

## CHAPTER XIV

### STATISTICS OF FERTILIZERS AND PESTICIDES

This chapter contains statistics on percentages of crop acres treated by various types of fertilizers and pesticides. Nitrogen, phosphate, and potash are the most common fertilizers; herbicides, insecticides, fungicides, and other chemicals are the main categories of pesticides. Other chemicals include soil fumigants, vine killers, and dessicants. The tables show data for field crops for 1995–99, fruits for 1999, and vegetables for 1998. NASS collects data for field crops on an annual basis and data for fruits and vegetables on a bi-yearly alternating basis. The surveyed States are generally the major producing States for each crop shown in the tables and represent 65–95 percent of the U.S. planted acres, depending on the selected crop. Quantities and rates of active chemical ingredients applied to each crop at State levels are available in the NASS series of “Agricultural Chemical Usage” reports.

**Table 14-1.—Field crops: Fertilizer, total acreage, and percent of area receiving applications, all States surveyed, 1995–99<sup>1</sup>**

Crop	Nitrogen <i>Percent</i>	Phosphate <i>Percent</i>	Potash <i>Percent</i>
<b>1995:</b>			
Corn .....	97	81	70
Cotton, Upland .....	87	56	40
Potatoes, Fall .....	99	98	89
Soybeans .....	17	22	25
Wheat, Winter .....	86	54	16
Wheat, Durum .....	92	78	10
Wheat, Other Spring .....	87	78	23
<b>1996:</b>			
Corn .....	98	85	73
Cotton, Upland .....	77	55	43
Potatoes, Fall .....	99	97	90
Soybeans .....	15	25	27
Wheat, Winter .....	86	51	6
Wheat, Durum .....	93	73	8
Wheat, Other Spring .....	89	79	24
<b>1997:</b>			
Corn .....	99	84	72
Cotton, Upland .....	90	67	58
Potatoes, Fall .....	100	98	91
Soybeans .....	20	28	33
Wheat, Winter .....	84	53	15
Wheat, Durum .....	95	77	8
Wheat, Other Spring .....	92	82	25
<b>1998:</b>			
Corn .....	98	83	66
Cotton, Upland .....	84	66	53
Potatoes, Fall .....	100	97	96
Soybeans .....	17	24	27
Wheat, Winter .....	89	63	22
Wheat, Durum .....	94	76	5
Wheat, Other Spring .....	87	77	25
<b>1999:</b>			
Corn .....	98	82	67
Cotton, Upland .....	86	59	52
Potatoes, Fall .....	100	98	88
Soybeans .....	18	26	28
Wheat, Winter <sup>2</sup> .....	.....	.....	.....
Wheat, Durum <sup>2</sup> .....	.....	.....	.....
Wheat, Other Spring <sup>2</sup> .....	.....	.....	.....

<sup>1</sup> Refers to acres receiving one or more applications of a specific fertilizer ingredient. See tables 14-2 through 14-11 for surveyed States. Note: Acreage estimates are on page I-24 for corn, page II-1 for cotton, page III-13 for soybeans, and page I-1 for wheat. <sup>2</sup> Data not available for 1999.

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Table 14-2.—Corn: Pesticide usage, 1996–99<sup>1</sup>

State and Year	Percent treated and amount applied			
	Herbicide <sup>2</sup>		Insecticide <sup>3</sup>	
	Area applied	Pounds applied	Area applied	Pounds applied
	<i>Percent</i>	<i>Thousands</i>	<i>Percent</i>	<i>Thousands</i>
CO.:				
1998 .....	90	1,595	29	530
1999 .....	93	1,763	45	479
IL.:				
1996 .....	99	34,223	27	2,143
1997 .....	98	32,733	44	4,266
1998 .....	94	31,723	31	1,996
1999 .....	98	28,467	38	1,833
IN.:				
1996 .....	98	18,856	35	1,466
1997 .....	94	18,127	31	1,023
1998 .....	99	18,373	45	1,595
1999 .....	99	14,819	36	1,156
IA.:				
1996 .....	99	36,109	17	1,779
1997 .....	98	36,144	19	2,323
1998 .....	98	31,911	18	1,534
1999 .....	99	27,966	25	2,462
KS.:				
1996 .....	94	5,784	40	515
1998 .....	95	5,357	49	400
1999 .....	98	6,619	32	385
KY.:				
1996 .....	99	4,159	24	43
1998 .....	99	4,174	*	*
1999 .....	94	3,487	50	22
MI.:				
1996 .....	98	7,250	21	318
1997 .....	98	6,912	11	200
1998 .....	97	5,740	17	299
1999 .....	99	6,128	22	214
MN.:				
1996 .....	97	17,819	13	614
1997 .....	91	13,956	10	291
1998 .....	97	14,248	10	353
1999 .....	98	11,126	11	280
MO.:				
1996 .....	98	7,547	27	492
1997 .....	97	8,203	35	475
1998 .....	95	7,718	44	291
1999 .....	98	7,988	38	218
NE.:				
1996 .....	98	19,817	51	3,068
1997 .....	98	19,970	62	3,531
1998 .....	93	19,459	44	1,667
1999 .....	99	19,747	39	1,295
NC.:				
1996 .....	97	2,565	37	376
1998 .....	96	2,150	32	283
1999 .....	82	1,340	35	222
OH.:				
1996 .....	00	10,029	28	591
1997 .....	00	12,971	18	711
1998 .....	99	9,722	41	1,094
1999 .....	99	10,136	7	98
PA.:				
1996 .....	98	4,371	54	419
1998 .....	97	4,436	44	262
SC.:				
1996 .....	98	1,017	26	84
SD.:				
1996 .....	91	7,091	25	422
1997 .....	93	6,346	10	317
1998 .....	95	9,947	*	*
1999 .....	95	5,862	18	520
TX.:				
1996 .....	91	2,770	74	712
1998 .....	94	2,520	68	1,191
1999 .....	93	3,190	54	458
WI.:				
1996 .....	93	7,570	37	1,176
1997 .....	98	8,689	19	433
1998 .....	97	7,939	24	593
1999 .....	96	5,421	31	473

