*	1.0	1.91	1.91	179
Diuron	26	1.2	0.37	0.46	1,545
Fluometuron	10	1.0	0.73	0.78	977
Glyphosate	57	1.8	0.62	1.18	8,514
Glyphosate diam salt	*	1.5	0.72	1.10	134
Lactofen	1	1.5	0.13	0.20	33
Linuron	2	1.2	0.48	0.60	158
MSMA	11	1.2	1.03	1.32	1,834
Metolachlor	2	1.0	1.02	1.02	204
Norflurazon	2	1.0	0.75	0.79	219
Pendimethalin	16	1.0	0.76	0.80	1,651
Prometryn	12	1.2	0.68	0.83	1,292
Pyrithiobac-sodium	10	1.2	0.05	0.07	85
S-Metolachlor	2	1.0	0.75	0.75	215
Trifluralin	30	1.0	0.76	0.80	3,066
Insecticides					
Acephate	18	2.0	0.40	0.81	1,845
Aldicarb	20	1.0	0.57	0.59	1,520
Bifenthrin	1	1.0	0.03	0.03	4
Bt (Bacillus thur.) [2]	*	1.6			
Carbofuran	3	1.2	0.22	0.27	116
Chlorpyrifos	1	1.0	0.64	0.64	108
Cyfluthrin	11	1.5	0.03	0.04	61
Cypermethrin	3	1.2	0.06	0.07	31
Deltamethrin	2	1.3	0.02	0.03	6
Dicrotophos	11	1.7	0.30	0.52	715
Dimethoate	1	1.0	0.23	0.23	31
Endosulfan	1	1.0	0.30	0.30	48
Esfenvalerate	*	1.4	0.03	0.04	3
Imidacloprid	2	1.4	0.03	0.04	12
Lambda-cyhalothrin	7	1.4	0.02	0.03	29
Malathion	30	6.1	0.76	4.70	17,829
Methyl parathion	3	1.4	0.40	0.58	234
Oxamyl	4	1.9	0.36	0.70	325
Permethrin	*	1.1	0.05	0.05	6
Phorate	2	1.0	0.73	0.77	221
Propargite	*	1.4	1.23	1.82	193
Spinosad	1	1.2	0.05	0.07	11
Thiamethoxam	1	1.6	0.03	0.05	6
Thiodicarb	*	1.1	0.25	0.29	27
Tralomethrin	2	1.3	0.02	0.02	4
Zeta-cypermethrin	5	1.4	0.04	0.06	38

See footnote(s) at end of table.

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Upland Cotton: Agricultural Chemical Applications, Program States, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Fungicides					
Azoxystrobin	*	1.0	0.11	0.11	10
Etridiazole	2	1.0	0.13	0.13	32
Mefenoxam	*	1.0	0.03	0.03	2
PCNB	2	1.0	0.48	0.50	156
Other Chemicals					
Bacillus cereus [2]	12	1.4			
Cacodylic acid	*	1.1	0.80	0.92	95
Cyclanilide	9	1.0	0.12	0.12	128
Cytokinins	*	1.0			([3])
Dimethipin	1	1.0	0.39	0.42	66
Ethephon	34	1.0	0.96	1.04	4,466
Indolebutyric acid	*	1.0			([3])
Mepiquat chloride	20	1.5	0.03	0.04	100
Monocarbamide dihyd.	5	1.0	3.02	3.02	2,010
Paraquat	16	1.0	0.23	0.25	494
Sodium chlorate	8	1.1	2.54	2.90	2,969
Thidiazuron	27	1.1	0.07	0.07	250
Tribufos	25	1.1	0.68	0.76	2,425

* Area applied is less than one percent.
[1] Planted acres in 2001 for the 5 program states were 12.7 million acres. States included are AR, CA, GA, LA, MS, NC, and TX.
[2] Rates and total applied are not available because amounts of active ingredient are not comparable between products.
[3] Total applied is less than 1,000 lbs.

Upland Cotton: Agricultural Chemical Applications, Arkansas, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
Bromoxynil	8	1.1	0.28	0.33	29
Cyanazine	7	1.6	0.59	0.95	70
Diuron	25	1.0	0.46	0.49	130
Fluometuron	21	1.0	0.59	0.59	132
Glyphosate	76	2.3	0.57	1.34	1,100
MSMA	16	1.2	0.86	1.08	192
Norflurazon	10	1.1	0.81	0.92	96
Pendimethalin	22	1.0	0.68	0.68	161
Prometryn	18	1.4	0.69	0.96	190
Pyrithiobac-sodium	19	1.2	0.04	0.06	11
Insecticides					
Acephate	20	1.7	0.53	0.91	201
Aldicarb	20	1.2	0.64	0.80	177
Cyfluthrin	14	1.8	0.02	0.02	3
Cypermethrin	8	1.0	0.04	0.04	3
Dicrotophos	10	1.1	0.24	0.27	30
Lambda-cyhalothrin	14	1.2	0.02	0.02	3
Malathion	22	7.8	0.77	6.01	1,424
Zeta-cypermethrin	7	1.4	0.03	0.04	3
Other Chemicals					
Bacillus cereus [2]	26	1.2			
Cyclanilide	16	1.0	0.10	0.11	20
Ethephon	49	1.3	0.91	1.19	635
Mepiquat chloride	47	1.4	0.03	0.04	20
Paraquat	8	1.0	0.29	0.29	26
Thidiazuron	14	1.1	0.08	0.09	14
Tribufos	49	1.2	0.63	0.81	429

[1] Planted acres in 2001 for Arkansas were 1.08 million acres.
[2] Rates and total applied are not available because amounts of active ingredient are not comparable between products.

Upland Cotton: Agricultural Chemical Applications, Georgia, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
Diuron	12	1.0	0.37	0.37	69
Fluometuron	10	1.2	0.54	0.69	103
Glyphosate	86	1.8	0.67	1.24	1,602
MSMA	12	1.2	1.18	1.45	269
Pendimethalin	29	1.1	0.78	0.90	390
Pyrithiobac-sodium	9	1.0	0.05	0.05	7
Trifluralin	23	1.0	0.98	0.98	343
Insecticides					
Aldicarb	26	1.0	0.63	0.63	244
Cyfluthrin	11	1.4	0.03	0.05	8
Deltamethrin	7	1.4	0.03	0.04	4
Lambda-cyhalothrin	6	1.2	0.02	0.02	2
Tralomethrin	9	1.4	0.02	0.03	4
Other Chemicals					
Bacillus cereus [2]	19	1.6			
Cyclanilide	14	1.0	0.13	0.13	27
Ethephon	49	1.0	1.25	1.25	930
Mepiquat chloride	27	1.8	0.02	0.04	16
Monocarbamide dihyd.	7	1.0	3.64	3.64	372
Paraquat	7	1.0	0.09	0.09	9
Thidiazuron	21	1.2	0.06	0.08	24
Tribufos	42	1.0	0.57	0.61	388

[1] Planted acres in 2001 for Georgia were 1.50 million acres.
[2] Rates and total applied are not available because amounts of active ingredient are not comparable between products.

Upland Cotton: Agricultural Chemical Applications, Louisiana, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	16	1.1	0.61	0.71	100
Carfentrazone-ethyl	34	1.1	0.02	0.02	5
Diuron	70	1.3	0.51	0.70	429
Fluometuron	23	1.1	0.80	0.94	188
Glyphosate	69	2.0	0.66	1.36	815
Lactofen	11	2.0	0.12	0.24	22
Linuron	7	1.0	0.28	0.28	16
MSMA	43	1.7	1.01	1.74	653
Prometryn	22	1.5	0.48	0.75	140
Pyrithiobac-sodium	16	1.3	0.05	0.06	9
Insecticides					
Acephate	49	2.0	0.40	0.81	346
Aldicarb	35	1.0	0.46	0.47	144
Cyfluthrin	35	1.1	0.04	0.04	13
Cypermethrin	11	1.8	0.05	0.10	9
Dicrotophos	45	1.4	0.28	0.40	158
Lambda-cyhalothrin	19	1.9	0.02	0.04	6
Malathion	53	3.4	0.87	3.03	1,386
Methyl parathion	18	1.5	0.32	0.49	74
Spinosad	9	1.1	0.06	0.07	5
Zeta-cypermethrin	9	1.7	0.04	0.08	6
Fungicides					
Etridiazole	8	1.1	0.15	0.17	12
PCNB	8	1.1	0.58	0.68	48
Other Chemicals					
Bacillus cereus [2]	19	1.5			
Ethephon	53	1.0	0.89	0.92	425
Mepiquat chloride	25	1.5	0.02	0.03	6
Monocarbamide dihyd.	7	1.0	3.40	3.40	200
Paraquat	7	1.0	0.40	0.40	23
Thidiazuron	53	1.0	0.06	0.06	28
Tribufos	46	1.0	0.60	0.61	245

[1] Planted acres in 2001 for Louisiana were 870,000 acres.
[2] Rates and total applied are not available because amounts of active ingredient are not comparable between products.

Upland Cotton: Agricultural Chemical Applications, Mississippi, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	9	1.1	0.63	0.69	101
Carfentrazone-ethyl	14	1.0	0.02	0.02	4
Cyanazine	24	1.0	0.77	0.83	326
Diuron	61	1.4	0.32	0.45	450
Fluometuron	17	1.0	0.61	0.61	169
Glyphosate	89	2.4	0.62	1.48	2,127
Linuron	9	1.2	0.55	0.66	96
MSMA	18	1.1	0.76	0.84	245
Pendimethalin	7	1.0	0.67	0.67	79
Prometryn	12	1.0	0.44	0.44	84
Pyrithiobac-sodium	16	1.2	0.04	0.05	12
Trifluralin	5	1.0	0.74	0.74	54
Insecticides					
Acephate	63	2.4	0.43	1.04	1,065
Aldicarb	21	1.0	0.58	0.58	200
Cyfluthrin	15	1.9	0.03	0.05	13
Cypermethrin	10	1.1	0.06	0.07	11
Dicrotophos	31	1.8	0.43	0.79	395
Imidacloprid	4	1.6	0.03	0.04	3
Lambda-cyhalothrin	17	1.6	0.02	0.04	10
Malathion	43	2.9	0.74	2.16	1,514
Zeta-cypermethrin	19	1.4	0.03	0.05	15
Fungicides					
PCNB	4	1.0	0.23	0.23	16
Other Chemicals					
Bacillus cereus [2]	10	1.7			
Cyclanilide	21	1.0	0.07	0.08	26
Dimethipin	5	1.0	0.44	0.44	39
Ethephon	59	1.1	0.64	0.72	686
Mepiquat chloride	16	1.5	0.04	0.06	15
Paraquat	16	1.1	0.24	0.28	74
Sodium chlorate	14	1.0	3.73	3.73	819
Thidiazuron	77	1.1	0.08	0.09	116
Tribufos	48	1.1	0.70	0.80	617

[1] Planted acres in 2001 for Mississippi were 1.62 million acres.
[2] Rates and total applied are not available because amounts of active ingredient are not comparable between products.

Upland Cotton: Agricultural Chemical Applications, Texas, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
Clethodim	3	1.0	0.13	0.13	20
Diuron	16	1.1	0.40	0.47	442
Glyphosate	35	1.3	0.61	0.84	1,758
Pendimethalin	15	1.0	0.77	0.81	722
Prometryn	7	1.0	0.57	0.59	265
Pyrithiobac-sodium	6	1.3	0.06	0.08	32
S-Metolachlor	2	1.0	0.47	0.47	54
Trifluralin	50	1.0	0.73	0.78	2,373
Insecticides					
Acephate	7	1.6	0.26	0.41	173
Aldicarb	7	1.0	0.43	0.43	186
Carbofuran	3	1.2	0.15	0.19	30
Cyfluthrin	3	2.0	0.03	0.06	11
Dicrotophos	7	2.0	0.17	0.34	132
Endosulfan	2	1.0	0.19	0.19	17
Malathion	41	7.5	0.73	5.49	13,505
Methyl parathion	2	1.4	0.47	0.68	90
Oxamyl	6	2.1	0.19	0.41	158
Phorate	2	1.1	0.57	0.64	86
Zeta-cypermethrin	2	1.4	0.05	0.07	6
Other Chemicals					
Bacillus cereus [2]	4	1.5			
Ethephon	9	1.0	0.71	0.73	375
Mepiquat chloride	7	1.5	0.02	0.03	10
Monocarbamide dihyd.	2	1.0	2.77	2.77	350
Paraquat	19	1.1	0.23	0.26	292
Sodium chlorate	2	1.5	0.46	0.71	76
Thidiazuron	14	1.1	0.05	0.05	44
Tribufos	5	1.0	0.57	0.57	180

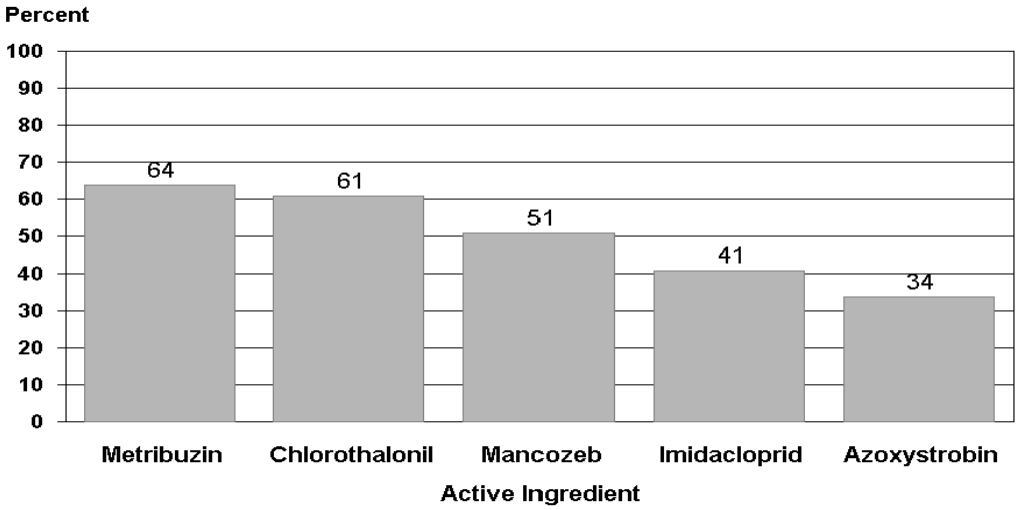
[1] Planted acres in 2001 for Texas were 6.00 million acres.
[2] Rates and total applied are not available because amounts of active ingredient are not comparable between products.

