AGRICULTURAL CHEMICAL USAGE 2000

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Agricultural Chemical Usage 2000

The agricultural chemical use estimates in this report refer to on-farm use of commercial fertilizers and pesticides on the targeted crops for the 2000 crop year. Farm and ranch operators were enumerated late in the growing season or after the farm operator had indicated that planned applications were completed. The survey was not conducted in 1999.

WINTER WHEAT: Fertilizer and Pesticide Applications, Total Acreage and Percentage Receiving Applications, Major States and Total, 1998 & 2000

State	Area Planted		Area Receiving Fertilizer 1/						Area Receiving Pesticide 2/					
			Nitrogen		Phosphate		Potash		Herbicide		Insecticide		Fungicide	
	1998	2000	1998	2000	1998	2000	1998	2000	1998	2000	1998	2000	1998	2000
	1,000 Acres		Percent						Percent					
AR 3/	--	1,180	--	92	--	28	--	28	--	41	--	--	--	--
CO	2,750	2,500	78	87	33	14	4	--	61	23	--	--	–	--
ID	820	780	97	90	67	54	23	13	--	89	--	4	--	--
IL	1,250	950	98	98	82	82	70	78	47	44	--	--	--	--
KS	10,700	9,800	92	94	74	65	13	6	65	31	--	8	--	--
KY 3/	--	670	--	80	--	62	--	60	--	51	--	8	--	6
MO	1,350	1,050	98	96	86	76	86	84	28	51	--	--	--	2
MT	**1,400**	**1,500**	**90**	**82**	**88**	**77**	**31**	**43**	**89**	**91**	**--**	**--**	**--**	**--**
NE	1,900	1,750	85	90	59	68	12	--	52	26	--	--	--	--
NC	730	720	91	88	76	48	84	56	60	65	13	19	15	--
OH	1,200	1,120	100	94	93	81	94	82	13	18	--	--	--	--
OK	6,600	6,100	95	97	64	62	15	5	42	25	6	--	–	--
OR	810	750	99	99	9	11	1	7	100	99	--	--	21	13
SD	1,500	1,350	94	91	92	61	--	12	88	56	--	--	--	--
TX	6,100	6,000	75	55	50	35	22	14	27	12	7	1	--	--
WA	2,200	1,850	100	100	30	30	10	6	97	95	--	--	3	--
Total	40,420	38,070	89	87	63	54	22	17	47	37	3	4	2	1

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient. 2/ Refers to acres receiving one or more applications of a specific pesticide class. 3/ Not Included in survey in 1998. -- Insufficient reports to publish data.

OTHER SPRING WHEAT: Fertilizer and Pesticide Applications, Total Acreage and Percentage Receiving Applications, Major States and Total, 1998 & 2000

State	Area Planted		Area Receiving Fertilizer 1/						Area Receiving Pesticide 2/					
			Nitrogen		Phosphate		Potash		Herbicide		Insecticide		Fungicide	
	1998	2000	1998	2000	1998	2000	1998	2000	1998	2000	1998	2000	1998	2000
	1,000 Acres		Percent						Percent					
MN	1,950	2,000	100	94	97	85	64	73	97	92	11	--	37	--
MT	**3,800**	**3,350**	**61**	**90**	**55**	**84**	**22**	**36**	**81**	**92**	**--**	**--**	**--**	**--**
ND	6,700	6,800	97	97	87	83	20	12	98	97	7	--	7	--
SD	1,950	1,650	84	95	66	83	11	12	73	93	--	--	--	--
US	15,500	13,800	87	95	77	84	25	27	91	95	6	2	9	15

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient. 2/ Refers to acres receiving one or more applications of a specific pesticide class. -- Insufficient reports to publish data.

Survey Procedures

The data for this report were obtained from the 2000 Agricultural Resources Management Study (ARMS). Data for corn, upland cotton, rice, soybeans, sugar beets, durum wheat, other spring wheat, and winter wheat were collected during the months of August through December of 2000. Large screening samples were drawn from the NASS List Sampling Frame. 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 sub-population of operations identified as producing the crop of interest, a sub-sample 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.

This report contains chemical usage information on winter and other spring wheat. Agricultural chemical usage for all of the other targeted crops are available from our office and are contained in the national release located on the Internet at www.usda.gov/nass/pubs/rptscal.htm.

TERMS AND DEFINITIONS

Agricultural chemicals refer to ingredients in both fertilizer and pesticide products. Fertilizer in this report refers to applications of the primary nutrients, nitrogen, phosphate, and potash.

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.