<sup>1</sup> Data not available for all States for all years. <sup>2</sup> Insufficient number of reports to publish data for fungicides and other chemicals. <sup>3</sup> Amount applied excludes Bt (bacillus thuringiensis). Note: Planted acres are on page I-24. \* Insufficient number of reports to publish data.

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**Table 14-3.—Corn: Fertilizer usage, 1996–99<sup>1</sup>**

State and Year	Percent treated and amount applied					
	Nitrogen		Phosphate		Potash	
	Area applied	Pounds applied	Area applied	Pounds applied	Area applied	Pounds applied
	<i>Percent</i>	<i>Millions</i>	<i>Percent</i>	<i>Millions</i>	<i>Percenta</i>	<i>Millions</i>
CO:..						
1998 .....	93	110.3	78	18.0	49	4.9
1999 .....	98	165.6	65	30.3	16	3.4
IL:..						
1996 .....	100	1,823.9	79	737.5	83	1,056.0
1997 .....	99	1,689.5	87	747.9	87	1,046.8
1998 .....	99	1,636.8	74	567.8	70	785.9
1999 .....	98	1,639.8	80	603.2	81	1,003.0
IN:..						
1996 .....	100	774.7	97	346.1	88	542.4
1997 .....	100	876.7	96	410.9	82	525.9
1998 .....	100	846.3	97	341.0	90	619.4
1999 .....	99	881.8	92	299.1	88	593.3
IA:..						
1996 .....	98	1,631.7	83	627.7	81	786.1
1997 .....	99	1,464.3	75	575.4	75	668.0
1998 .....	96	1,529.0	81	613.8	81	803.0
1999 .....	98	1,502.8	75	604.9	75	734.7
KS:..						
1996 .....	98	416.5	83	79.5	29	26.1
1998 .....	100	514.3	83	101.4	21	21.6
1999 .....	99	443.3	70	86.2	22	20.5
KY:..						
1996 .....	98	186.9	86	87.2	89	94.1
1998 .....	100	227.3	94	103.7	95	140.4
1999 .....	100	234.9	81	66.6	50	64.5
MI:..						
1996 .....	100	307.9	90	112.7	85	226.5
1997 .....	100	309.2	91	117.9	94	263.8
1998 .....	95	228.9	91	90.7	87	179.2
1999 .....	100	277.9	92	91.9	91	174.4
MN:..						
1996 .....	97	784.4	94	375.6	86	420.9
1997 .....	97	750.9	79	270.4	81	309.6
1998 .....	96	851.2	91	352.3	87	447.9
1999 .....	92	702.9	90	299.6	86	312.9
MO:..						
1996 .....	97	398.5	88	132.7	87	163.5
1997 .....	100	447.1	84	131.3	84	176.4
1998 .....	99	466.7	92	138.2	93	184.6
1999 .....	100	422.3	84	136.1	84	169.4
NE:..						
1996 .....	98	1,174.0	79	227.6	39	75.0
1997 .....	100	1,313.1	80	205.2	26	33.3
1998 .....	99	1,106.1	69	215.1	21	33.1
1999 .....	99	1,115.2	75	232.8	18	22.1
NC:..						
1996 .....	99	113.1	91	53.6	89	88.7
1998 .....	98	105.1	92	42.2	91	76.1
1999 .....	99	83.2	82	36.3	88	66.3
OH:..						
1996 .....	100	425.4	97	245.8	86	244.0
1997 .....	99	567.5	89	234.6	89	313.6
1998 .....	100	587.5	96	243.0	74	310.3
1999 .....	100	527.0	97	236.1	94	324.2
PA:..						
1996 .....	97	112.2	79	67.0	75	43.6
1998 .....	88	128.5	71	54.4	69	41.4
SC:..						
1996 .....	100	46.0	97	21.8	100	42.3
SD:..						
1996 .....	88	312.3	77	105.7	39	31.8
1997 .....	96	303.1	80	113.9	31	25.5
1998 .....	94	305.9	78	117.4	25	21.5
1999 .....	98	334.6	88	136.2	49	42.5
TX:..						
1996 .....	99	284.5	79	61.6	43	25.4
1998 .....	99	319.4	87	89.3	21	15.4
1999 .....	100	304.5	80	74.5	40	22.4
WI:..						
1996 .....	94	297.0	89	134.6	88	209.7
1997 .....	98	285.2	97	154.0	93	244.1
1998 .....	97	326.8	96	148.2	96	188.0
1999 .....	98	305.1	82	104.2	91	177.8

<sup>1</sup> Data not available for all States for all years. Note: Planted acres are on page I-24. NASS, Environmental, Economics, and Demographics Branch, (202) 720-6146.