Fall Potatoes: Number of Usable Reports, 2001

* State data not published due to insufficient number of reports.

Potatoes: Percent of Acres Treated

Top 5 Active Ingredients for 2001



Program states are ID, ME, MN, ND, OR, WA, and WI

Fall Potatoes: Fertilizer Use by State, 2001
Percent of Acres Treated and Total Amount Applied

State	Planted Acreage	Percent of Acres Treated and Total Applied					
		Nitrogen		Phosphate		Potash	
	1,000 Acres	*Pct*	*Mil. Lbs*	*Pct*	*Mil. Lbs*	*Pct*	*Mil. Lbs*
ID	370	99	79.6	97	63.2	77	35.1
ME	62	98	11.0	98	11.4	98	11.8
MN	59	93	6.4	89	4.5	89	7.6
ND [1]	118						
OR [1]	45						
WA	160	97	37.6	92	33.0	92	37.4
WI	84	100	22.0	98	13.7	100	24.3
Total	898	98	184.4	95	142.2	86	135.6

[1] Insufficient reports to publish data for one or more of the fertilizer classes.

Fall Potatoes: Fertilizer Primary Nutrient Applications, Program States and Total, 2001

Primary Nutrient	Planted Acreage	Area Applied	Applic-ations	Rate per Application	Rate per Crop Year	Total Applied
	1,000 Acres	*Percent*	*Number*	*Pounds per Acre*	*Pounds per Acre*	*Mil. Lbs*
Idaho	370					
Nitrogen		99	3.8	57	218	79.6
Phosphate		97	1.7	98	176	63.2
Potash		77	1.3	92	123	35.1
Maine	62					
Nitrogen		98	1.1	157	181	11.0
Phosphate		98	1.0	185	187	11.4
Potash		98	1.0	186	195	11.8
Minnesota	59					
Nitrogen		93	2.0	57	118	6.4
Phosphate		89	1.2	70	85	4.5
Potash		89	1.2	114	144	7.6
North Dakota [1]	118					
Nitrogen						
Phosphate						
Potash						
Oregon [1]	45					
Nitrogen						
Phosphate						
Potash						
Washington	160					
Nitrogen		97	2.2	109	244	37.6
Phosphate		92	1.7	131	224	33.0
Potash		92	1.4	172	254	37.4
Wisconsin	84					
Nitrogen		100	4.3	60	261	22.0
Phosphate		98	1.3	121	167	13.7
Potash		100	2.7	104	289	24.3
Total	898					
Nitrogen		98	3.4	62	209	184.4
Phosphate		95	1.6	102	166	142.2
Potash		86	1.5	114	176	135.6

[1] Insufficient reports to publish data for one or more of the Program States.

Fall Potatoes: Active Ingredients and Publication Status By Program States, 2001

Active Ingredient	Program States							
	ALL	ID	ME	MN	ND	OR	WA	WI
Herbicides								
2,4-D	P			*	*			*
Acetic acid	*						*	
Clethodim	*				*			
EPTC	P	P				*	*	
Glufosinate-ammonium	P			*	*		*	
Glyphosate	P	*	*		*	*	P	P
Linuron	P		P	P				P
Metolachlor	P	P	*	P		*	*	*
Metribuzin	P	P	P	P	*	*	P	P
Pendimethalin	P	P		*	*	*	P	P
Rimsulfuron	P	P	P	P	*	*	P	P
S-Metolachlor	P	*		P		*	*	*
Sethoxydim	*			*	*			*
Trifluralin	P	*				*	P	

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

Fall Potatoes: Active Ingredients and Publication Status By Program States, 2001

Active Ingredient	Program States							
	ALL	ID	ME	MN	ND	OR	WA	WI
Insecticides								
Aldicarb	P	*				*	P	
Azinphos-methyl	P		*				*	*
Bt (Bacillus thur.)	*	*	*					
Carbaryl	P		*			*	*	*
Carbofuran	P	P	*			*	P	
Cyfluthrin	P	P	*	P	*	*	P	P
Diazinon	P	P				*	*	*
Dimethoate	P	*		*	*	*	*	P
Disulfoton	P	*	*			*		*
Endosulfan	P	P		*		*	*	P
Esfenvalerate	P	P	*	*	*	*	P	P
Ethoprop	P	P				*	P	*
Fonofos	*	*						
Imidacloprid	P	P	P	P	*	*	P	P
Malathion	*			*			*	
Methamidophos	P	*	P	*	*	*	P	*
Methoxychlor	*						*	
Methyl parathion	*					*		
Oxamyl	P	P				*	*	*
Permethrin	P	P	*	*		*	*	*
Phorate	P	P			*	*	P	
Phosmet	P	*					*	P
Piperonyl butoxide	P							P
Propargite	P	*				*	P	
Pymetrozine	P	P	*				P	*
Pyrethrins	*							*
Spinosad	P			*	*		*	*
Thiamethoxam	P	*			*		P	*

See footnote(s) at end of table.

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Fall Potatoes: Active Ingredients and Publication Status By Program States, 2001 (continued)

Active Ingredient	Program States							
	ALL	ID	ME	MN	ND	OR	WA	WI
Fungicides								
Azoxystrobin	P	P	P	P	*	*	P	P
Captan	*		*					
Chlorothalonil	P	P	P	P	*	*	P	P
Copper amm. complex	P						*	*
Copper hydroxide	P	P	*			*	P	P
Copper sulfate	*							*
Cymoxanil	P		P	P	*	*	P	P
Dicloran	*	*					*	
Dimethomorph	P			*		*	*	P
Flutolanil	*	*						
Iprodione	P	*				*	P	
Mancozeb	P	P	P	P	*	*	P	P
Maneb	P	*	P		*	*	*	*
Mefenoxam	P	P	P	*	*	*	P	P
Metalaxyl	P	P	P	*	*	*	P	*
Metiram	P	P	*	P	*		P	*
PCNB	P	*				*	*	*
Propamocarb hydroch.	*			*			*	
Sulfur	P	*				*	P	
Triphenyltin hydrox.	P	*	P	P	*		*	P
Zoxamide	P			*	*			P
Other Chemicals								
Chloropicrin	*						*	
Cytokinins	*		*					
Dichloropropene	P	*				*	P	
Diquat	P	P	P	P	*	*	P	P
Endothall	P		*	*			*	*
Indolebutyric acid	*		*					
Maleic hydrazide	P	*	P	*		*	*	*
Metam-sodium	P	P		*		*	P	P
Monocarbamide dihyd.	*		*			*		
Paraquat	P		P				*	*
Potassium gibber.	*		*					
Sulfuric acid	P	P	*	*				

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

**Fall Potatoes: Pesticide, Planted Acreage,
Percent of Area Receiving Applications and Total Applied,
Program States and Total, 2001**

State	Planted Acreage	Area Receiving and Total Applied							
		Herbicide [3]		Insecticide [1 3]		Fungicide [3]		Other Chemicals [3]	
	1,000 Acres	*Pct*	*1,000 Lbs*	*Pct*	*1,000 Lbs*	*Pct*	*1,000 Lbs*	*Pct*	*1,000 Lbs*
ID	370	75	714	93	853	70	691	59	46,698
ME	62	92	28	88	13	98	530	97	405
MN	59	78	53	95	18	97	431	56	456
ND [2]	118								
OR [2]	45								
WA	160	92	290	95	647	91	1,108	78	14,470
WI	84	88	73	100	110	97	1,193	86	2,644
Total	898	82	1,359	93	1,862	85	5,196	61	65,935

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

Fall Potatoes: Agricultural Chemical Applications, Program States, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	2	1.7	0.06	0.10	2
EPTC	20	1.0	3.52	3.60	663
Glufosinate-ammonium	2	1.1	0.30	0.35	6
Glyphosate	6	1.0	0.53	0.53	27
Linuron	3	1.0	0.82	0.82	24
Metolachlor	7	1.0	1.67	1.78	110
Metribuzin	64	1.0	0.43	0.44	250
Pendimethalin	28	1.0	0.87	0.87	219
Rimsulfuron	19	1.0	0.02	0.02	2
S-Metolachlor	3	1.0	1.13	1.13	33
Trifluralin	3	1.0	0.50	0.50	14
Insecticides					
Aldicarb	9	1.0	2.93	2.93	244
Azinphos-methyl	1	1.3	0.66	0.91	8
Carbaryl	1	1.1	0.93	1.09	13
Carbofuran	13	1.1	1.85	2.11	245
Cyfluthrin	22	2.0	0.03	0.05	10
Diazinon	5	1.2	2.24	2.86	140
Dimethoate	6	1.6	0.34	0.56	31
Disulfoton	1	1.0	2.03	2.03	21
Endosulfan	5	1.1	0.74	0.84	41
Esfenvalerate	20	1.6	0.04	0.06	9
Ethoprop	4	1.0	5.71	5.71	225
Imidacloprid	41	1.2	0.12	0.15	53
Methamidophos	11	1.7	0.92	1.58	163
Oxamyl	7	1.5	0.73	1.10	68
Permethrin	8	1.1	0.12	0.14	9
Phorate	20	1.0	2.67	2.69	476
Phosmet	3	1.2	0.71	0.92	28
Piperonyl butoxide	2	1.3	0.39	0.51	10
Propargite	3	1.0	1.86	1.92	47
Pymetrozine	8	1.2	0.09	0.11	8
Spinosad	2	1.0	0.04	0.04	([2])
Thiamethoxam	5	1.0	0.03	0.03	1

See footnote(s) at end of table.

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Fall Potatoes: Agricultural Chemical Applications, Program States, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Fungicides					
Azoxystrobin	34	1.7	0.12	0.20	62
Chlorothalonil	61	3.8	1.06	4.07	2,215
Copper amm. complex	2	2.0	0.27	0.55	8
Copper hydroxide	9	2.3	0.53	1.21	93
Cymoxanil	14	1.6	0.09	0.15	18
Dimethomorph	3	1.6	0.14	0.23	6
Iprodione	9	1.0	0.82	0.88	73
Mancozeb	51	3.7	1.10	4.08	1,877
Maneb	4	2.7	1.23	3.31	124
Mefenoxam	17	1.1	0.18	0.21	35
Metalaxyl	17	1.4	0.14	0.20	30
Metiram	9	2.8	1.34	3.76	303
PCNB	4	1.0	2.06	2.09	84
Sulfur	5	1.6	2.53	4.12	181
Triphenyltin hydrox.	11	2.0	0.12	0.25	23
Zoxamide	4	1.9	0.17	0.34	11
Other Chemicals					
Dichloropropene	5	1.0	168.70	168.70	6,880
Diquat	31	1.5	0.33	0.50	137
Endothall	1	1.1	0.41	0.47	4
Maleic hydrazide	6	1.0	1.23	1.29	66
Metam-sodium	21	1.0	119.89	119.89	22,124
Paraquat	2	1.1	0.42	0.49	9
Sulfuric acid	14	1.0	286.05	286.05	36,408

[1] Planted acres in 2001 for the 7 program states were 898,000 acres. States included are ID, ME, MN, ND, OR, WA and WI.
[2] Total applied is less than 1,000 lbs.

Fall Potatoes: Agricultural Chemical Applications, Idaho, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
EPTC	33	1.0	3.55	3.62	437
Metolachlor	9	1.0	1.77	1.77	56
Metribuzin	66	1.0	0.46	0.47	113
Pendimethalin	27	1.0	0.79	0.79	80
Rimsulfuron	15	1.0	0.02	0.02	1
Insecticides					
Carbofuran	25	1.1	2.02	2.23	206
Cyfluthrin	9	1.2	0.03	0.04	1
Diazinon	9	1.0	2.83	2.83	99
Endosulfan	7	1.1	0.83	0.98	27
Esfenvalerate	19	1.4	0.03	0.05	3
Ethoprop	4	1.0	4.71	4.71	65
Imidacloprid	12	1.1	0.13	0.15	7
Oxamyl	10	1.1	0.76	0.87	33
Permethrin	13	1.1	0.12	0.13	6
Phorate	26	1.0	2.83	2.83	275
Pymetrozine	11	1.2	0.09	0.11	5
Fungicides					
Azoxystrobin	26	1.2	0.12	0.15	15
Chlorothalonil	44	1.7	0.97	1.72	280
Copper hydroxide	7	1.3	0.66	0.90	24
Mancozeb	30	1.9	1.25	2.38	263
Mefenoxam	11	1.0	0.18	0.19	8
Metalaxyl	7	1.7	0.17	0.29	8
Metiram	4	1.0	1.21	1.21	16
Other Chemicals					
Diquat	9	1.0	0.39	0.41	14
Metam-sodium	20	1.0	122.83	122.83	9,027
Sulfuric acid	34	1.0	287.83	287.83	35,845

[1] Planted acres in 2001 for Idaho were 370,000 acres.

