

South Dakota

2009

AGRICULTURAL CHEMICAL USAGE

Released August 2010

OVERVIEW: The agricultural chemical use estimates in this report are based on data compiled from the Agricultural Resources Management Study (ARMS) conducted during the fall of 2009. All results refer to on-farm use of commercial fertilizers and pesticides on the 2009 South Dakota winter wheat and spring wheat crops.

WINTER WHEAT

SOUTH DAKOTA: In 2009, 83 percent of South Dakota's 1.7 million acres of winter wheat received a nitrogen application. The average number of applications was 1.5 times, at a rate of 48 pounds per acre per application. This is similar to Nebraska, which applied nitrogen on 84 percent of their winter wheat acres while Montana put nitrogen on 96 percent of their winter wheat acres. South Dakota had phosphate applied to 55 percent of the winter wheat acreage, and potash applied to only 15 percent of the acreage.

Herbicide was applied to 91 percent of the winter wheat acreage in South Dakota in 2009. The most widely used herbicide was Glyphosate (Roundup products) which was applied on 44 percent of the acreage. The second most frequently used herbicide was 2,4-D products, applied on over 31 percent of the winter wheat acreage. Fungicides were applied to 37 percent of the winter wheat acres in 2009.

NATIONAL: On winter wheat acreage in all program states ^{1/}, nitrogen was applied to 83 percent of acreage. Growers used an average of 1.5 applications in 2009, putting on an average of 40 pounds per acre per application. In program states, phosphate was applied to 54 percent of the acreage, while potash was put on only 16 percent of the winter wheat acreage.

The most widely used chemicals were herbicide applications on 60 percent of the winter wheat acreage. The most widely used products on winter wheat were, Glyphosate (Roundup products) used on 28 percent of the acres, and 2,4-D products used on over 18 percent of the acres. Fungicides were applied to only 7 percent of the acreage, while insecticide was applied to only 6 percent of the winter wheat acreage in 2009.

^{1/} Program States include Colorado, Idaho, Illinois, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, Oklahoma, Oregon, South Dakota, Texas, and Washington.

WINTER WHEAT, SOUTH DAKOTA Fertilizer and Pesticide Usage, Selected Years, 2009 ^{1/}

Year	Acres Planted	Nitrogen			Phosphate			Potash			Herbicide	Insecticide
		Area Applied	Appli-cations	Rate per Application	Area Applied	Appli-cations	Rate per Application	Area Applied	Appli-cations	Rate per Application	Area Applied	Area Applied
	(1,000)	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Percent
1998	1,500	94	1.5	37	92	1.0	26	2/	2/	2/	88	2/
2000	1,350	91	1.4	35	61	1.0	30	12	1.0	8	56	2/
2004	1,650	77	1.6	51	58	1.2	38	7	1.3	33	66	2/
2006	1,450	82	1.5	43	57	1.1	31	15	1.0	21	74	2/
2009	1,700	83	1.5	48	55	1.0	28	15	1.0	11	91	2/

^{1/} Data for South Dakota not collected in 1999, 2001, 2002, 2003, 2005, 2007, or 2008. 2/ Insufficient reports to publish data.

WINTER WHEAT, SELECTED STATES Fertilizer and Pesticide Usage, 2009

State	Acres Planted	Nitrogen			Phosphate			Potash			Herbicide	Insecticide
		Area Applied	Appli-cations	Rate per Application	Area Applied	Appli-cations	Rate per Application	Area Applied	Appli-cations	Rate per Application	Area Applied	Area Applied
	(1,000)	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Percent
MT	2,550	96	1.7	31	87	1.0	25	22	1.0	9	100	1/
NE	1,700	84	1.5	37	65	1.0	29	6	1.2	14	61	1/
ND	580	100	2.0	47	97	1.0	33	26	1.2	12	99	1/
SD	1,700	83	1.5	48	55	1.0	28	15	1.0	11	91	1/
Total	37,045	83	1.5	40	54	1.0	30	16	1.0	37	60	6

^{1/} Insufficient reports to publish data.

OTHER SPRING WHEAT

SOUTH DAKOTA: In 2009 South Dakota spring wheat planted area totaled 1.5 million acres. Nitrogen was applied to some of the acres, but the percentage of area applied, number of applications, and rate of application were not available for publication. Minnesota applied nitrogen on 94 percent of their spring wheat acres while North Dakota applied nitrogen on 96 percent of their acres.

Herbicides were applied on 96 percent of South Dakota's spring wheat acres, with the most common chemical being bromoxynil octanoate (Bronate) used on 43 percent of the acres and MCPA used on 35 percent of the acres.

NATIONAL: Spring wheat acres (excluding durum) in the 8 program states ^{2/} totaled 13,250 million acres, with 94 percent of

those acres receiving a nitrogen application. Eighty-four percent of the acres received phosphate and only 21 percent of the acres received potash.