Table 14-4.—Upland Cotton: Pesticide usage, 1996–99<sup>1</sup>

State and Year	Percent treated and amount applied							
	Herbicide		Insecticide <sup>2</sup>		Fungicide		Other Chemicals	
	Area applied	Pounds applied	Area applied	Pounds applied	Area applied	Pounds applied	Area applied	Pounds applied
	Percent	Thousands	Percent	Thousands	Percent	Thousands	Percent	Thousands
AL:								
1997 .....	100	1,667	85	469	17	22	69	482
1998 .....	99	1,300	91	422	16	52	85	454
1999 .....	99	1,154	87	436	30	130	78	617
AZ:								
1996 .....	75	357	89	1,029	**	**	71	1,703
1997 .....	87	534	85	705	*	*	86	770
1998 .....	95	426	91	677	4	6	97	947
1999 .....	90	519	60	360	**	**	95	1,361
AR:								
1996 .....	99	2,750	93	1,303	28	157	91	1,206
1997 .....	89	2,882	77	678	10	83	84	1,335
1998 .....	93	2,119	98	886	19	71	93	1,490
1999 .....	96	1,949	85	900	17	140	97	2,372
CA:								
1996 .....	90	1,856	97	2,031	*	*	95	5,180
1997 .....	93	1,227	92	2,242	*	*	98	3,471
1998 .....	99	879	98	800	*	*	99	1,611
1999 .....	98	1,006	94	861	1	7	100	2,406
GA:								
1996 .....	100	4,079	73	633	**	**	48	1,234
1997 .....	100	4,623	90	895	**	**	85	4,397
1998 .....	99	3,629	84	869	*	*	72	2,322
1999 .....	98	4,249	92	816	*	3	78	2,992
LA:								
1996 .....	81	1,957	97	1,486	17	89	69	546
1997 .....	90	2,331	85	1,789	19	85	66	469
1998 .....	96	1,655	98	2,385	22	76	83	499
1999 .....	98	1,763	98	4,206	9	40	88	707
MS:								
1996 .....	99	3,981	95	2,417	7	45	99	2,541
1997 .....	100	3,124	100	3,972	30	447	97	1,556
1998 .....	100	2,588	98	4,757	16	115	92	1,103
1999 .....	100	3,821	98	6,580	17	180	99	1,980
MO:								
1997 .....	100	839	71	210	*	*	99	573
NC:								
1997 .....	97	1,832	92	339	*	*	96	1,093
1998 .....	95	1,494	92	363	9	30	89	909
1999 .....	96	2,079	91	533	6	42	57	996
SC:								
1997 .....	100	875	98	241	18	5	96	467
TN:								
1996 .....	100	1,889	89	505	33	97	87	732
1997 .....	98	1,275	85	417	29	123	79	551
1998 .....	100	1,127	97	1,297	37	61	93	547
1999 .....	96	1,385	95	1,222	27	132	89	585
TX:								
1996 .....	90	5,692	68	5,832	*	*	39	2,064
1997 .....	97	6,401	62	6,327	**	**	53	2,398
1998 .....	93	6,989	47	2,833	*	*	45	2,113
1999 .....	97	7,081	76	23,417	1	49	32	1,840

<sup>1</sup>Data not available for all States for all years. <sup>2</sup>Amount applied excludes Bt (bacillus thuringiensis). \* Insufficient number of reports to publish data. \*\* No reports received for this pesticide class. Note: Planted acres are on page II-1.

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**Table 14-5.—Upland Cotton: Fertilizer usage, 1996–99<sup>1</sup>**