Fall Potatoes: Agricultural Chemical Applications, Maine, 2001 [1]

Agricultural Chemical	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
Linuron	8	1.0	0.71	0.71	4
Metribuzin	84	1.0	0.46	0.46	24
Rimsulfuron	5	1.0	0.02	0.02	([2])
Insecticides					
Imidacloprid	84	1.0	0.16	0.17	9
Methamidophos	7	1.1	0.62	0.71	3
Fungicides					
Azoxystrobin	5	1.0	0.10	0.10	([2])
Chlorothalonil	70	5.7	0.63	3.63	157
Cymoxanil	6	1.1	0.05	0.06	([2])
Mancozeb	75	7.2	0.98	7.13	333
Maneb	9	4.6	0.84	3.93	22
Mefenoxam	6	1.5	0.11	0.17	1
Metalaxyl	21	1.3	0.19	0.26	3
Triphenyltin hydrox.	13	1.3	0.11	0.14	1
Other Chemicals					
Diquat	97	1.9	0.25	0.48	29
Maleic hydrazide	20	1.0	1.38	1.38	17
Paraquat	5	1.0	0.40	0.40	1

[1] Planted acres in 2001 for Maine were 62,000 acres.
[2] Total applied is less than 1,000 lbs.

Fall Potatoes: Agricultural Chemical Applications, Minnesota, 2001 [1]

Agricultural Chemical	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
Linuron	15	1.0	1.22	1.22	11
Metolachlor	17	1.0	1.71	1.71	17
Metribuzin	52	1.0	0.33	0.35	11
Rimsulfuron	17	1.0	0.02	0.02	([2])
S-Metolachlor	16	1.0	1.12	1.12	10
Insecticides					
Cyfluthrin	37	1.6	0.03	0.05	1
Imidacloprid	88	1.3	0.11	0.15	8
Fungicides					
Azoxystrobin	35	2.9	0.10	0.29	6
Chlorothalonil	71	4.9	0.85	4.19	176
Cymoxanil	21	1.2	0.12	0.15	2
Mancozeb	53	3.5	1.43	5.07	160
Metiram	19	5.5	1.32	7.28	80
Triphenyltin hydrox.	15	3.5	0.10	0.36	3
Other Chemicals					
Diquat	51	1.3	0.38	0.52	15

[1] Planted acres in 2001 for Minnesota were 59,000 acres.
[2] Total applied is less than 1,000 lbs.

Fall Potatoes: Agricultural Chemical Applications, Washington, 2001 [1]

Agricultural Chemical	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
EPTC	29	1.0	3.37	3.43	157
Glyphosate	13	1.0	0.44	0.44	9
Metribuzin	74	1.0	0.43	0.46	54
Pendimethalin	39	1.0	0.73	0.73	46
Rimsulfuron	10	1.0	0.02	0.02	([2])
Trifluralin	11	1.0	0.43	0.43	7
Insecticides					
Aldicarb	33	1.0	2.90	2.90	153
Carbofuran	12	1.3	1.27	1.72	34
Cyfluthrin	21	1.3	0.03	0.04	1
Esfenvalerate	15	1.2	0.04	0.05	1
Ethoprop	11	1.0	7.01	7.01	119
Imidacloprid	32	1.2	0.10	0.12	6
Methamidophos	49	1.9	0.96	1.85	143
Phorate	17	1.0	2.36	2.36	63
Propargite	11	1.0	1.84	1.87	34
Pymetrozine	15	1.2	0.09	0.11	3
Thiamethoxam	11	1.0	0.05	0.05	1
Fungicides					
Azoxystrobin	27	1.4	0.13	0.19	8
Chlorothalonil	58	2.5	1.04	2.63	245
Copper hydroxide	10	3.0	0.55	1.65	27
Cymoxanil	12	1.9	0.03	0.06	1
Iprodione	39	1.0	0.83	0.91	57
Mancozeb	61	2.7	1.29	3.53	343
Mefenoxam	17	1.2	0.29	0.35	10
Metalaxyl	41	1.3	0.13	0.19	12
Metiram	26	2.5	1.41	3.60	152
Sulfur	23	1.6	2.76	4.65	174
Other Chemicals					
Dichloropropene	17	1.0	171.24	171.24	4,559
Diquat	32	1.1	0.48	0.52	27
Metam-sodium	53	1.0	114.13	114.13	9,614

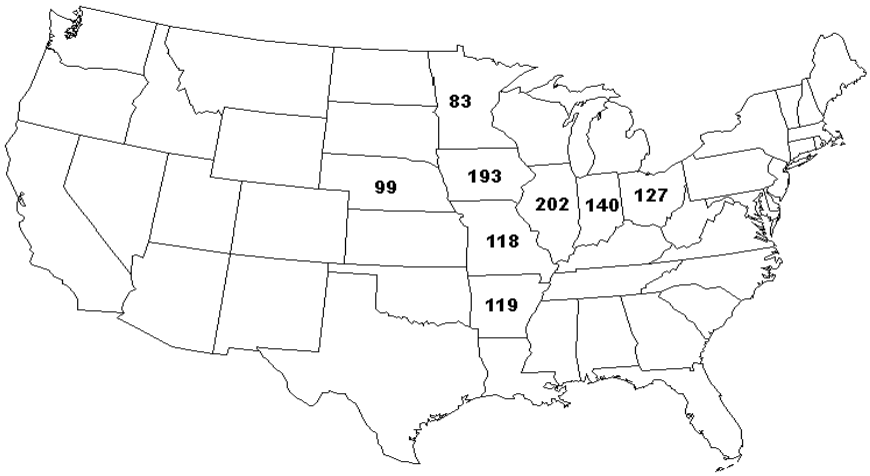
[1] Planted acres in 2001 for Washington were 160,000 acres.
[2] Total applied is less than 1,000 lbs.

Fall Potatoes: Agricultural Chemical Applications, Wisconsin, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
Glyphosate	12	1.0	0.51	0.51	5
Linuron	17	1.0	0.60	0.60	9
Metribuzin	71	1.0	0.45	0.45	27
Pendimethalin	22	1.0	0.72	0.72	13
Rimsulfuron	29	1.0	0.02	0.02	([2])
Insecticides					
Cyfluthrin	19	1.2	0.03	0.04	1
Dimethoate	29	1.1	0.33	0.38	9
Endosulfan	15	1.0	0.63	0.65	8
Esfenvalerate	78	2.0	0.04	0.08	5
Imidacloprid	80	1.0	0.19	0.21	14
Phosmet	15	1.0	0.53	0.55	7
Piperonyl butoxide	22	1.3	0.39	0.51	10
Fungicides					
Azoxystrobin	78	2.3	0.10	0.23	15
Chlorothalonil	90	7.4	0.98	7.32	554
Copper hydroxide	34	3.1	0.41	1.30	37
Cymoxanil	55	1.9	0.12	0.23	11
Dimethomorph	15	1.5	0.20	0.30	4
Mancozeb	72	6.1	1.25	7.69	467
Mefenoxam	39	1.5	0.14	0.21	7
Triphenyltin hydrox.	27	2.1	0.12	0.25	6
Zoxamide	27	2.0	0.17	0.35	8
Other Chemicals					
Diquat	81	1.5	0.34	0.55	37
Metam-sodium	22	1.0	139.58	139.58	2,592

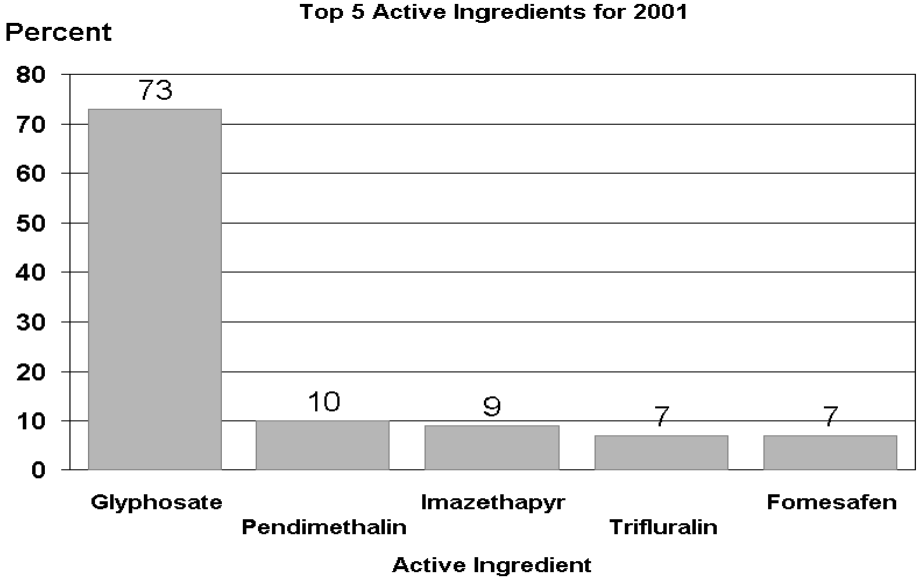
[1] Planted acres in 2001 for Wisconsin were 84,000 acres.
[2] Total applied is less than 1,000 lbs.

Soybeans: Number of Usable Reports, 2001



Soybeans: Percent of Acres Treated

Top 5 Active Ingredients for 2001



Program states are AR, IL, IN, IA, MN, MO, NE, and OH

Soybeans: Fertilizer Use by State, 2001
Percent of Acres Treated and Total Amount Applied

State	Planted Acreage	Percent of Acres Treated and Total Applied					
		Nitrogen		Phosphate		Potash	
	1,000 Acres	*Pct*	*Mil. Lbs*	*Pct*	*Mil. Lbs*	*Pct*	*Mil. Lbs*
AR	2,900	3	3.4	30	42.8	24	54.9
IL	10,700	10	42.8	12	95.8	22	250.5
IN	5,600	12	11.4	20	58.1	36	222.4
IA	11,000	5	9.9	9	47.9	10	71.3
MN	7,300	13	15.3	13	32.3	12	41.5
MO	4,950	6	5.4	24	52.2	22	61.7
NE	4,950	22	23.4	21	38.3	10	13.2
OH	4,600	17	19.1	30	63.9	41	164.7
Total	52,000	11	130.7	17	431.3	20	880.2

Soybeans: Fertilizer Primary Nutrient Applications, Program States and Total, 2001

Primary Nutrient	Planted Acreage	Area Applied	Applic-ations	Rate per Application	Rate per Crop Year	Total Applied
	1,000 Acres	*Percent*	*Number*	*Pounds per Acre*	*Pounds per Acre*	*Mil. Lbs*
Arkansas	2,900					
Nitrogen		3	1.0	34	34	3.4
Phosphate		30	1.0	48	49	42.8
Potash		24	1.0	77	77	54.9
Illinois	10,700					
Nitrogen		10	1.0	37	40	42.8
Phosphate		12	1.0	72	75	95.8
Potash		22	1.0	105	105	250.5
Indiana	5,600					
Nitrogen		12	1.0	16	17	11.4
Phosphate		20	1.0	49	52	58.1
Potash		36	1.0	105	109	222.4
Iowa	11,000					
Nitrogen		5	1.1	16	17	9.9
Phosphate		9	1.0	45	48	47.9
Potash		10	1.0	66	66	71.3
Minnesota	7,300					
Nitrogen		13	1.0	16	16	15.3
Phosphate		13	1.0	34	34	32.3
Potash		12	1.0	48	48	41.5
Missouri	4,950					
Nitrogen		6	1.0	20	20	5.4
Phosphate		24	1.0	45	45	52.2
Potash		22	1.0	57	57	61.7
Nebraska	4,950					
Nitrogen		22	1.1	19	21	23.4
Phosphate		21	1.0	36	36	38.3
Potash		10	1.0	26	26	13.2
Ohio	4,600					
Nitrogen		17	1.0	22	24	19.1
Phosphate		30	1.0	47	47	63.9
Potash		41	1.0	86	88	164.7
Total	52,000					
Nitrogen		11	1.0	22	24	130.7
Phosphate		17	1.0	48	49	431.3
Potash		20	1.0	83	84	880.2

Soybeans: Active Ingredients and Publication Status By Program States, 2001

Active Ingredient	Program States								
	ALL	AR	IL	IN	IA	MN	MO	NE	OH
Herbicides									
2,4-D	P		P	P	*		*	*	P
2,4-DB	*						*		
Acetamide	P		*	*	*		*	*	*
Acetic acid	P		*	*	*				*
Acifluorfen	P	P	P	*	P	*	*	*	*
Alachlor	P		*				*	*	*
Bentazon	P	*	*		*	*	*		*
Butoxy. ester 2,4-D	*				*				*
Carfentrazone-ethyl	*	*					*		
Chlorimuron-ethyl	P	P	P	P	*		P	*	P
Clethodim	P	*	P	*	P	*	*	*	P
Clomazone	P			*				*	
Cloransulam-methyl	P	*	P	*	P	*	*	P	P
Dichlorprop	*			*					
Dimethenamid	*		*			*			
Fenoxaprop	P		P	P	P	*	*	*	*
Fluazifop-P-butyl	P	*	P	P	P	*	*	*	*
Flumetsulam	P	*	*	*	*			*	*
Flumiclorac-Pentyl	P	*	*	*	*		*		
Fomesafen	P		P	P	P	P	P	P	P
Glyphosate	P	P	P	P	P	P	P	P	P
Glyphosate diam salt	*							*	
Imazamox	P		P	P	*	P	*		P
Imazaquin	P	*	*	P	*		*		*
Imazaquin, sod. salt	*	*							
Imazethapyr	P		P	P	P	P	*	P	*
Lactofen	P		*		P	*	*		*
Metolachlor	P	*		*					*
Metribuzin	P	*	*	P	*		*	*	P
Paraquat	*		*		*				
Pendimethalin	P	*	P	P	P	P	P	P	*
Primisulfuron	*				*				
Prosulfuron	*				*				
Pyridate	*								*
Quizalofop-P-ethyl	P		*			*	*		*
S-Metolachlor	P	P	*	*	*		*	*	*
Sethoxydim	P	*	*		*	*	*	*	
Sulfentrazone	P	*	P	P	*	*	P	P	P
Sulfosate	P		P	P	P	*	*	P	*
Thifensulfuron	P		P	*	*	*	*	*	*
Tribenuron-methyl	*		*		*	*			*
Trifluralin	P	P	P		P	P	P	P	

See footnote(s) at end of table.