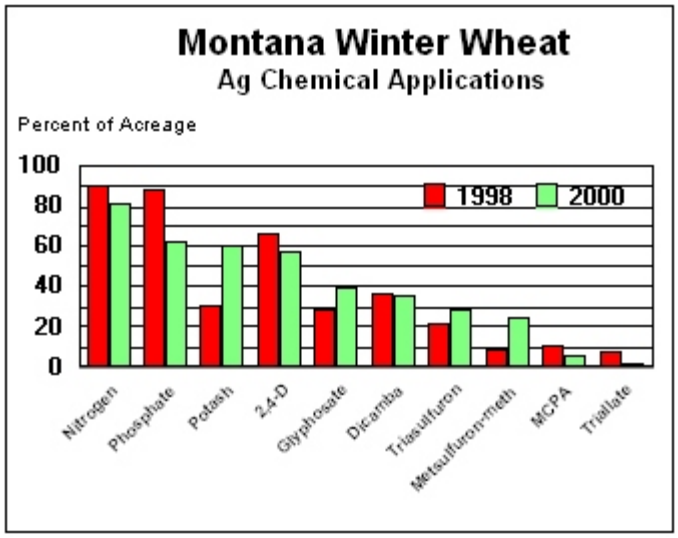
Active ingredient is the specific chemical which kills or controls the target pests. Usage data, that are reported by pesticide product, are converted to an amount of active ingredient. Some active ingredients have more than one way of being converted. For example in this report, copper compounds are expressed in their metallic copper equivalent, and others such as 2,4-D and glyphosate are expressed in their acid equivalent.

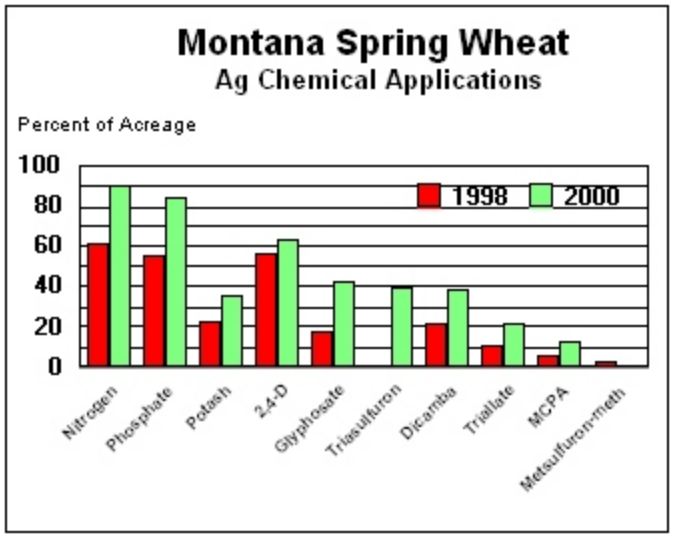
A tradename is the actual product name given to a specific formulation of a pesticide product. A formulation contains a specific concentration of the active ingredient, carrier materials, and other ingredients such as emulsifiers and wetting agents. Some formulations as in the case of pre-mixes, can contain more than one active ingredient.

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

Area applied represents the percent of crop acres receiving one or more applications of a specific ingredient. This report does not contain acre treatments. However, acre treatments can be calculated by multiplying the acres planted, by the percent of area applied, and the average number of applications.

Crop year refers to the period immediately following harvest for the previous crop through harvest of the current crop.





WINTER WHEAT: Agricultural Chemical Applications, Montana, 1998 & 2000 1/

Agricultural Chemical 2/	Area Applied 3/		Applications		Rate per Application		Rate per Crop Year		Total Applied	
	1998	2000	1998	2000	1998	2000	1998	2000	1998	2000
	Percent		Number		Pounds per Acre		Pounds per Acre		Million Lbs.	
Fertilizers:										
Nitrogen	90	82	1.5	1.5	35	38	54	60	67.9	74.2
Phosphate	88	77	1.1	1.0	24	30	25	30	30.7	34.0
Potash	31	43	1.0	1.0	11	13	12	13	5.1	8.2
Herbicides:									Thousand Lbs.	
2,4-D	66	58	1.0	1.0	.32	0.22	.32	.23	297	202
Dicamba	37	36	1.1	1.2	.11	0.06	.13	.08	69	42
Fenoxaprop	5	--	1.0	--	.08	--	.08	--	5	--
Fluroxypyr	--	20	--	1.0	--	0.06	--	0.06	--	18
Glyphosate	29	39	1.6	1.6	.32	.35	.54	.59	220	346
MCPA	11	6	1.0	1.0	.35	0.27	.36	0.27	56	23
Metsulfuron-methyl	9	24	1.0	1.0	.007	0.003	.007	0.003	1	1
Picloram	--	2	--	1.0	--	0.01	--	0.01	--	4/
Thifensulfuron	2	--	1.0	--	.010	--	.010	--	4/	--
Tralkoxydim	--	15	--	1.0	--	0.19	--	0.19	--	41
Triallate	8	2	1.0	1.0	1.26	1.34	1.26	1.34	134	46
Triasulfuron	21	29	1.0	1.0	.005	0.01	.005	0.01	1	5
Tribenuron-methyl	3	--	1.0	--	.006	--	.006	--	4/	--