State and Year	Percent treated and amount applied					
	Nitrogen		Phosphate		Potash	
	Area applied <sup>2</sup>	Pounds applied	Area applied <sup>2</sup>	Pounds applied	Area applied <sup>2</sup>	Pounds applied
	<i>Percent</i>	<i>Millions</i>	<i>Percent</i>	<i>Millions</i>	<i>Percent</i>	<i>Millions</i>
AL:						
1997 .....	100	47.8	93	26.8	95	40.1
1998 .....	99	38.3	94	27.3	94	35.5
1999 .....	97	46.5	94	36.3	95	45.3
AZ:						
1996 .....	98	45.8	43	6.6	11	1.6
1997 .....	99	41.8	29	5.2	4	0.6
1998 .....	98	34.5	38	6.1	13	0.3
1999 .....	99	39.6	22	5.0	15	0.7
AR:						
1996 .....	97	94.0	66	25.2	71	49.3
1997 .....	92	67.2	83	42.5	91	57.6
1998 .....	98	82.4	88	33.8	88	61.6
1999 .....	97	88.0	82	31.8	85	63.5
CA:						
1996 .....	96	168.1	37	30.6	16	9.5
1997 .....	96	122.7	25	13.4	26	16.7
1998 .....	98	81.8	23	11.2	13	6.9
1999 .....	99	92.6	51	19.1	19	11.1
GA:						
1996 .....	99	139.3	99	76.7	97	139.1
1997 .....	95	126.3	94	81.4	99	132.0
1998 .....	96	119.6	90	71.3	92	123.4
1999 .....	100	127.2	98	81.3	100	160.3
LA:						
1996 .....	91	60.1	64	25.7	67	39.5
1997 .....	98	48.5	71	22.8	76	33.8
1998 .....	99	47.9	69	15.5	73	29.8
1999 .....	100	52.4	43	14.7	45	18.9
MS:						
1996 .....	98	110.4	27	14.0	56	63.4
1997 .....	100	107.3	46	22.6	77	72.1
1998 .....	97	98.5	51	27.6	67	62.9
1999 .....	100	133.3	36	21.2	65	85.8
MO:						
1997 .....	100	42.6	72	10.0	95	28.1
NC:						
1997 .....	92	38.4	64	16.6	85	56.8
1998 .....	98	60.2	90	35.0	93	71.6
1999 .....	96	66.3	89	37.0	96	90.3
SC:						
1997 .....	100	26.8	100	15.8	100	34.2
TN:						
1996 .....	100	47.8	99	32.0	99	47.1
1997 .....	100	44.8	99	27.4	99	42.9
1998 .....	99	42.6	100	28.4	100	41.0
1999 .....	100	51.2	99	30.2	100	50.9
TX:						
1996 .....	55	252.2	47	105.2	20	23.6
1997 .....	82	280.9	62	126.3	29	25.8
1998 .....	68	237.7	56	122.0	27	28.5
1999 .....	71	281.8	45	112.8	23	26.6

<sup>1</sup> Data not available for all States for all years. <sup>2</sup>Planted acres are on page II-1. \*Insufficient reports to publish data for one or more of the fertilizer nutrients.

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**Table 14-6.—Fall potatoes: Pesticide usage, 1996–99<sup>1</sup>**

State and Year	Percent treated and amount applied							
	Herbicide		Insecticide <sup>2</sup>		Fungicide		Other Chemicals	
	Area applied <sup>3</sup>	Pounds applied	Area applied <sup>3</sup>	Pounds applied	Area applied <sup>3</sup>	Pounds applied	Area applied	Pounds applied
	<i>Percent</i>	<i>Thousands</i>	<i>Percent</i>	<i>Thousands</i>	<i>Percent</i>	<i>Thousands</i>	<i>Percent</i>	<i>Thousands</i>
CO:								
1999 .....	86	175	76	39	98	387	57	14,056
ID:								
1996 .....	90	1,131	73	649	85	1,089	39	30,529
1997 .....	92	962	92	1,057	100	2,233	59	40,356
1999 .....	92	953	92	1,066	92	1,502	56	53,358
ME:								
1996 .....	98	49	90	46	100	737	98	580
1997 .....	96	39	97	68	99	641	96	1,609
1999 .....	100	25	97	29	100	553	24	89
MI:								
1999 .....	100	101	100	52	99	609	56	137
MN:								
1997 .....	28	35	99	84	98	816	82	113
1999 .....	86	82	91	54	93	577	16	2,103
NY:								
1995 .....	86	52	93	68	91	211	65	16
ND:								
1997 .....	63	134	77	161	99	1,232	36	22
1999 .....	83	94	95	121	99	966	5	1,315
OR:								
1997 .....	94	142	85	178	93	346	69	8,306
1999 .....	100	129	89	183	97	314	65	7,489
PA:								
1998 .....	90	36	99	32	99	152	69	5
1999 .....	94	35	99	47	95	125	3	4
WA:								
1996 .....	93	322	94	485	85	986	72	12,064
1997 .....	85	264	99	644	95	1,084	71	9,658
1998 .....	98	360	99	810	97	1,206	75	19,377
WI:								
1997 .....	98	70	95	95	100	1,103	87	3,601
1998 .....	96	85	97	119	99	1,065	91	2,538
1999 .....	98	84	100	193	98	921	16	1,104

<sup>1</sup>Data not available for all States for all years. <sup>2</sup>Amount applied excludes Bt (bacillus thuringiensis). <sup>3</sup>Planted acres are on page IV-22.

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**Table 14-7.—Fall potatoes: Fertilizer usage, 1996–99<sup>1</sup>**

State and Year	Percent treated and amount applied					
	Nitrogen		Phosphate		Potash	
	Area applied	Pounds applied	Area applied	Pounds applied	Area applied	Pounds applied
	<i>Percent</i>	<i>Millions</i>	<i>Percent</i>	<i>Millions</i>	<i>Percent</i>	<i>Millions</i>
CO:						
1999 .....	98	14.6	95	13.3	74	5.6
ID:						
1996 .....	100	84.4	99	80.6	85	40.7
1997 .....	100	103.6	97	72.3	88	41.7
1999 .....	100	91.0	99	78.5	82	42.7
IN:						
1999 .....	100	0.6	100	0.5	100	0.5
ME:						
1996 .....	100	13.0	99	13.4	100	13.6
1997 .....	100	12.9	100	13.3	100	13.5
1999 .....	100	11.5	100	12.3	100	12.4
MI:						
1999 .....	100	10.1	98	6.6	100	10.0
MN:						
1997 .....	96	11.9	99	6.1	97	6.6
1999 .....	99	8.0	91	5.3	91	9.6
ND:						
1997 .....	100	16.7	96	11.7	80	7.7
1999 .....	99	15.4	98	10.9	83	9.2
OR:						
1997 .....	100	15.1	100	10.8	87	11.1
1999 .....	100	13.5	100	8.2	91	7.5
PA:						
1998 .....	100	2.1	97	1.6	96	2.1
1999 .....	97	2.2	97	1.8	97	2.0
WA:						
1996 .....	95	44.3	92	29.4	91	30.2
1997 .....	100	47.9	99	42.6	98	31.6
1999 .....	100	55.5	99	40.7	97	43.7
WI:						
1997 .....	100	15.0	100	9.5	100	22.2
1999 .....	100	20.8	100	12.0	99	20.4