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Soybeans: Active Ingredients and Publication Status By Program States, 2001 (continued)

Active Ingredient	Program States								
	ALL	AR	IL	IN	IA	MN	MO	NE	OH
Insecticides									
Chlorpyrifos	P					*		*	
Lambda-cyhalothrin	P	*	*					*	
Malathion	*	*							
Methyl parathion	*						*		
Permethrin	*				*			*	
Fungicides									
Metalaxyl	*				*				*

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

Soybeans: Pesticide, Planted Acreage,
Percent of Area Receiving Applications and Total Applied,
Program States and Total, 2001

State	Planted Acreage	Area Receiving and Total Applied							
		Herbicide		Insecticide [3]		Fungicide [3]		Other Chemicals	
	1,000 Acres	*Pct*	*1,000 Lbs*	*Pct*	*1,000 Lbs*	*Pct*	*1,000 Lbs*	*Pct*	*1,000 Lbs*
AR [2]	2,900	80	2,440						
IL [2]	10,700	96	10,102						
IN	5,600	98	5,612						
IA [2]	11,000	95	11,704						
MN [2]	7,300	99	6,363						
MO [2]	4,950	95	4,691						
NE [2]	4,950	96	5,336						
OH [2]	4,600	96	4,216						
Total [2]	52,000	96	50,464	1	242				

[2] Insufficient reports to publish data for one or more of the pesticide classes.
[3] Insufficient reports to publish data for one or more of the Program States.

Soybeans: Agricultural Chemical Applications, Program States, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	4	1.0	0.34	0.34	689
Acetamide	*	1.0	0.17	0.17	75
Acetic acid	*	1.0	0.47	0.47	242
Acifluorfen	3	1.0	0.20	0.21	372
Alachlor	*	1.0	1.72	1.72	495
Bentazon	1	1.4	0.45	0.66	413
Chlorimuron-ethyl	5	1.0	0.02	0.02	46
Clethodim	4	1.0	0.11	0.12	219
Clomazone	*	1.0	0.43	0.43	95
Cloransulam-methyl	5	1.0	0.02	0.02	61
Fenoxaprop	3	1.0	0.12	0.12	211
Fluazifop-P-butyl	3	1.0	0.04	0.05	85
Flumetsulam	*	1.0	0.05	0.05	21
Flumiclorac-Pentyl	*	1.1	0.02	0.03	6
Fomesafen	7	1.0	0.22	0.23	811
Glyphosate	73	1.3	0.65	0.87	32,806
Imazamox	5	1.0	0.03	0.03	94
Imazaquin	2	1.0	0.08	0.08	76
Imazethapyr	9	1.0	0.05	0.05	240
Lactofen	1	1.2	0.07	0.09	55
Metolachlor	*	1.0	1.75	1.75	393
Metribuzin	2	1.0	0.21	0.21	236
Pendimethalin	10	1.0	0.97	1.02	5,317
Quizalofop-P-ethyl	*	1.0	0.04	0.04	12
S-Metolachlor	*	1.0	1.10	1.15	572
Sethoxydim	1	1.0	0.17	0.17	117
Sulfentrazone	5	1.0	0.14	0.14	338
Sulfosate	3	1.5	1.15	1.74	2,687
Thifensulfuron	2	1.1	0.004	0.005	4
Trifluralin	7	1.0	0.88	0.88	3,214
Insecticides					
Chlorpyrifos	*	1.0	0.73	0.73	182
Lambda-cyhalothrin	*	1.1	0.02	0.02	5

* Area applied is less than one percent.

[1] Planted acres in 2001 for the 8 program states were 52.0 million acres. States included are AR, IL, IN, IA, MN, MO, NE and OH.

Soybeans: Agricultural Chemical Applications, Arkansas, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
Acifluorfen	5	1.0	0.30	0.30	44
Chlorimuron-ethyl	5	1.1	0.02	0.02	3
Glyphosate	66	1.6	0.54	0.88	1,698
S-Metolachlor	4	1.2	1.26	1.51	184
Trifluralin	5	1.0	1.09	1.09	160

[1] Planted acres in 2001 for Arkansas were 2.90 million acres.

Soybeans: Agricultural Chemical Applications, Illinois, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	9	1.0	0.34	0.34	326
Acifluorfen	3	1.1	0.22	0.25	80
Chlorimuron-ethyl	6	1.1	0.01	0.01	8
Clethodim	6	1.0	0.10	0.10	60
Cloransulam-methyl	8	1.0	0.02	0.02	18
Fenoxaprop	4	1.0	0.11	0.11	49
Fluazifop-P-butyl	4	1.0	0.04	0.04	16
Fomesafen	7	1.0	0.23	0.23	163
Glyphosate	72	1.3	0.62	0.83	6,371
Imazamox	10	1.0	0.03	0.03	32
Imazethapyr	9	1.0	0.04	0.04	40
Pendimethalin	15	1.1	0.93	1.02	1,647
Sulfentrazone	6	1.0	0.12	0.12	83
Sulfosate	2	1.6	1.05	1.68	444
Thifensulfuron	3	1.0	0.005	0.005	1
Trifluralin	4	1.0	0.99	0.99	373

[1] Planted acres in 2001 for Illinois were 10.7 million acres.

Soybeans: Agricultural Chemical Applications, Indiana, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	9	1.0	0.36	0.36	177
Chlorimuron-ethyl	10	1.0	0.01	0.01	8
Fenoxaprop	4	1.0	0.12	0.12	25
Fluazifop-P-butyl	4	1.0	0.04	0.04	8
Fomesafen	4	1.0	0.19	0.19	39
Glyphosate	85	1.3	0.65	0.85	4,040
Imazamox	4	1.0	0.03	0.03	6
Imazaquin	4	1.2	0.06	0.08	16
Imazethapyr	7	1.1	0.06	0.06	26
Metribuzin	5	1.0	0.24	0.24	67
Pendimethalin	9	1.0	0.94	1.01	493
Sulfentrazone	7	1.1	0.10	0.11	44
Sulfosate	4	1.6	0.90	1.50	366

[1] Planted acres in 2001 for Indiana were 5.60 million acres.

Soybeans: Agricultural Chemical Applications, Iowa, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
Acifluorfen	5	1.0	0.15	0.15	77
Clethodim	3	1.3	0.10	0.13	44
Cloransulam-methyl	6	1.0	0.02	0.03	17
Fenoxaprop	7	1.1	0.12	0.14	111
Fluazifop-P-butyl	7	1.1	0.04	0.04	36
Fomesafen	9	1.1	0.24	0.27	275
Glyphosate	73	1.3	0.68	0.91	7,262
Imazethapyr	13	1.0	0.06	0.06	80
Lactofen	3	1.6	0.08	0.13	36
Pendimethalin	10	1.0	0.97	1.02	1,172
Sulfosate	3	1.2	1.12	1.34	385
Trifluralin	15	1.0	0.94	0.94	1,511

[1] Planted acres in 2001 for Iowa were 11.0 million acres.

Soybeans: Agricultural Chemical Applications, Minnesota, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
Fomesafen	12	1.0	0.18	0.18	159
Glyphosate	67	1.3	0.65	0.87	4,240
Imazamox	14	1.0	0.04	0.04	37
Imazethapyr	11	1.0	0.06	0.06	44
Pendimethalin	12	1.0	1.10	1.10	960
Trifluralin	8	1.0	0.70	0.70	424

[1] Planted acres in 2001 for Minnesota were 7.30 million acres.

Soybeans: Agricultural Chemical Applications, Missouri, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
Chlorimuron-ethyl	11	1.0	0.02	0.02	8
Fomesafen	6	1.0	0.25	0.25	76
Glyphosate	73	1.2	0.68	0.85	3,080
Pendimethalin	5	1.0	1.10	1.10	280
Sulfentrazone	4	1.0	0.14	0.14	31
Trifluralin	11	1.0	0.78	0.78	411

[1] Planted acres in 2001 for Missouri were 4.95 million acres.

Soybeans: Agricultural Chemical Applications, Nebraska, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
Cloransulam-methyl	9	1.0	0.02	0.02	10
Fomesafen	6	1.0	0.20	0.20	62
Glyphosate	72	1.2	0.72	0.87	3,101
Imazethapyr	13	1.0	0.05	0.06	37
Pendimethalin	13	1.0	0.80	0.80	502
Sulfentrazone	6	1.0	0.16	0.16	47
Sulfosate	6	1.6	1.26	2.10	624
Trifluralin	8	1.0	0.85	0.85	335

[1] Planted acres in 2001 for Nebraska were 4.95 million acres.

Soybeans: Agricultural Chemical Applications, Ohio, 2001 [1]

Agricultural Chemical	Area Applied	Appli-cations	Rate per Application	Rate per Crop Year	Total Applied
	Percent	*Number*	*Pounds per Acre*	*Pounds per Acre*	*1000 lbs*
Herbicides					
2,4-D	4	1.0	0.32	0.32	59
Chlorimuron-ethyl	14	1.0	0.02	0.02	16
Clethodim	6	1.0	0.11	0.11	29
Cloransulam-methyl	4	1.0	0.04	0.04	6
Fomesafen	4	1.0	0.21	0.21	37
Glyphosate	75	1.2	0.67	0.87	3,014
Imazamox	5	1.0	0.04	0.04	8
Metribuzin	5	1.0	0.20	0.20	45
Sulfentrazone	11	1.0	0.14	0.14	69

[1] Planted acres in 2001 for Ohio were 4.60 million acres.

2001 Field Crops Pest Management Practices

Overview: Prior to the 2001 crop year, field crop pest management practices data were collected and published separately from the Field Crop Chemical Use Survey. The Pest Management Practices 2001 Summary is based on data compiled from respondents participating in the Agricultural Resource Management Study (ARMS) for corn and respondents in the 2001 Objective Yield Survey for upland cotton, fall potatoes, and soybeans. Producers were first asked how many acres of a specific commodity they grew in 2001, followed by questions regarding the use of specific pest management practices, in a yes/no format. Pests were defined as weeds, insects, and diseases. If the respondent used a specific practice on a crop, it was assumed that the practice was used on all acres of that crop. For example, if a producer had 500 acres of corn, and used field mapping of previous weed problems to assist in making weed management decisions, it was assumed that all 500 acres were mapped.

For this report, each question has been categorized into one of four pest management categories: prevention, avoidance, monitoring, and suppression. The actual questions used to collect these data are shown on pages 103-104**.**

The data are published in two tables for each crop: percent of acres receiving the specific pest management practice and percent of farms using the specific pest management practice. These percentages are published at the Program States and State levels. For all the crops in this survey, the percentages refer only to farms and planted acres. The percent of acres planted to corn, cotton, and soybean biotech varieties, for insect and herbicide resistance only, are carried over from the previously published 2001 June Acreage report.

Highlights: A review of overall 2001 survey results showed comparatively similar trends in terms of which Pest Management Practices were reported for the selected Field Crops: corn, upland cotton, fall potatoes, and soybeans. The use of pest management practices in terms of percentage of farms showed some decreases across several categories.

Reasons for the changes vary by crop type, but in general, farmers in the 2001 crop year responded to different economic and climatological conditions. Low commodity prices combined with escalating energy and input costs placed many producers in a cost-price squeeze. Excessive moisture in some areas and resulting pest pressures, along with drought and its carryover effects in other areas, likely played significant roles in the adoption of more cost effective pest management practices by farmers. Continued educational efforts on Integrated Pest Management and precision farming practices, and a change in data collection methodology for this survey also may have had effects on overall survey results.

Corn: Rotating Crops to Control Pests was used on 71 percent of the corn acres in the 19 Program States and was the leading pest management practice for corn. It was also the most widely used avoidance practice in terms of percent of farms, at 65 percent. Scouting for Pests was reported on 55 percent of the corn acres. Alternating Pesticides and using Tillage/etc. to Manage Pests were also common, each being reported on 41 and 31 percent of the corn acres.

Upland Cotton: Scouting for Pests was used by 62 percent of the cotton farms on 61 percent of the cotton acres in the 7 Program States. Prevention practices of using Tillage/etc. to Manage Pests were used on 61 percent of the farms and 66 percent of the acres.