1/ Area planted in 1998 was 1.40 million acres and 1.50 million acres in 2000. 2/ Insufficient reports to publish data for all agricultural chemicals applied. 3/ Refers to acres receiving one or more applications of a specific agricultural chemical 4/ Total applied is less than 1,000 pounds. -- Insufficient reports to publish data. Note: Data may not multiply across due to rounding.

OTHER SPRING WHEAT: Agricultural Chemical Applications, Montana, 1998 & 2000 1/

Agricultural Chemical 2/	Area Applied 3/		Applications		Rate per Application		Rate per Crop Year		Total Applied	
	1998	2000	1998	2000	1998	2000	1998	2000	1998	2000
	Percent		Number		Pounds per Acre		Pounds per Acre		Million Lbs.	
Fertilizers:										
Nitrogen	61	90	1.3	1.7	44	32	56	56	129.6	167.6
Phosphate	56	84	1.0	1.1	30	24	31	27	64.5	75.5
Potash	22	36	1.0	1.0	12	12	12	13	10.3	15.6
Herbicides:									Thousand Lbs.	
2,4-D	57	63	1.0	1.1	.39	.34	.40	.40	865	845
Bromoxynil	--	8	--	1.0	--	.23	--	.23	--	63
Dicamba	21	38	1.1	1.7	.10	.11	.11	.19	90	245
Glyphosate	17	42	1.4	1.9	.30	.29	.43	.57	276	807
MCPA	6	13	1.0	1.0	.29	.26	.29	.26	70	114
Metsulfuron-Methyl	3	6	1.0	1.0	0.02	0.006	0.02	0.006	2	1
Triallate	11	21	1.0	1.0	1.22	1.14	1.22	1.14	490	782
Triasulfuron	--	39	--	1.0	--	0.02	--	0.02	--	21
Tribenuron -methyl	3	4	1.0	1.0	.01	0.009	.01	0.009	2	1

1/ Area planted in 1998 was 3.80 million acres and 3.35 million acres in 2000. 2/ Insufficient reports to publish data for all agricultural chemicals applied. 3/ Refers to acres receiving one or more applications of a specific agricultural chemical.
-- Insufficient reports to publish data. Note: Data may not multiply across due to rounding.

Trade Names, Common Names, and Classes

The following is a list of common names of active ingredients with the associate class and trade name. The classes are herbicides (H), insecticides (I), fungicides (F). This list is provided as an aid in reviewing pesticide data. Pre-mixes are not listed. The list is not complete and NASS does not mean to imply use of any specific trade name.

Class	Common Name	Trade Name
H	2,4-D	Several
H	Bromoxynil	Buctril, Brominal
F	Carboxin	Vitavax
I	Chlorpyrifos	Lorsban, Dursban
H	Chlorsulfuron	Glean
H	Dicamba	Banvel
H	Diclofop-methyl	Hoelon
H	Difenzoquat	Avenge
I	Disulfoton	Di-Syston
H	Diuron	Karmex, Direx
H	Fenoxaprop	Whip, Option
H	Fluroxypyr	Starane
H	Glyphosate	Roundup, Ranger, Rattler, Rodeo
H	Imazamethabenz	Assert
I	Lambda-cyhalothrin	Karate, Saber, Warrior
H	MCPA	Several
H	Metribuzin	Sencor, Lexone, Axiom
H	Metsulfuron-methyl	Ally
I	Permethrin	Ambush, Pounce
H	Picloram	Tordon, Grazon
F	Propiconazole	Tilt, Banner, Orbit
H	Thifensulfuron-methyl	Pinnacle
F	Thiophanate-methyl	Topsin
H	Tralkoxydim	Achieve
H	Triallate	Far-Go
H	Triasulfuron	Amber
H	Tribenuron-methyl	Express
H	Trifluralin	Treflan, Trilin, Trific

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