<sup>1</sup> Data not available for all states for all years. Note: Planted acres are on page IV-22. NASS, Environmental, Economics, and Demographics Branch, (202) 720-6146.

**Table 14-8.—Soybeans: Pesticide usage, 1996-99 <sup>1</sup>**

State and Year	Percent treated and amount applied <sup>2</sup>			
	Herbicide		Insecticide <sup>3</sup>	
	Area applied	Pounds applied	Area applied	Pounds applied
	Percent	Thousands	Percent	Thousands
AR:				
1996 .....	92	4,491	*	*
1997 .....	97	5,019	*	*
1998 .....	75	3,058	4	37
1999 .....	94	3,670	9	17
DE:				
1997 .....	78	314	*	*
IL:				
1996 .....	97	10,670	**	**
1997 .....	98	11,136	*	*
1998 .....	95	11,354	*	*
1999 .....	96	10,290	*	20
IN:				
1996 .....	97	5,845	*	*
1997 .....	99	7,062	**	**
1998 .....	98	5,798	**	**
1999 .....	89	5,750	**	**
IA:				
1996 .....	99	10,821	*	*
1997 .....	99	13,691	**	**
1998 .....	100	11,866	**	**
1999 .....	99	11,995	**	**
KS:				
1997 .....	94	2,947	*	*
1998 .....	95	2,156	*	*
1999 .....	97	3,273	*	1
KY:				
1997 .....	91	1,460	*	*
1998 .....	98	1,239	*	*
1999 .....	94	1,037	*	*
LA:				
1996 .....	94	1,645	32	161
1997 .....	90	1,843	29	331
1998 .....	89	1,442	32	217
1999 .....	94	1,123	53	229
MI:				
1997 .....	98	2,452	**	**
1998 .....	98	2,620	*	*
1999 .....	97	2,342	**	**
MN:				
1996 .....	98	7,826	**	**
1997 .....	96	6,902	**	**
1998 .....	97	6,071	*	*
1999 .....	97	6,203	**	**
MS:				
1996 .....	99	2,287	*	*
1997 .....	98	2,453	*	*
1998 .....	100	2,948	6	33
1999 .....	99	2,967	9	78
MO:				
1996 .....	98	5,373	*	*
1997 .....	94	5,521	**	*
1998 .....	92	6,152	**	**
1999 .....	97	5,556	**	**
NE:				
1996 .....	99	3,459	*	*
1997 .....	99	4,093	*	*
1998 .....	88	4,226	*	*
1999 .....	96	4,758	1	10
NC:				
1997 .....	98	1,625	35	130
1998 .....	84	1,440	3	20
1999 .....	88	1,283	3	3
OH:				
1996 .....	98	5,692	*	*
1997 .....	99	5,307	*	*
1998 .....	99	5,435	*	*
1999 .....	99	4,705	*	3
PA:				
1997 .....	86	661	**	**
1999 .....	99	429	11	20
SD:				
1997 .....	90	3,059	*	*
1998 .....	96	3,706	*	*
1999 .....	98	3,943	**	**
TN:				
1996 .....	100	1,770	*	*
1997 .....	100	1,664	*	*
1998 .....	98	1,926	*	*
1999 .....	98	1,405	2	19
WI:				
1996 .....	99	750	*	*
1997 .....	100	998	**	**

<sup>1</sup>Data not available for all States for all years. <sup>2</sup>Insufficient number of reports to publish data for fungicides and other chemicals. <sup>3</sup>Amount applied excludes Bt (bacillus thuringiensis). \*Insufficient number of reports to publish data. \*\*No reports received for this pesticide class. Note: Planted acres are on page III-13.