Fall Potatoes: The two most common pest management practices for fall potatoes were Scouting for Pests and Rotating Crops, which were performed on 84 percent and 83 percent, respectively, of the fall potato acres by 86 percent of the farms in the 7 Program States. Alternating Pesticides as a suppression practice was used on 81 percent of the fall potato acres. Cleaning Implements after Fieldwork was used on 66 percent of the acres as a prevention practice.

Soybeans: The most common pest management practice for soybeans was Rotating Crops to Control Pests, which was reported on 79 percent of the soybean acres and 76 percent of the farms in the 8 Program States. Other common practices, in terms of the percentage of soybean acres reported by soybean farmers included: Tillage/etc. to Manage Pests (51 percent), Scouting for Pests (39 percent), Alternating Pesticides (36 percent), and Cleaning Implements after Fieldwork (34 percent).

Pest Management Practices,
Percent of Acres Receiving Practice,
Corn, 2001

Practice	States						
	CO	GA	IL	IN	IA	KS	KY
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:							
Tillage/etc. to manage pests	35	60	43	25	28	48	31
Remove or plow down crop residue	11	36	12	17	11	20	14
Clean implements after fieldwork	34	53	11	16	18	49	34
Water management practices	8	5	1	7	7	4	2
Avoidance Practices:							
Biotech varieties with insect resistance only	([2])	([2])	12	6	25	26	([2])
Adjust planting/harvesting dates	4	2	5	1	4	3	13
Rotate crops to control pests	40	58	75	72	77	68	61
Alternate planting locations	6	17	4	11	10	10	9
Grow trap crop to control insects	6	*	1	*	4	2	*
Monitoring Practices:							
Scouted for pests	70	34	75	47	51	75	55
Records kept to track pests	32	1	23	12	15	50	8
Field mapping of weed problems	24	1	17	18	21	32	13
Soil analysis to detect pests	8	21	3	4	4	5	7
Pheromones to monitor pests	*	*	*	1	1	*	*
Weather monitoring	9	16	11	7	7	6	*
Suppression Practices:							
Biotech varieties with herbicide resistance only	([2])	([2])	3	6	6	11	([2])
Scouting used to make decisions	16	*	22	9	13	22	15
Biological pesticides	7	*	6	3	17	2	7
Beneficial organisms	1	1	*	*	*	*	1
Maintain ground cover or physical barriers	23	18	7	1	12	9	14
Adjust planting methods	1	6	5	1	8	8	4
Alternate pesticides	48	42	47	30	45	45	17
Pheromones to disrupt mating	*	*	*	1	1	*	*

* Less than 1 percent.
[2] State data not available.

Pest Management Practices,
Percent of Farms Utilizing Practice,
Corn, 2001

Practice	States						
	CO	GA	IL	IN	IA	KS	KY
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:							
Tillage/etc. to manage pests	39	40	44	24	34	35	31
Remove or plow down crop residue	26	31	15	9	13	21	22
Clean implements after fieldwork	39	34	12	14	18	38	36
Water management practices	11	5	1	4	6	3	3
Avoidance Practices:							
Biotech varieties with insect resistance only [2]							
Adjust planting/harvesting dates	3	*	4	2	5	3	8
Rotate crops to control pests	44	61	78	71	81	70	46
Alternate planting locations	9	12	5	8	14	11	8
Grow trap crop to control insects	5	*	1	*	3	1	*
Monitoring Practices:							
Scouted for pests	62	17	71	41	53	64	51
Records kept to track pests	22	1	15	6	12	30	6
Field mapping of weed problems	16	1	12	13	21	14	10
Soil analysis to detect pests	7	7	3	4	5	3	3
Pheromones to monitor pests	*	*	*	1	*	*	*
Weather monitoring	5	9	7	6	8	7	1
Suppression Practices:							
Biotech varieties with herbicide resistance only [2]							
Scouting used to make decisions	13	1	14	5	11	17	12
Biological pesticides	10	*	3	2	16	1	10
Beneficial organisms	*	*	*	*	*	*	*
Maintain ground cover or physical barriers	18	10	8	1	15	15	10
Adjust planting methods	1	7	8	2	8	5	5
Alternate pesticides	36	38	45	26	38	34	13
Pheromones to disrupt mating	*	*	*	1	*	*	*

* Less than 1 percent.
[2] State data not available.

Pest Management Practices,
Percent of Acres Receiving Practice,
Corn, 2001 continued

Practice	States						
	MI	MN	MO	NE	NY	NC	ND
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:							
Tillage/etc. to manage pests	28	13	51	39	21	16	49
Remove or plow down crop residue	34	22	11	10	35	15	39
Clean implements after fieldwork	31	26	19	22	37	10	39
Water management practices	3	1	1	3	*	4	*
Avoidance Practices:							
Biotech varieties with insect resistance only	8	25	23	24	([2])	([2])	([2])
Adjust planting/harvesting dates	9	*	2	1	2	5	7
Rotate crops to control pests	78	79	77	59	55	59	87
Alternate planting locations	6	4	12	6	3	10	11
Grow trap crop to control insects	1	1	5	2	*	*	6
Monitoring Practices:							
Scouted for pests	42	47	46	60	49	42	76
Records kept to track pests	17	15	8	22	11	4	29
Field mapping of weed problems	20	15	6	22	21	8	33
Soil analysis to detect pests	3	10	6	2	2	11	*
Pheromones to monitor pests	*	*	*	*	*	*	*
Weather monitoring	13	5	8	6	2	1	7
Suppression Practices:							
Biotech varieties with herbicide resistance only	7	7	8	8	([2])	([2])	([2])
Scouting used to make decisions	12	10	10	20	6	7	25
Biological pesticides	4	10	2	12	3	2	10
Beneficial organisms	2	*	3	*	*	*	*
Maintain ground cover or physical barriers	15	7	11	35	8	9	19
Adjust planting methods	1	*	8	6	1	3	6
Alternate pesticides	40	37	40	48	21	25	52
Pheromones to disrupt mating	*	*	*	*	*	*	*

* Less than 1 percent.
[2] State data not available.

Pest Management Practices,
Percent of Farms Utilizing Practice,
Corn, 2001 continued

Practice	States						
	MI	MN	MO	NE	NY	NC	ND
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:							
Tillage/etc. to manage pests	25	7	41	37	20	20	46
Remove or plow down crop residue	32	11	10	10	32	23	36
Clean implements after fieldwork	26	17	19	27	20	19	42
Water management practices	3	*	*	3	*	7	*
Avoidance Practices:							
Biotech varieties with insect resistance only [2]							
Adjust planting/harvesting dates	12	*	1	1	1	8	8
Rotate crops to control pests	68	50	72	68	44	59	79
Alternate planting locations	7	2	6	9	4	15	10
Grow trap crop to control insects	*	*	3	3	*	*	3
Monitoring Practices:							
Scouted for pests	32	29	40	46	49	49	69
Records kept to track pests	11	5	3	16	9	7	14
Field mapping of weed problems	16	6	4	18	18	8	17
Soil analysis to detect pests	2	2	5	1	1	3	*
Pheromones to monitor pests	*	*	*	1	*	*	2
Weather monitoring	15	2	7	6	1	1	6
Suppression Practices:							
Biotech varieties with herbicide resistance only [2]							
Scouting used to make decisions	9	3	4	10	8	10	14
Biological pesticides	5	3	2	11	2	1	11
Beneficial organisms	3	*	1	*	*	*	*
Maintain ground cover or physical barriers	15	2	7	30	8	9	21
Adjust planting methods	1	*	8	5	1	2	6
Alternate pesticides	39	18	41	36	28	19	43
Pheromones to disrupt mating	*	*	*	1	*	*	2

* Less than 1 percent.
[2] State data not available.

Pest Management Practices,
Percent of Acres Receiving Practice,
Corn, 2001 continued

Practice	States					Program States
	OH	PA	SD	TX	WI	2001
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:						
Tillage/etc. to manage pests	34	28	8	44	6	31
Remove or plow down crop residue	28	29	4	45	13	17
Clean implements after fieldwork	16	23	19	28	8	21
Water management practices	*	3	*	3	*	3
Avoidance Practices:						
Biotech varieties with insect resistance only	7	([2])	30	([2])	11	([2])
Adjust planting/harvesting dates	2	3	*	8	3	3
Rotate crops to control pests	84	49	71	44	66	71
Alternate planting locations	6	3	4	9	1	7
Grow trap crop to control insects	1	4	4	5	*	2
Monitoring Practices:						
Scouted for pests	28	47	30	61	58	55
Records kept to track pests	12	15	5	30	15	18
Field mapping of weed problems	11	23	7	12	13	18
Soil analysis to detect pests	*	5	5	*	*	4
Pheromones to monitor pests	*	*	*	5	*	1
Weather monitoring	5	8	1	4	1	7
Suppression Practices:						
Biotech varieties with herbicide resistance only	4	([2])	14	([2])	6	([2])
Scouting used to make decisions	9	11	3	21	12	14
Biological pesticides	1	8	8	1	4	8
Beneficial organisms	1	*	*	*	*	*
Maintain ground cover or physical barriers	6	5	7	20	6	12
Adjust planting methods	*	*	3	3	2	4
Alternate pesticides	42	33	23	31	38	41
Pheromones to disrupt mating	*	*	*	5	*	1

* Less than 1 percent.
[2] State data not available.

Pest Management Practices,
Percent of Farms Utilizing Practice,
Corn, 2001 continued

Practice	States					Program States
	OH	PA	SD	TX	WI	2001
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:						
Tillage/etc. to manage pests	33	21	11	30	8	26
Remove or plow down crop residue	28	25	4	32	14	17
Clean implements after fieldwork	17	17	14	19	5	17
Water management practices	*	3	*	2	*	2
Avoidance Practices:						
Biotech varieties with insect resistance only [2]						
Adjust planting/harvesting dates	1	3	*	5	2	3
Rotate crops to control pests	81	64	63	47	47	65
Alternate planting locations	4	4	4	9	*	6
Grow trap crop to control insects	1	2	4	2	*	1
Monitoring Practices:						
Scouted for pests	28	40	25	49	49	45
Records kept to track pests	7	16	5	18	8	11
Field mapping of weed problems	7	17	4	8	8	12
Soil analysis to detect pests	*	4	2	1	*	3
Pheromones to monitor pests	1	*	*	2	*	*
Weather monitoring	3	6	1	3	1	5
Suppression Practices:						
Biotech varieties with herbicide resistance only [2]						
Scouting used to make decisions	6	13	2	14	8	9
Biological pesticides	1	7	10	*	2	6
Beneficial organisms	2	*	*	*	*	*
Maintain ground cover or physical barriers	6	8	7	11	5	9
Adjust planting methods	*	1	3	3	3	4
Alternate pesticides	37	32	18	23	27	32
Pheromones to disrupt mating	1	*	*	2	*	*

* Less than 1 percent.
[2] State data not available.

Pest Management Practices,
Percent of Acres Receiving Practice,
Upland Cotton, 2001

Practice	States			
	AR	CA	GA	LA
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:				
Tillage/etc. to manage pests	95	97	69	80
Remove or plow down crop residue	65	88	53	73
Clean implements after fieldwork	68	73	53	62
Water management practices	23	57	14	34
Avoidance Practices:				
Biotech varieties with insect resistance only	21	11	13	30
Adjust planting/harvesting dates	11	12	14	27
Rotate crops to control pests	9	66	64	31
Biotech varieties with pathogen/ nematode resistance only	3	6	7	3
Alternate planting locations	5	18	8	20
Grow trap crop to control insects	1	9	1	8
Monitoring Practices:				
Scouted for pests	62	88	84	80
Records kept to track pests	53	85	51	72
Field mapping of weed problems	9	52	11	21
Soil analysis to detect pests	15	42	23	16
Pheromones to monitor pests	47	18	43	12
Weather monitoring	4	55	32	41
Suppression Practices:				
Biotech varieties with herbicide resistance only	29	27	43	14
Scouting used to make decisions	41	64	45	65
Biological pesticides	4	22	4	24
Beneficial organisms	*	12	1	*
Maintain ground cover or physical barriers	9	18	14	9
Adjust planting methods	*	3	3	12
Alternate pesticides	19	79	51	66
Pheromones to disrupt mating	7	15	14	4

* Less than 1 percent.

Pest Management Practices,
Percent of Farms Utilizing Practice,
Upland Cotton, 2001

Practice	States			
	AR	CA	GA	LA
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:				
Tillage/etc. to manage pests	94	91	71	77
Remove or plow down crop residue	69	84	47	66
Clean implements after fieldwork	66	76	46	56
Water management practices	21	62	7	25
Avoidance Practices:				
Biotech varieties with insect resistance only [2]				
Adjust planting/harvesting dates	8	17	14	27
Rotate crops to control pests	7	60	51	31
Biotech varieties with pathogen/ nematode resistance only	1	20	3	2
Alternate planting locations	2	8	8	15
Grow trap crop to control insects	3	9	2	6
Monitoring Practices:				
Scouted for pests	48	84	79	77
Records kept to track pests	44	81	46	59
Field mapping of weed problems	7	52	9	13
Soil analysis to detect pests	11	36	16	19
Pheromones to monitor pests	37	17	37	10
Weather monitoring	7	46	36	29
Suppression Practices:				
Biotech varieties with herbicide resistance only [2]				
Scouting used to make decisions	34	60	44	63
Biological pesticides	2	22	3	21
Beneficial organisms	*	15	2	*
Maintain ground cover or physical barriers	10	14	8	6
Adjust planting methods	0	1	1	11
Alternate pesticides	16	71	47	59
Pheromones to disrupt mating	6	18	13	3

* Less than 1 percent.
[2] State data not available.