Herbicides were applied to 97 percent of the program states acreage, fungicide to 36 percent of the acreage and insecticide to only 5 percent of the acreage in 2009. The most used herbicide in terms of acreage treated was bromoxynil octanoate (Bronate), applied to 43 percent of the spring wheat acres, followed closely by Glyphosate (Roundup products) applied to 42 percent of the acres.

^{2/} Program states include Colorado, Idaho, Minnesota, Montana, North Dakota, Oregon, South Dakota, and Washington.

OTHER SPRING WHEAT, SOUTH DAKOTA Fertilizer and Pesticide Usage, Selected Years 1/

Year	Acres Planted	Nitrogen			Phosphate			Potash			Herbicide	Insecticide
		Area Applied	Appli-cations	Rate per Application	Area Applied	Appli-cations	Rate per Application	Area Applied	Appli-cations	Rate per Application	Area Applied	Area Applied
	(1,000)	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Percent
1998	1,900	85	1.4	41	66	1.0	35	11	1.0	26	73	2/
2000	1,650	95	1.4	42	83	1.0	26	12	1.0	14	93	2/
2004	1,600	92	1.7	54	68	1.2	40	19	1.3	22	89	2/
2006	1,850	90	1.3	54	80	1.1	35	22	1.1	26	84	2/
2009	1,500	NA	NA	NA	86	1.0	38	19	1.0	21	96	13

1/ Data for South Dakota not collected in 1999, 2001, 2002, 2003, 2005, 2007, or 2008. 2/ Insufficient reports to publish data.

OTHER SPRING WHEAT, SELECTED STATES Fertilizer and Pesticide Usage, 2009

State	Acres Planted	Nitrogen			Phosphate			Potash			Herbicide	Insecticide
		Area Applied	Appli-cations	Rate per Application	Area Applied	Appli-cations	Rate per Application	Area Applied	Appli-cations	Rate per Application	Area Applied	Area Applied
	(1,000)	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Percent
MN	1,600	94	1.4	71	88	1.0	40	56	1.0	34	97	23
MT	2,400	85	1.4	42	80	1.0	24	15	1.0	10	96	1/
ND	6,450	96	1.8	42	89	1.0	29	18	1.0	17	98	1/
SD	1,500	NA	NA	NA	86	1.0	38	19	1.0	21	96	13
Total	13,250	94	1.6	48	84	1.0	30	21	1.0	23	97	5

1/ Insufficient reports to publish data.

WINTER WHEAT & OTHER SPRING WHEAT, SOUTH DAKOTA Frequency and Extent of Chemical Usage by Active Ingredient, 2009 1/

Active Ingredient	Trade Name	Winter Wheat				Other Spring Wheat			
		Area Applied	Applications	Rate Per Crop Year	Total Applied	Area Applied	Applications	Rate Per Crop Year	Total Applied
Herbicides		Percent	Number	Lbs/Acre	1,000 Lbs.	Percent	Number	Lbs/Acre	1,000 Lbs.
2,4-D, 2-EHE	Ester	31	1.3	0.372	196	25	1.1	0.338	127
2,4-D, Dimeth. Salt	1/	13	1.6	0.640	142	---	---	---	---
Bromoxynil Heptanoat	Buctril	5	1.0	0.176	15	28	1.0	0.174	72
Bromoxynil Octanoate	Bronate	10	1.0	0.221	36	43	1.1	0.224	143
Clopyralid	Stinger	18	1.1	0.092	28	23	1.0	0.075	26
Dicamba, Dimet. Salt	Banvel	10	1.0	0.081	13	---	---	---	---
Fenoxaprop-P-Ethyl	Puma	---	---	---	---	20	1.0	0.060	18
Fluroxypyr 1-MHE	Starane	26	1.1	0.092	41	26	1.0	0.076	29
Glyphosate Iso. Salt	Glyphosate products	44	1.3	0.842	622	21	1.2	0.728	228
MCPA, 2-Ethylhexyl	1/	12	1.0	0.261	53	35	1.2	0.299	157
Methanone	1/	---	---	---	---	11	1.0	0.022	4
Metsulfuron-Methyl	Olympus Flex, Rimfire	18	1.0	0.002	1	---	---	---	---
Thifensulfuron	Harmony	25	1.0	0.007	3	20	1.0	0.010	3
Tribenuron-Methyl	Express	24	1.0	0.003	1	20	1.0	0.003	1
Fungicides									
Propiconazole	Bumper, Tilt	8	1.0	0.079	11	9	1.0	0.048	7
Pyraclostrobin	Headline	27	1.0	0.064	29	25	1.1	0.061	23
Tebuconazole	Folicur	---	---	---	---	15	1.0	0.106	24

1/ No trade name listed due to multiple brand names available.