**Table 14-9.—Soybeans: Fertilizer usage, 1996–99<sup>1</sup>**

State and Year	Percent treated and amount applied					
	Nitrogen		Phosphate		Potash	
	Area applied	Pounds applied	Area applied	Pounds applied	Area applied	Pounds applied
	Percent	Millions	Percent	Millions	Percent	Millions
AR:..						
1996 .....	9	8.2	45	76.4	43	90.5
1997 .....	6	9.3	29	60.8	30	71.4
1998 .....	5	8.6	29	65.3	29	75.4
1999 .....	17	17.3	43	78.0	40	90.0
DE:..						
1997 .....	37	1.5	38	3.8	29	5.7
IL:..						
1996 .....	15	32.4	23	128.3	34	329.6
1997 .....	11	12.6	23	160.3	34	352.5
1998 .....	7	17.2	12	78.7	24	321.4
1999 .....	7	16.2	14	64.1	28	304.0
IN:..						
1996 .....	23	37.9	33	79.1	44	240.7
1997 .....	16	40.8	22	65.2	36	213.0
1998 .....	15	25.0	26	70.4	51	255.3
1999 .....	28	33.6	36	105.3	36	219.0
IA:..						
1996 .....	8	19.5	12	55.2	14	99.3
1997 .....	16	30.4	23	129.3	25	205.4
1998 .....	10	20.4	13	62.1	14	79.0
1999 .....	7	23.5	17	103.5	22	173.7
KS:..						
1997 .....	20	12.1	18	14.8	15	18.9
1998 .....	16	7.5	21	16.6	11	8.3
1999 .....	22	14.9	22	19.4	15	7.6
KY:..						
1997 .....	32	22.7	42	36.9	41	59.4
1998 .....	35	17.0	58	58.9	63	73.3
1999 .....	17	4.8	25	18.3	26	24.2
LA:..						
1996 .....	4	0.7	36	17.1	34	26.0
1997 .....	13	5.8	23	13.8	23	21.3
1998 .....	3	0.4	25	12.0	26	19.4
1999 .....	5	1.4	14	7.2	11	6.8
MI:..						
1997 .....	63	21.3	49	49.9	71	100.9
1998 .....	72	24.3	73	54.6	75	99.5
1999 .....	31	9.5	45	27.7	65	109.5
MN:..						
1996 .....	10	9.2	14	38.4	10	42.9
1997 .....	16	15.2	20	55.6	22	141.5
1998 .....	18	27.5	17	38.1	9	33.1
1999 .....	13	18.7	13	29.5	13	54.5
MS:..						
1996 .....	11	2.5	18	14.0	17	19.4
1997 .....	16	5.4	23	25.5	26	48.4
1998 .....	5	2.1	10	10.0	16	23.2
1999 .....	10	4.2	15	14.1	22	23.9
MO:..						
1996 .....	23	20.5	25	54.9	28	81.3
1997 .....	15	17.2	28	60.4	35	136.2
1998 .....	24	25.9	47	119.8	53	198.2
1999 .....	15	11.7	23	54.8	23	87.3
NE:..						
1996 .....	28	10.2	50	64.4	11	5.3
1997 .....	31	19.5	31	45.9	16	11.3
1998 .....	22	12.1	19	27.0	8	7.3
1999 .....	25	17.8	25	31.7	16	17.0
NC:..						
1997 .....	52	46.7	67	36.8	77	103.3
1998 .....	36	12.4	34	19.4	39	47.3
1999 .....	54	15.8	71	53.9	71	85.0
OH:..						
1996 .....	20	30.4	24	50.1	36	164.8
1997 .....	16	11.9	26	56.8	60	308.4
1998 .....	19	16.5	29	71.9	42	179.3
1999 .....	21	14.4	35	81.6	47	205.6
PA:..						
1997 .....	53	3.4	55	8.7	59	19.5
1999 .....	37	2.8	41	7.5	43	10.0
SD:..						
1997 .....	35	43.3	34	42.2	18	14.5
1998 .....	32	29.7	32	38.1	11	2.9
1999 .....	47	41.3	47	88.3	19	21.3
TN:..						
1996 .....	27	12.8	43	27.5	53	51.5
1997 .....	29	7.4	48	33.1	52	52.6
1998 .....	19	4.5	36	20.7	39	29.4
1999 .....	34	7.1	46	25.9	48	38.4
WI:..						
1997 .....	53	8.2	54	11.7	69	56.0

<sup>1</sup> Data not available for all States for all years. Note: Planted acres are on page III-13. NASS, Environmental, Economics, and Demographics Branch, (202) 720-6146.

Table 14-10.—Wheat: Pesticide usage, 1995-98 <sup>1</sup>

State and Year	Percent treated and amount applied <sup>2</sup>			
	Herbicide		Insecticide <sup>3</sup>	
	Area applied	Pounds applied	Area applied	Pounds applied
	<i>Percent</i>	<i>Thousands</i>	<i>Percent</i>	<i>Thousands</i>
Winter.				
CA:				
1998 ..	47	146	*	*
CO:				
1996 ..	61	756	11	139
1997 ..	64	803	13	321
1998 ..	61	610	*	*
GA:				
1998 ..	38	80	*	*
ID:				
1996 ..	80	433	**	**
1997 ..	98	631	**	**
1998 ..	88	495	*	*
IL:				
1997 ..	40	16	**	**
1998 ..	47	17	*	*
KS:				
1996 ..	47	1,304	7	212
1997 ..	31	819	**	**
1998 ..	35	1,620	**	**
LA:				
1998 ..	*	*	*	*
MS:				
1998 ..	55	78	*	*
MO:				
1997 ..	33	67	**	**
1998 ..	28	12	**	**
MT:				
1996 ..	93	1,385	*	*
1997 ..	88	1,089	*	*
1998 ..	89	889	**	**
NE:				
1996 ..	61	332	*	*
1997 ..	53	189	**	**
1998 ..	52	320	*	*
NC:				
1998 ..	60	92	13	11
OH:				
1997 ..	20	56	**	**
1998 ..	13	75	**	**
OK:				
1996 ..	35	655	27	391
1997 ..	38	435	13	234
1998 ..	42	827	6	89
OR:				
1996 ..	99	503	*	*
1997 ..	100	516	*	*
1998 ..	100	415	*	*
PA:				
1997 ..	21	8	*	*
SD:				
1996 ..	65	390	*	*
1997 ..	89	383	**	**
1998 ..	88	589	*	*
TX:				
1996 ..	27	319	38	447
1997 ..	24	181	18	351
1998 ..	27	435	7	177
WA:				
1996 ..	96	1,304	**	**
1997 ..	98	1,584	*	*
1998 ..	97	1,718	*	*

See footnotes at end of table.