**Pest Management Practices,
Percent of Acres Receiving Practice,
Upland Cotton, 2001 continued**

Practice	States			Program States
	MS	NC	TX	2001
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:				
Tillage/etc. to manage pests	67	52	56	66
Remove or plow down crop residue	73	33	51	57
Clean implements after fieldwork	60	54	53	57
Water management practices	33	2	9	17
Avoidance Practices:				
Biotech varieties with insect resistance only	10	9	8	([2])
Adjust planting/harvesting dates	21	12	15	16
Rotate crops to control pests	23	49	27	33
Biotech varieties with pathogen/ nematode resistance only	2	21	1	4
Alternate planting locations	13	4	9	10
Grow trap crop to control insects	32	6	2	7
Monitoring Practices:				
Scouted for pests	85	57	42	61
Records kept to track pests	58	22	34	44
Field mapping of weed problems	22	22	11	15
Soil analysis to detect pests	14	37	4	14
Pheromones to monitor pests	99	47	49	51
Weather monitoring	28	18	13	20
Suppression Practices:				
Biotech varieties with herbicide resistance only	15	37	35	([2])
Scouting used to make decisions	68	43	20	38
Biological pesticides	25	11	4	9
Beneficial organisms	1	4	1	1
Maintain ground cover or physical barriers	20	23	12	14
Adjust planting methods	12	14	10	9
Alternate pesticides	40	62	21	36
Pheromones to disrupt mating	5	8	7	8

[2] State data not available.

Pest Management Practices,
Percent of Farms Utilizing Practice,
Upland Cotton, 2001 continued

Practice	States			Program States
	MS	NC	TX	2001
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:				
Tillage/etc. to manage pests	70	43	52	61
Remove or plow down crop residue	78	28	50	51
Clean implements after fieldwork	60	55	49	54
Water management practices	35	1	10	13
Avoidance Practices:				
Biotech varieties with insect resistance only [2]				
Adjust planting/harvesting dates	24	13	13	15
Rotate crops to control pests	21	50	26	36
Biotech varieties with pathogen/ nematode resistance only	*	12	1	4
Alternate planting locations	13	7	8	9
Grow trap crop to control insects	29	5	1	7
Monitoring Practices:				
Scouted for pests	88	56	43	62
Records kept to track pests	56	21	35	40
Field mapping of weed problems	16	17	7	12
Soil analysis to detect pests	15	33	5	17
Pheromones to monitor pests	100	54	50	51
Weather monitoring	35	23	12	24
Suppression Practices:				
Biotech varieties with herbicide resistance only [2]				
Scouting used to make decisions	74	37	20	41
Biological pesticides	21	12	3	9
Beneficial organisms	2	2	1	2
Maintain ground cover or physical barriers	18	25	13	15
Adjust planting methods	9	6	7	5
Alternate pesticides	34	61	24	42
Pheromones to disrupt mating	10	6	8	9

* Less than 1 percent.
[2] State data not available.

**Pest Management Practices,
Percent of Acres Receiving Practice,
Fall Potatoes, 2001 continued**

Practice	States			
	ID	MN	ND	OR
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:				
Tillage/etc. to manage pests	60	75	36	60
Remove or plow down crop residue	46	32	23	57
Clean implements after fieldwork	70	74	67	67
Water management practices	48	24	21	34
Avoidance Practices:				
Adjust planting/harvesting dates	12	15	4	7
Rotate crops to control pests	79	93	85	89
Alternate planting locations	29	55	18	35
Grow trap crop to control insects	3	18	13	*
Monitoring Practices:				
Scouted for pests	76	84	91	63
Records kept to track pests	33	55	82	25
Field mapping of weed problems	32	43	27	13
Soil analysis to detect pests	59	23	67	59
Pheromones to monitor pests	2	5	*	*
Weather monitoring	50	60	66	51
Suppression Practices:				
Scouting used to make decisions	34	46	75	38
Biological pesticides	1	*	*	3
Beneficial organisms	11	*	*	*
Maintain ground cover or physical barriers	19	26	26	3
Adjust planting methods	8	5	9	15
Alternate pesticides	79	82	86	78
Pheromones to disrupt mating	1	*	*	*

* Less than 1 percent.

**Pest Management Practices,
Percent of Farms Utilizing Practice,
Fall Potatoes, 2001 continued**

Practice	States			
	ID	MN	ND	OR
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:				
Tillage/etc. to manage pests	57	81	34	53
Remove or plow down crop residue	42	17	31	45
Clean implements after fieldwork	67	75	58	68
Water management practices	48	12	15	30
Avoidance Practices:				
Adjust planting/harvesting dates	10	17	5	7
Rotate crops to control pests	86	87	83	88
Alternate planting locations	41	56	21	44
Grow trap crop to control insects	6	22	9	*
Monitoring Practices:				
Scouted for pests	71	72	93	60
Records kept to track pests	26	50	86	22
Field mapping of weed problems	28	50	38	10
Soil analysis to detect pests	60	15	67	65
Pheromones to monitor pests	2	1	*	*
Weather monitoring	48	48	56	39
Suppression Practices:				
Scouting used to make decisions	30	41	68	32
Biological pesticides	5	*	*	1
Beneficial organisms	14	*	*	*
Maintain ground cover or physical barriers	19	26	22	*
Adjust planting methods	11	5	6	13
Alternate pesticides	70	77	90	79
Pheromones to disrupt mating	*	*	*	*

* Less than 1 percent.

Pest Management Practices,
Percent of Acres Receiving Practice,
Fall Potatoes, 2001 continued

Practice	States		Program States
	WA	WI	2001
	Percent of Acres	*Percent of Acres*	*Percent of Acres*
Prevention Practices:			
Tillage/etc. to manage pests	79	70	65
Remove or plow down crop residue	40	62	46
Clean implements after fieldwork	64	44	66
Water management practices	53	50	42
Avoidance Practices:			
Adjust planting/harvesting dates	21	8	12
Rotate crops to control pests	88	73	83
Alternate planting locations	31	41	31
Grow trap crop to control insects	9	5	6
Monitoring Practices:			
Scouted for pests	100	92	84
Records kept to track pests	69	76	48
Field mapping of weed problems	14	37	28
Soil analysis to detect pests	72	78	57
Pheromones to monitor pests	3	2	4
Weather monitoring	62	73	55
Suppression Practices:			
Scouting used to make decisions	43	72	46
Biological pesticides	7	5	3
Beneficial organisms	4	3	6
Maintain ground cover or physical barriers	32	19	21
Adjust planting methods	5	6	7
Alternate pesticides	93	91	81
Pheromones to disrupt mating	*	*	*

* Less than 1 percent.

**Pest Management Practices,
Percent of Farms Utilizing Practice,
Fall Potatoes, 2001 continued**

Practice	States		Program States
	WA	WI	2001
	Percent of Farms	*Percent of Farms*	*Percent of Farms*
Prevention Practices:			
Tillage/etc. to manage pests	63	72	62
Remove or plow down crop residue	29	66	44
Clean implements after fieldwork	60	45	60
Water management practices	48	32	25
Avoidance Practices:			
Adjust planting/harvesting dates	11	7	15
Rotate crops to control pests	74	62	86
Alternate planting locations	23	30	44
Grow trap crop to control insects	6	6	4
Monitoring Practices:			
Scouted for pests	100	88	86
Records kept to track pests	65	76	47
Field mapping of weed problems	13	43	30
Soil analysis to detect pests	52	73	35
Pheromones to monitor pests	2	1	12
Weather monitoring	50	52	48
Suppression Practices:			
Scouting used to make decisions	36	74	50
Biological pesticides	3	2	10
Beneficial organisms	4	3	13
Maintain ground cover or physical barriers	40	15	24
Adjust planting methods	2	6	5
Alternate pesticides	73	93	76
Pheromones to disrupt mating	*	*	*

* Less than 1 percent.

Pest Management Practices,
Percent of Acres Receiving Practice,
Soybeans, 2001

Practice	States				
	AR	IL	IN	IA	MN
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:					
Tillage/etc. to manage pests	56	75	41	38	41
Remove or plow down crop residue	45	27	11	19	40
Clean implements after fieldwork	32	40	32	30	36
Water management practices	15	9	10	9	8
Avoidance Practices:					
Adjust planting/harvesting dates	3	15	9	8	12
Rotate crops to control pests	25	85	81	79	89
Biotech varieties with pathogen/ nematode resistance only	1	6	5	4	*
Alternate planting locations	3	12	11	11	13
Grow trap crop to control insects	*	*	1	1	1
Monitoring Practices:					
Scouted for pests	20	50	38	37	40
Records kept to track pests	18	18	17	15	15
Field mapping of weed problems	2	25	17	17	18
Soil analysis to detect pests	7	14	19	20	10
Pheromones to monitor pests	1	2	*	1	*
Weather monitoring	4	23	21	15	17
Suppression Practices:					
Biotech varieties with herbicide resistance only	60	64	78	73	63
Scouting used to make decisions	13	22	11	11	14
Biological pesticides	1	*	1	*	1
Beneficial organisms	1	*	1	1	*
Maintain ground cover or physical barriers	*	20	6	12	10
Adjust planting methods	3	22	8	17	22
Alternate pesticides	7	47	34	31	44
Pheromones to disrupt mating	*	*	*	*	*

* Less than 1 percent.

Pest Management Practices,
Percent of Farms Utilizing Practice,
Soybeans, 2001

Practice	States				
	AR	IL	IN	IA	MN
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:					
Tillage/etc. to manage pests	49	72	41	35	24
Remove or plow down crop residue	44	25	10	16	30
Clean implements after fieldwork	28	36	29	29	27
Water management practices	16	6	7	8	5
Avoidance Practices:					
Adjust planting/harvesting dates	2	14	6	7	6
Rotate crops to control pests	24	86	78	74	68
Biotech varieties with pathogen/ nematode resistance only	1	4	5	3	*
Alternate planting locations	4	21	13	8	6
Grow trap crop to control insects	*	1	*	*	*
Monitoring Practices:					
Scouted for pests	19	51	38	41	41
Records kept to track pests	18	16	15	16	8
Field mapping of weed problems	1	19	18	19	9
Soil analysis to detect pests	6	9	20	16	4
Pheromones to monitor pests	1	*	*	*	*
Weather monitoring	3	20	18	17	10
Suppression Practices:					
Biotech varieties with herbicide resistance only [2]					
Scouting used to make decisions	14	27	12	6	8
Biological pesticides	*	*	*	*	*
Beneficial organisms	*	*	*	*	*
Maintain ground cover or physical barriers	*	17	5	9	7
Adjust planting methods	3	25	6	12	8
Alternate pesticides	7	52	26	23	23
Pheromones to disrupt mating	*	*	*	*	*

* Less than 1 percent.
[2] State data not available.

Pest Management Practices,
Percent of Acres Receiving Practice,
Soybeans, 2001 continued

Practice	States			Program States
	MO	NE	OH	2001
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:				
Tillage/etc. to manage pests	59	48	50	51
Remove or plow down crop residue	22	11	20	24
Clean implements after fieldwork	33	31	32	34
Water management practices	10	11	9	10
Avoidance Practices:				
Adjust planting/harvesting dates	8	7	14	10
Rotate crops to control pests	70	87	82	79
Biotech varieties with pathogen/ nematode resistance only	4	2	2	3
Alternate planting locations	15	7	15	12
Grow trap crop to control insects	1	*	*	1
Monitoring Practices:				
Scouted for pests	32	33	36	39
Records kept to track pests	16	16	16	16
Field mapping of weed problems	10	12	17	17
Soil analysis to detect pests	13	3	4	13
Pheromones to monitor pests	*	*	*	1
Weather monitoring	16	11	18	17
Suppression Practices:				
Biotech varieties with herbicide resistance only	69	76	64	([2])
Scouting used to make decisions	9	15	11	14
Biological pesticides	*	1	2	1
Beneficial organisms	*	*	*	*
Maintain ground cover or physical barriers	13	25	12	13
Adjust planting methods	16	17	14	17
Alternate pesticides	32	37	34	36
Pheromones to disrupt mating	*	*	1	*

* Less than 1 percent.
[2] State data not available.

Pest Management Practices,
Percent of Farms Utilizing Practice,
Soybeans, 2001 continued

Practice	States			Program States
	MO	NE	OH	2001
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:				
Tillage/etc. to manage pests	65	45	45	48
Remove or plow down crop residue	17	10	26	21
Clean implements after fieldwork	35	32	30	31
Water management practices	5	5	9	7
Avoidance Practices:				
Adjust planting/harvesting dates	10	8	11	9
Rotate crops to control pests	71	77	86	76
Biotech varieties with pathogen/ nematode resistance only	2	3	1	3
Alternate planting locations	16	5	14	12
Grow trap crop to control insects	1	*	*	*
Monitoring Practices:				
Scouted for pests	34	23	29	38
Records kept to track pests	13	11	11	14
Field mapping of weed problems	14	8	14	15
Soil analysis to detect pests	13	1	3	10
Pheromones to monitor pests	*	*	*	*
Weather monitoring	15	10	12	15
Suppression Practices:				
Biotech varieties with herbicide resistance only [2]				
Scouting used to make decisions	11	11	9	13
Biological pesticides	*	1	2	*
Beneficial organisms	*	*	*	*
Maintain ground cover or physical barriers	14	22	10	11
Adjust planting methods	18	14	11	14
Alternate pesticides	34	25	32	31
Pheromones to disrupt mating	*	*	1	*

* Less than 1 percent.
[2] State data not available.

Survey Procedures: Data for corn, upland cotton, soybeans, and fall potatoes were collected during the months of August through December of 2001. Data for corn were obtained from the 2001 Agricultural Resources Management Study (ARMS). Large 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. The screening samples were selected in such a way as to insure that all farms on the list had a possibility of being selected. Farms that were more likely to be producers of crops of interest were more likely to be in the screening sample. The sampled farms were screened to determine the presence of all the crops of interest. From this subpopulation of operations identified as producing the 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 a particular crop of interest was selected, one field containing this crop was randomly selected from all the fields on the farm producing that crop. The operator of the sampled field was personally interviewed to obtain information on chemical applications made to the selected field.

Data for upland cotton, soybeans, and fall potatoes were obtained from the Field Crop Chemical Use Survey (FCCUS). The samples for FCCUS were drawn from the Objective Yield Survey (OYS). The potato sample was drawn from the NASS List Sampling Frame. The cotton and soybean samples were drawn from the NASS Area Sampling Frame. The Area Sampling frame covers the entire continental U.S., thus accounting for 100% of all land in farms in the targeted states. From this population, individual acres of the targeted commodity were sampled for OYS. In FCCUS, data were collected for the field that contained the OYS sampled acres. A large field was more likely to be selected than a small field. FCCUS data for the field was only collected once, even if a field contained multiple OYS samples. The operator of the sampled field was personally interviewed to obtain information on chemical applications made to the selected field.

Field Crops Chemical Use 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 manufacturer's 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.

Estimates of the total amount of active ingredient applied are based on the acreage estimates published in the annual NASS report "**Crop Production - 2001 Summary**" [Cr Pr 2-1(02)] for corn, upland cotton, fall potatoes, and soybeans. Cotton acreage estimates and summary calculations are based on preliminary upland cotton acreage for crop year 2001. The 2001 upland cotton acreage in Georgia was revised in May 2002, from 1.5 million acres to 1.49 million acres, less than 1 percent.

The estimates for total amount applied will not be revised even if there are subsequent revisions to acreage for a given crop.

Detailed data within a table may not multiply across or add down due to independent rounding of the published values.

Pest Management Practices Estimation Procedures: For each crop/pest management practice combination, two ratios are calculated: percent of farms and percent of acres covered by that practice. The ratios were reviewed for reasonableness and consistency with previous years. These ratios will not be revised even if there are subsequent revisions to acreage for a given crop.

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

The results of this survey are subject to sampling variability. Sampling variability is a measure of how the estimates would differ if other samples had been drawn. 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 use of a commonly used product, such as atrazine, will exhibit less variability than a more rarely used product. For more commonly used chemicals, cv's will range from 5-35 percent at the U.S. level and 5-75 percent at the state or regional level. Some rarer items could have cv's above 100 percent. These items have insufficient data for publication and these instances are noted with an asterisk (*).

Non-sampling errors occur during a survey process, and unlike sampling variability, are difficult to measure. They may be caused by interviewers failing to follow instructions, poorly worded questions, non-response, problematic survey procedures, or data handling mistakes between collection and publication. In these surveys, all survey procedures and analyses were carried out in a consistent and orderly manner to minimize the occurrence of these types of errors.

Terms and Definitions

Active ingredient: The active ingredient is the specific chemical 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.

Agricultural chemicals: Refers to the active ingredients in fertilizers and pesticides.

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

Area applied: Represents the percentage of crop acres receiving one or more applications of a specific agricultural chemical. 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 questions were categorized as avoidance practices:

Did you use any crop varieties that were genetically modified to be resistant to insects(Bt, etc.)?

Did you adjust planting or harvesting dates to control pests?

Did you rotate crops for the purpose of controlling pests?

Did you use any crop varieties that were genetically modified to be resistant to plant pathogens or nematodes causing plant diseases?

Did you choose planting locations to avoid cross infestation of insects or disease?

Did you grow a trap crop to help control insects?

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. Crop year: The period immediately following harvest for the previous crop through harvest of the current crop.

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 for the previous crop through harvest of the current crop.

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

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.

Monitoring: Includes proper identification of pests through surveys or scouting programs, including trapping, weather monitoring, and soil testing where appropriate.

The following questions were categorized as monitoring practices:

Was this crop scouted for pests (weeds, insects or disease)using a systematic method?

Did you use field mapping of previous weed problems to assist you in making weed management decisions?

Did you use soil analysis to detect the presence of soilborne pests or pathogens?

Did you use pheromones to monitor pests by trapping?

Did you use weather monitoring to predict the need for pesticide applications?

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: Is the practice of keeping a pest population from infesting a crop or field. It includes such tactics as using pest-free seeds and transplants, preventing weeds from reproducing, 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 questions were categorized as prevention practices:

Did you clean tillage or harvesting implements after completing fieldwork for the purpose of reducing the spread of weeds, diseases or other pests?

Did you remove or plow down crop residues to control pests?

Did you use practices such as tilling, mowing, burning, or chopping of field edges, lanes, ditches, roadways or fence lines to manage pests?

Did you use water management practices, such as controlled drainage or irrigation scheduling, excluding chemigation, to control pests?

Suppression: Tactics include cultural practices such as narrow row spacings or optimized in-row plant populations, alternative tillage approaches such as no-till or strip-till systems, 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 controls, including mating disruption for insects, could be considered as alternatives to conventional pesticides, especially where long-term control of an especially troublesome pest species can be obtained. Chemical pesticides are important and some use will remain necessary. However, pesticides should be applied as a last resort in suppression systems.

The following questions were categorized as suppression practices:

Did you use any crop varieties that were genetically modified to be resistant to specific herbicides (Roundup Ready, Liberty Link, Poast-Protected corn, STS soybean, IT corn)?

Did you use scouting data and compare it to university or extension guidelines for infestation thresholds to determine when to take measures to control pests?

Did you use beneficial organisms (insects, nematodes or fungi) to control pests?

Did you use topically applied biological pesticides such as Bt (Bacillus thuringiensis), insect growth regulators, neem or other natural products to control pests?

Did you maintain ground covers, mulch or physical barriers to reduce pest problems?

Did you adjust row spacing, plant density or row direction to control pests?

Did you alternate pesticides to keep pests from becoming resistant to pesticides (use pesticides with different mechanisms of action)?

Did you use pheromones to control pests by disrupting mating?

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. Some formulation as in the case of pre-mixes, can contain more than one active ingredient.

Active Ingredients Applied and Publication Status by Program States: These tables are provided to show all active ingredients reported in the Program States. The Publication Status is determined by confidentiality rules. In order to publish data for an active ingredient, there must be a minimum of five reports for the specific active ingredient at the summary level (by crop, by State or All Program States). If there are five or more reports, then the active ingredient data are published and designated as a "P" in the table. In cases where there are not enough reports to publish usage data for a given active ingredient, an "*" appears in the table. This means the active ingredient was reported, but there were not a sufficient number of reports.

Trade Name, Common Name, and Pesticide Class

The following is a list of the 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 field crops and NASS does not mean to imply the use of any specific trade name.

Class	Common Name	Trade Name
H	2,4-D	Several
H	2,4-DB	Butyrac
H	2,4-D, Dimeth.salt.	Weedar
I	Abamectin	Zephyr
I	Acephate	Orthene
H	Acetamide	Axiom, Epic , Define, Domain
H	Acetic acid	Salvo, Salvan
H	Acetochlor	Harness, Harness Plus, Surpass, Double Play,Field Master, TopNotch, Degree Xtra
H	Acifluorfen	Conclude Xtra, Ultra Blazer , Conclude Ultra, Scepter, Storm, Blazer, Galaxy
H	Alachlor	Lasso, Freedom, Bronco, Bullet, Partner, Micro-Tech, Lariat
I	Aldicarb	Temik
H	Ametryn	Evik
O	Arsenic acid	Desiccant
H	Atrazine	Atrazine, Bicep, Degree Xtra, Conquest, Simazat, Laddok, Extrazine, Bullet, Bicep, AAtrex, LeadOff, Basis Gold, Lariat, Surpass, Guardsman, Marksman
I	Azinphos-methyl	Guthion
F	Azoxystrobin	Quadris, Abound
O	Bacillus cereus	Pix Plus, Mep-Plus
I	Bt (Bacillus thur.)	Dipel, Bactospeine, Novodor, Condor
H	Bentazon	Laddok, Conclude Xtra, Storm, Rezult, Galaxy, Ascend , Basagran
I	Benzoic Acid	Intrepid
I	Bifenthrin	Capture
H	Bromoxynil	Buctril
H	Bromoxynil	Octanoate,Connect
H	Butox. ester 2,4-D	Weedone
H	Butylate	Sutan
O	Cacodylic acid	Cotton-Aide, Quick Pick
F	Captan	Captan
I	Carbaryl	Sevin
I	Carbofuran	Furadan
F	Carboxin	Prevail
H	Carfentrazone-ethyl	Aim
H	Chloramben	Amiben
I	Chlorethoxyfos	Fortress
I	Chlorfenapyr	Pirate
H	Chlorimuron-ethyl	Canopy, Classic, Authority, Synchrony
O	Chloropicrin	Telone
F	Chlorothalonil	Terranil, Ridomil, Echo, Ensign, Bravo Ultra, Tattoo C, Bravo, Ridomil Gold Bravo

– continued

Class	Common Name	Trade Name
I	Chlorpyrifos	Lorsban
H	Clethodim	Conclude Xtra, Prism, Select
H	Clomazone	Command
H	Clopyralid	Curtail, Stinger, Hornet, Accent Gold
H	Cloransulam-methyl	FirstRate, Frontrow, Gauntlet
F	Copper amm. complex	Copper-Count-N
F	Copper hydroxide	Kocide, Champ, Ridomil Copper, Nu-Cop
F	Copper resinate	Tenn-Cop
F	Copper sulfate	Copper Sulfate
H	Cyanazine	Extrazine, Bladex, Cy-Pro, Conquest
O	Cyclanilide	Finish
I	Cyfluthrin	Baythroid, Leverage, Aztec
F	Cymoxanil	Curzate
I	Cypermethrin	Ammo
O	Cytokinins	Foliar Trigger, Early Harvest
I	Deltamethrin	Decis
I	Diazinon	Diazinon
H	Dicamba	Banvel, NorthStar, Celebrity, OpTill, Resolve, Fallow Master, Clarity
H	Dicamba, Dimet. salt	Distinct, Sterling
H	Dicamba, Pot. salt	Marksman
H	Dicamba, Sodium Salt	Celebrity Plus
O	Dichloropropene	Telone
H	Dichlorprop	Weedone
F	Dicloran	Botran
I	Dicofol	Kelthane
I	Dicrotophos	Bidrin
I	Diflubenzuron	Dimilin
H	Diflufenzopyr-sodium	Celebrity Plus, Distinct
H	Dimethenamid-P	Outlook
H	Dimethenamid	Guardsman, Frontier, OpTill, LeadOff
O	Dimethipin	Harvade
I	Dimethoate	Dimethoate, Digon, Dimate
F	Dimethomorph	Acrobat
H, O	Diquat	Diquat
H	DSMA	DSMA
I	Disulfoton	Di-Syston
H	Diuron	Direx, Diuron, Ginstar, Karmex, Dropp Ultra
I	Emamectin benzoate	Denim
I	Endosulfan	Endosulfan, Thiodan, Phaser
O	Endothall	Accelerate, Desicate II, Des-I-Cate
H	EPTC	Eradicane, Eptam, DoublePlay
I	Esfenvalerate	Asana
O	Ethephon	Ethephon, Prep, Super Boll, Finish, CottonQuik, Boll'd
I	Ethoprop	Mocap
I	Ethyl parathion	Parathion
F	Etridiazole	Terraclor Super X, Temik
O	Farnesol	Stirrup M
H	Fenoxaprop	Fusion
I	Fenpropathrin	Danitol

-- continued

Class	Common Name	Trade Name
I	Fenvalerate	Pydrin
I	Fipronil	Regent
H	Fluazifop-P-butyl	Fusion, Fusilade, Typhoon
H	Flumetsulam	Broadstrike, Accent Gold, Bicep Magnum, Python, Frontrow, Hornet
H	Flumiclorac-Pentyl	Resource
H	Fluometuron	Meturon, Cotoran
F	Flutolanil	Moncut
H	Fomesafen	Reflex, Flexstar, Typhoon
I	Fonofos	Dyfonate
O	Gibberellic acid	PGR, ProVide
H	Glufosinate-ammonium	Liberty, Rely
H	Glyphosate	Roundup, Glyphomax, Glyfos, Mirage, Protocol, Extreme, Jury, Bronco, Fallow Master, Landmaster, Field Master
H	Glyphosate, diam. salt	Touchdown
H	Halosulfuron	Permit
O	Harpin protein	Messenger
H	Imazamox	Raptor
H	Imazapyr	Lightning
H	Imazaquin	Squadron, Scepter, Tri-Scept, Steel
H	Imazaquin, sod. salt	Scepter
H	Imazethapyr	Pursuit, Lightning, Steel, Extreme, Resolve
I	Imidacloprid	Leverage, Provado, Admire
O	Indolebutyric acid	Early Harvest, PGR
I	Indoxacarb	Steward
F	Iprodione	Rovral
H	Isoxaflutole	Balance, Epic
H	Lactofen	Cobra
I	Lambda-cyhalothrin	Karate, Warrior
H	Linuron	Lorox, Linuron
I	Malathion	Fyfanon, Malathion
O	Maleic hydrazide	Super Sprout Stop, Royal
F	Mancozeb	Penncozeb, Ridomil, Manex, Dithane, Manzate, Curzate, Acrobat, Gavel
F	Maneb	Blite Out Plus, Maneb, Manex
H	MCPA	Weedone
F	Mefenoxam	Ridomil Gold, Ridomil Gold Bravo, Flourish Ultra
O	Mepiquat chloride	Mepex, Mep-Plus, Pix Plus, Pix
H	Mesotrione	Callisto
F	Metalaxyl	Apron, Ridomil, Ridomil Gold, Prevail
O	Metam-sodium	Sectagon, Metam Sodium, Nemasol, Vapam
I	Methamidophos	Monitor
I	Methomyl	Lannate
I	Methoxychlor	Malathion Methoxychlor
I	Methyl parathion	Declare, Methyl Parathion, Penncap-M, Parathion-Methyl Parathion