**Table 14-10.—Wheat: Pesticide usage, 1995–98<sup>1</sup>—Continued**

State and Year	Percent treated and amount applied <sup>2</sup>			
	Herbicide		Insecticide <sup>3</sup>	
	Area applied	Pounds applied	Area applied	Pounds applied
	<i>Percent</i>	<i>Thousands</i>	<i>Percent</i>	<i>Thousands</i>
Durum.				
ND:				
1995 ..	96	1,821	*	*
1996 ..	98	2,087	*	*
1997 ..	93	2,221	2	12
1998 ..	98	2,631	*	*
Other				
Spring.				
ID:				
1998 ..	95	392	*	*
MN:				
1995 ..	97	1,410	*	*
1996 ..	96	1,547	*	*
1997 ..	94	1,434	*	*
1998 ..	97	1,396	11	65
MT:				
1995 ..	90	2,118	**	**
1996 ..	76	2,122	**	**
1997 ..	94	3,254	*	*
1998 ..	81	1,816	*	*
ND:				
1995 ..	94	4,165	*	*
1996 ..	92	6,170	*	*
1997 ..	88	4,583	*	*
1998 ..	98	4,053	7	176
OR:				
1998 ..	98	87	**	**
SD:				
1995 ..	97	431	**	**
1997 ..	86	886	**	**
1998 ..	73	698	*	*
WA:				
1998 ..	100	552	*	*

<sup>1</sup>Data not available for all States for all years. <sup>2</sup>Insufficient number of reports to publish data for fungicides and other chemicals. <sup>3</sup>Amount applied excludes Bt (bacillus thuringiensis). \*Insufficient number of reports to publish data. \*\*No reports received for this pesticide class. Note: Planted acres are on page I-2.

NASS, Environmental, Economics, and Demographics Branch, (202) 720-6146.

**Table 14-11.—Wheat: Fertilizer usage, 1995–98<sup>1</sup>**

State and Year	Percent treated and amount applied					
	Nitrogen		Phosphate		Potash	
	Area applied	Pounds applied	Area applied	Pounds applied	Area applied	Pounds applied
	<i>Percent</i>	<i>Millions</i>	<i>Percent</i>	<i>Millions</i>	<i>Percent</i>	<i>Millions</i>
Winter.						
CO:.						
1996	77	70.2	38	18.0	*	*
1997	68	69.0	39	18.7	*	*
1998	78	108.5	33	22.2	4	0.7
GA:.						
1998	98	27.7	90	12.3	86	17.2
ID:.						
1996	97	96.2	48	22.1	15	5.0
1997	98	105.4	62	19.4	11	4.3
1998	97	93.6	67	20.6	23	7
IL:.						
1997	91	103.8	69	62.1	77	86.9
1998	98	119.9	82	78.5	70	94.7
KS:.						
1996	94	461.6	65	162.3	*	*
1997	78	509.0	56	186.8	8	19.5
1998	92	596.7	74	248.3	13	50.7
LA:.						
1998	91	9.2	32	1.6	30	1.8
MS:.						
1998	100	22.2	14	1.4	14	1.7
MO:.						
1997	92	98.2	81	45.4	70	49.4
1998	98	138.4	86	51.1	86	74.9
MT:.						
1996	82	84.7	80	46.9	12	4.3
1997	95	64.5	78	31.4	23	4.3
1998	90	67.9	88	30.7	31	5.1
NE:.						
1995	80	80.0	42	27.3	*	*
1996	86	78.6	51	34.8	*	*
1997	92	94.6	74	47.8	*	*
1998	85	69.9	59	25.3	12	1
NC:.						
1998	91	63.9	76	24.1	84	53.8
OH:.						
1997	100	93.1	92	63.7	98	87.6
1998	100	106.9	93	66.8	94	80.2
OK:.						
1996	75	199.2	45	70.8	11	26.1
1997	90	317.5	47	83.6	7	6.4
1998	95	381.0	64	130.8	15	10.7
OR:.						
1996	100	65.0	10	2.5	5	1.1
1997	100	75.3	15	4.7	*	*
1998	99	57.8	9	1.7	1	10.7
PA:.						
1997	81	7.3	60	5.2	59	5.2
SD:.						
1996	78	60.8	65	29.2	*	*
1997	78	38.7	58	15.3	*	*
1998	94	79.7	92	36.6	*	*
TX:.						
1996	78	183.6	31	39.4	*	*
1997	78	267.2	36	49.1	16	10.8
1998	75	337.2	50	111.7	22	24.6
WA:.						
1996	100	194.9	25	12.2	10	5.4
1997	98	145.4	34	16.5	12	7.6
1998	100	155.8	30	14.7	10	3.8
Durum.						
ND:.						
1996	93	168.6	73	50.9	8	4.9
1997	95	170.9	77	48.7	8	4.1
1998	98	175.0	79	49.0	3	1.7

See footnotes at end of table.

**Table 14-11.—Wheat: Fertilizer usage, 1995–98<sup>1</sup>—Continued**

State and Year	Percent treated and amount applied					
	Nitrogen		Phosphate		Potash	
	Area applied	Pounds applied	Area applied	Pounds applied	Area applied	Pounds applied
	<i>Percent</i>	<i>Millions</i>	<i>Percent</i>	<i>Millions</i>	<i>Percent</i>	<i>Millions</i>
Other.						
ID:.						
1998	96	59.4	83	17.9	33	2.9
MN:.						
1996	98	227.0	87	82.1	48	33.8
1997	98	209.1	91	77.4	73	73.9
1998	100	166.5	97	65.3	64	37.8
MT:.						
1996	83	173.5	78	89.6	9	3.6
1997	79	153.5	66	68.2	15	10.2
1998	61	129.6	55	64.5	22	10.3
ND:.						
1996	90	582.9	78	227.4	24	46.0
1997	99	621.8	92	248.3	24	43.8
1998	97	472.8	87	166.8	20	9.0
SD:.						
1997	90	140.2	70	61.6	*	*
1998	84	92.2	66	45.0	11	5.7

<sup>1</sup> Data not available for all States for all years. \* Insufficient number of reports to publish data. Note: Planted acres are on page I-2.

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**Table 14-12.—Vegetables: Percent of acres receiving applications, for surveyed States, 1998<sup>1</sup>**

Crop	Nitrogen	Phosphate	Potash	Herbicide	Insecticide	Fungicide
	<i>Percent</i>					
Asparagus .....	80	29	44	81	67	39
Beans, Lima, Fresh .....	100	100	100	85	22	*
Beans, Lima, Processing ....	80	55	55	67	82	26
Beans, Snap, Fresh .....	96	94	93	32	80	74
Beans, Snap, Processing ...	99	92	90	92	80	46
Broccoli .....	88	56	61	44	77	23
Cabbage, Fresh .....	98	89	91	72	96	43
Cabbage, Processing .....	100	91	98	95	100	17
Carrots, Fresh .....	96	68	35	92	42	64
Carrots, Processing .....	94	79	74	88	45	60
Cauliflower .....	100	82	92	56	95	21
Celery .....	99	95	98	85	97	98
Corn, Sweet, Fresh .....	97	91	84	81	86	21
Corn, Sweet, Processing ....	98	87	78	94	74	10
Cucumbers, Fresh .....	98	67	95	32	64	75
Cucumbers, Processing ....	98	81	90	77	38	36
Eggplant .....	94	45	94	73	85	82
Lettuce, Head .....	94	80	61	52	95	85
Lettuce, Other .....	97	83	69	54	95	88
Melons, Cantaloupe .....	95	64	23	44	66	53
Melons, Honeydew .....	96	82	19	33	78	54
Melons, Watermelon .....	97	87	82	46	45	71
Onions, Bulb .....	99	92	79	85	78	86
Peas, Green, Processing ...	72	65	63	94	38	**
Peppers, Bell .....	98	79	92	69	87	72
Spinach, Fresh .....	99	91	71	41	80	46
Spinach, Processing .....	96	91	70	90	100	40
Strawberries .....	96	84	85	35	89	91
Tomatoes, Fresh .....	99	73	88	57	92	94
Tomatoes, Processing .....	98	83	53	86	82	96

<sup>1</sup> Refers to acres receiving one or more applications of a specific agricultural chemical. \* Insufficient number of reports to publish data. \*\* No reports received for this pesticide class.

NASS, Environmental, Economics, and Demographics Branch, (202) 720-6146.

**Table 14-13.—Fruits: Percent of acres receiving applications, for surveyed States, 1999<sup>1</sup>**

Crop	Herbicide	Insecticide	Fungicide
	<i>Percent</i>		
Almonds .....	86	85	82
Apples .....	60	97	85
Apricots .....	36	74	74
Avocados .....	58	42	*
Blackberries .....	88	65	90
Blueberries .....	80	86	88
Cherries, Sweet .....	43	87	87
Cherries, Tart .....	62	98	98
Dates .....	*	*	*
Figs .....	55	*	*
Grapefruit .....	91	85	85
Grapes .....	75	76	81
Hazelnuts .....	91	85	39
Kiwifruit .....	26	*	*
Lemons .....	67	76	37
Limes .....	42	95	90
Nectarines .....	80	93	91
Olives .....	70	16	43
Oranges .....	89	84	66
Peaches .....	58	88	88
Pears .....	48	91	86
Pecans .....	44	66	47
Pistachios .....	91	76	67
Plums .....	60	79	45
Prunes .....	41	62	57
Raspberries .....	91	83	96
Tangelos .....	96	98	87
Tangerines .....	79	80	64
Temples .....	94	60	59
Walnuts .....	58	68	56

<sup>1</sup> Refers to acres receiving one or more applications of a specific agricultural chemical. \* Insufficient number of reports to publish data. \*\* No reports received for this pesticide class.

NASS, Environmental, Economics, and Demographics Branch, (202) 720-6146.