-- continued

Class	Common Name	Trade Name
F	Metiram	Polyram
H	Metolachlor	Dual, Dual II, Bicep, Turbo
H	Metribuzin	Canopy, Turbo, Axiom, Boundary, Domain, Sencor, Lexone
O	Monocarbamide dihyd.	CottonQuik, Enquik
H	MSMA	MSMA, Ansar, Bueno
I	Naled	Dibrom
O	Nerolidol	Stirrup M
H	Nicosulfuron	Accent Gold, Celebrity, Steadfast, Accent, Basis Gold
H	Norflurazon	Zorial
I	Oxamyl	Vydate
H	Oxyfluorfen	Goal
H, O	Paraquat	Gramoxone Super, Gramoxone Extra, Starfire Concentrate, Cyclone
O	Pelargonic acid	Scythe
H	Pendimethalin	Prowl, Steel, Pursuit Plus, Squadron
F	PCNB	Ridomil Gold, Terraclor, Blocker, Prevail, Temik
I	Permethrin	Pounce, Ambush
I	Petroleum distillate	Oil
I	Phorate	Thimet, Phorate
I	Phosmet	Imidan
I	Piperonyl butoxide	PBO-8, Incite, Pyronyl
O	Potassium gibberellate	Early Harvest
H	Primisulfuron	Exceed, NorthStar, Beacon, Spirit
I	Profenofos	Curacron
H	Prometryn	Caparol, Prometryne, Cotton-Pro
H	Propachlor	Ramrod
F	Propamocarb hydroch.	Previcur Flex, Tattoo
I	Propargite	Comite
F	Propiconazole	Tilt
H	Prosulfuron	Exceed, Spirit
I	Pymetrozine	Fulfill
I	Pyrethrins	Pyronyl
H	Pyridate	Tough
I	Pyriproxyfen	Knack
H	Pyrithiobac-sodium	Staple
H	Quizalofop-P-ethyl	Assure II
H	Rimsulfuron	Steadfast, Accent Gold, Basis, Matrix, Basis Gold
H	S-Metolachlor	Dual Magnum, Dual II Magnum, Bicep Magnum, Boundary, Bicep Lite II Magnum
H	Sethoxydim	Poast, Poast Plus, Rezult, Prestige, Conclude Ultra
H	Simazine	Simazine, Princep, Simazat, Caliber
O	Sodium chlorate	Sodium Chlorate, Leafex, Pick-Quik, Defol, First Choice Cotton Defoliant

--continued

Class	Common Name	Trade Name
I	Spinosad	Tracer, SpinTor, Success
H	Sulfentrazone	Authority, Gauntlet, Canopy
H	Sulfosate	Touchdown
F	Sulfur	Golden-Dew, Bravo, Sulfer, Microthiol Special, Kumulus, Super Six, Thiolux
O	Sulfuric acid	Sulfuric Acid
I	Tebufenozide	Confirm
I	Tebupirimphos	Aztec
I	Tefluthrin	Force
I	Terbufos	Counter
I	Thiamethoxam	Actara, Centric
O	Thidiazuron	FreeFall, Dropp, Dropp Ultra, Ginstar
H	Thifensulfuron	Harmony, Synchrony, Pinnacle, Basis, Harmony Extra
I	Thiodicarb	Larvin
I	Tralomethrin	Scout
H	Tribenuron-methyl	Harmony Extra
O	Tribufos	Def, Folex
H	Triclopyr	Grazon
H	Tridiphane	Tandem
H	Trifluralin	Trilin, Trust, Treflan, Trifluralin, Tri-Scept, Commence, Freedom, Tri-4
F	Triphenyltin hydrox	Super Tin, Agri Tin, Blite Out Plus
H	Vernolate	Surpass
I	Zeta-cypermethrin	Mustang, Fury
F	Zoxamide	Gavel

T-TYPE	TABLE	LINE
0	000	00

COMPLETION CODE for FERTILIZER and NUTRIENT EDIT TABLE

1 3	Incomplete/Refusal Valid Zero	200

1. **Were commercial FERTILIZERS applied to the selected field for the 2001 soybean crop?** ..... YES=1 — CODE 201

2. [*If COMMERCIAL fertilizers were applied, continue, else go to Section* **B**.]

3. **How many trips were made across this field to apply commercial fertilizers for the 2001 crop** (*include applications made by airplanes and commercial applicators*)? ..... — NUMBER 203

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

CHECK LIST

INCLUDE	EXCLUDE
☐ Custom applied fertilizers	☐ Micronutrients
☐ Fertilizer applied in the fall of 2000 and those applied earlier if this field was fallow in 2000	☐ Unprocessed manure
☐ Commercially prepared manure	☐ Fertilizer applied to previous crops in this field

	T-TYPE	TABLE
	2	001
LINE 99	OFFICE USE LINES IN TABLE	213

LINE	2000 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 9 Spot treatments	7 How many acres were treated in this application? ACRES
01	205	206	207	208	209	210	211	212 .__
02	205	206	207	208	209	210	211	212 .__
03	205	206	207	208	209	210	211	212 .__
04	205	206	207	208	209	210	211	212 .__
05	205	206	207	208	209	210	211	212 .__
06	205	206	207	208	209	210	211	212 .__
07	205	206	207	208	209	210	211	212 .__
08	205	206	207	208	209	210	211	212 .__

1. **Including both custom applications and applications made by this operation, let's list all the chemicals used on this field for the 2001 soybean crop.**

T-TYPE	TABLE	LINE
0	000	00

COMPLETION CODE for PESTICIDE EDIT TABLE

1	Incomplete/Refusal	300

CODE

Were any herbicides, insecticides, fungicides or other chemicals used on the soybean field for the 2001 crop?. . . . . . **YES = 1** 301

[Probe for applications made in the fall of 2000 (and those made earlier if this field was fallow).]

[If no pesticides applied, go to Section **C**.*]*

Include defoliants, fungicides, herbicides, insecticides and pesticides.
Include biological and botanical pesticides.
Include cotton boll eradication program.

Exclude fertilizers reported earlier and seed treatments.

	T-TYPE	TABLE
	3	001
LINE 99	OFFICE USE LINES IN TABLE	319

NOTES	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 5 Defoliation	6 How much was applied per acre per application?	OR 7 What was the total amount applied per application in this field?
	01	305		306	307	308 ___ ___	309 ___ ___
	02	305		306	307	308 ___ ___	309 ___ ___
	03	305		306	307	308 ___ ___	309 ___ ___
	04	305		306	307	308 ___ ___	309 ___ ___
	05	305		306	307	308 ___ ___	309 ___ ___
	06	305		306	307	308 ___ ___	309 ___ ___
	07	305		306	307	308 ___ ___	309 ___ ___
	08	305		306	307	308 ___ ___	309 ___ ___
	09	305		306	307	308 ___ ___	309 ___ ___
	10	305		306	307	308 ___ ___	309 ___ ___
	11	305		306	307	308 ___ ___	309 ___ ___
	12	305		306	307	308 ___ ___	309 ___ ___
	13	305		306	307	308 ___ ___	309 ___ ___
	14	305		306	307	308 ___ ___	309 ___ ___

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

LINE	Pesticide Type (Herbicide, Insecticide Fungicide, etc.)	EPA No. or Tradename and Formulation	Form Purchased (Liquid or Dry)	Where Purchased [Ask only if EPA No. cannot be reported.]

APPLICATION 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 treatment
5 In Irrigation water	

LINE	8 [*Enter unit code.*] 1 Pounds 12 Gallons 13 Quarts 14 Pints 15 Ounces 30 Grams	9 **How was this product applied?** [*Enter code from above.*]	10 **How many acres in this field were treated with this product?** ACRES	11 **What was the number of times applied?** NUMBER	12 **Were these applications made by--** 1 Operator, Partner, Family member? 2 Custom applicator? 3 Employee / Other?
01	310	311	312 ___	313	316
02	310	311	312 ___	313	316
03	310	311	312 ___	313	316
04	310	311	312 ___	313	316
05	310	311	312 ___	313	316
06	310	311	312 ___	313	316
07	310	311	312 ___	313	316
08	310	311	312 ___	313	316
09	310	311	312 ___	313	316
10	310	311	312 ___	313	316
11	310	311	312 ___	313	316
12	310	311	312 ___	313	316
13	310	311	312 ___	313	316
14	310	311	312 ___	313	316

T-TYPE	TABLE	LINE
0	000	00

1. **Now I have some questions about pest management practices used on this field for the 2001 soybeans. By pests, we mean weeds, insects and diseases.**

2. **Did you use any crop varieties that were genetically enhanced to be resistant to--**

			ACRES
a.	specific herbicides (*Roundup-Ready*)? ..... YES ☐	*If* **YES**, *how many acres*	443 .___
b.	insects (*Bt., bollguard, etc.*)? (*cotton and potatoes*) YES ☐	*If* **YES**, *how many acres*	444 .___
c.	plant pathogens or nematodes causing plant diseases? ..... YES ☐	*If* **YES**, *how many acres*	445 .___

		CODE
3.	**Was this crop scouted for pests (*weeds, insects or disease*) using a systematic method?** ..... **YES = 1**	446
4.	**Were electronic or written records kept to track the activity or numbers of different pests?** ..... **YES = 1**	447
5.	**Did you use scouting data and compare it to university or extension guidelines for infestation thresholds to determine when to take measures to control pests?** ..... **YES = 1**	448
6.	**Did you use field mapping of previous weed problems to assist you in making weed management decisions?** ..... **YES = 1**	449
7.	**Did you use soil analysis to detect the presence of soilborne pests or pathogens?** ..... **YES = 1**	450
8.	**Did you release beneficial organisms (*insects, nematodes or fungi*) to control pests?** ..... **YES = 1**	453
9.	**Did you use pheromones to monitor pests by trapping?** ..... **YES = 1**	481
10.	**Did you use pheromones to control pests by disrupting mating?** ..... **YES = 1**	482
11.	**Did you use topically applied biological pesticides such as Bt (*Bacillus Thuringienses*), insect growth regulators, neem or other natural products to control pests?** ..... **YES = 1**	452
12.	**Did you use water management practices, such as controlled drainage or irrigation scheduling, excluding chemigation, to control pests?** ..... **YES = 1**	458
13.	**Did you remove or plow down crop residues to control pests?** ..... **YES = 1**	456
14.	**Did you use practices such as tilling, mowing, burning, or chopping of field edges, lanes, ditches, roadways or fence lines to manage pests?** ..... **YES = 1**	455
15.	**Did you clean tillage or harvesting implements after completing field work for the purpose of reducing the spread of weeds, diseases or other pests?** ..... **YES = 1**	457

		CODE
16.	**Did you adjust planting or harvesting dates to control pests?** ..... **YES = 1**	460
17.	**Did you choose planting locations to avoid cross infestation of insects or disease?** ..... **YES = 1**	464
18.	**Did you rotate crops for the purpose of controlling pests?** ..... **YES = 1**	462
19.	**Did you use weather monitoring to predict the need for pesticide application?** ..... **YES = 1**	480
20.	**Did you alternate pesticides to keep pests from becoming resistant to pesticides** (*use pesticides with different mechanisms of action*)**?** ..... **YES = 1**	461
21.	**Did you adjust row spacing, plant density or row direction to control pests?** ..... **YES = 1**	459
22.	**Did you maintain ground covers, mulches or physical barriers to reduce pest problems?** ..... **YES = 1**	454
23.	**Did you grow a trap crop to help control insects?** ..... **YES = 1**	465

[Enumerator Note: *Code when all item cells in this section are blank.* .....

COMPLETION CODE for PEST MANAGEMENT EDIT		
1 3	Incomplete/Refusal Valid Zero	442

Report Features

Released May 15, 2002 by the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, U.S. Department of Agriculture. For information on "Agricultural Chemical Usage" call (202) 720-6146, office hours 7:30 a.m. to 4:00 p.m. ET.

The next "Agricultural Chemical Usage" report will be released July 17, 2002. This report will cover agricultural chemical use for the 2001 crop year for fruits in selected states.

Listed below are persons within the National Agricultural Statistics Service to contact for additional information.

Jorge Garcia-Pratts, Environmental Statistician	(202) 720-7492
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Listed below is the contact within the Economic Research Service for additional information.

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