

Table 20A. HERBICIDE Usage in North Dakota, 1989.

Herbicide	Acres treated ²	Acres treated	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
MCPA	143.5	0.4	100.0	.	.	.	91.2	8.8	5.9	94.1
MCPA + dicamba	1.1	0.0	100.0	.	.	.	100.0	.	.	100.0
MCPA amine	2563.9	6.5	99.8	0.2	.	.	89.6	10.4	9.0	91.0
MCPA ester	1019.2	2.6	100.0	0.0	.	.	91.7	8.3	4.2	95.8
Metolachlor	41.9	0.1	100.0	.	.	.	87.4	12.6	.	100.0
Metribuzin	32.7	0.1	94.8	5.2	.	.	94.3	5.7	.	100.0
Metsulfuron	1189.8	3.0	100.0	.	.	.	89.4	10.6	11.6	88.4
Paraquat	10.2	0.0	69.9	30.1	.	.	100.0	.	6.1	93.9
Pendimethalin	78.5	0.2	100.0	.	.	.	65.9	34.1	0.6	99.4
Picloram	180.4	0.5	88.7	9.6	1.8	.	81.6	18.4	14.0	85.9
Propachlor	3.1	0.0	100.0	.	.	.	100.0	.	85.9	14.1
Propanil + MCPA	23.5	0.1	100.0	.	.	.	83.8	16.2	9.0	91.0
Quizalofop	3.7	0.0	74.2	25.8	.	.	100.0	.	.	100.0
Sethoxydim	189.8	0.5	85.4	11.0	3.6	.	91.3	8.7	7.7	92.3
Triallate	763.4	1.9	100.0	.	.	.	90.1	9.9	2.9	97.1
Triallate + trifluralin	258.8	0.7	100.0	.	.	.	91.8	8.2	1.3	98.7
Tridiphane	8.3	0.0	100.0	.	.	.	98.0	2.0	.	100.0
Trifluralin	3808.9	9.7	99.5	0.4	0.1	0.0	94.6	5.4	2.5	97.5
Trifluralin + alachlor	8.9	0.0	100.0	.	.	.	100.0	.	100.0	.
Total	27674.7	70.4	98.0	1.5	0.3	0.2	88.9	11.1	7.3	92.7

Table 20B. Herbicide usage in North Dakota, 1984¹

Herbicides	Acres treated	Acres treated	Applicator		Method of application	
			Farm operator	Custom	Aerial	Ground
			(%)	(%)	(%)	(%)
Acifluorfen	102.6	0.2	85.9	14.1	15.5	84.5
Alachlor	188.1	0.5	88.1	11.9	7.8	92.2
Amitrole	0.6	0.0	100.0	0.0	0.0	100.0
AC 222,293 (Imazamethabenz)	1.1	0.0	15.4	84.6	0.0	100.0
Asulam	0.7	0.0	0.0	100.0	0.0	100.0
Atrazine + metolachlor	10.0	0.0	88.4	11.6	0.0	100.0
Barban	182.7	0.4	77.7	22.3	19.5	80.5
Bentazon	368.1	0.9	83.9	16.1	17.6	82.4
Bromoxynil	222.2	0.5	88.1	11.9	11.3	88.7
Bromoxynil + MCPA	710.8	1.7	83.6	16.4	17.2	82.8
Butylate + safener	26.7	0.0	96.7	3.3	1.0	99.0
Chloramben	53.5	0.1	74.8	25.2	26.4	73.6
Chlorsulfuron	281.3	0.7	70.0	30.0	21.0	79.0
Cycloate	14.8	0.0	82.7	17.3	0.0	100.0
Cyanazine	214.1	0.5	80.4	19.6	13.0	87.0
Dalapon	42.1	0.0	94.5	5.5	3.9	96.1
Desmedipham	17.9	0.0	100.0	0.0	7.7	92.3
Desmedipham + phenmed.	72.2	0.2	95.2	4.8	8.3	91.7
Diallate	136.8	0.3	83.7	16.3	5.3	94.7
Dicamba	1469.4	3.6	88.3	11.7	6.3	93.7
Diclofop	655.7	1.6	81.0	19.0	15.2	84.8
Diethatyl	13.5	0.0	100.0	0.0	0.0	100.0
Difenzoquat	245.1	0.6	84.1	15.9	12.9	87.1
Dinoseb	2.8	0.0	74.3	25.7	25.7	74.3
Dinoseb amine salt	1.3	0.0	24.2	75.8	75.8	24.2
Endothall	9.4	0.0	95.3	4.7	4.7	95.3
EPTC	175.1	0.4	90.5	9.5	4.3	95.7
EPTC + safener	232.5	0.6	90.0	10.0	4.8	95.2
Ethofumesate	8.9	0.0	100.0	0.0	0.0	100.0
Ethalfuralin	153.6	0.4	88.1	11.9	3.1	96.9
Fluazifop	25.5	0.0	77.6	22.4	14.9	85.1
Fluchloralin	1.4	0.0	0.0	100.0	0.0	100.0
Glyphosate	880.3	2.2	86.1	13.9	6.0	94.0
Linuron	2.4	0.0	100.0	0.0	0.0	100.0
MCPA	222.2	0.5	85.8	14.2	16.0	84.0
MCPA amine	1326.8	3.2	81.7	18.3	14.6	85.4
MCPA ester	512.4	1.3	90.9	9.1	7.5	92.5
Metolachlor	29.0	0.0	82.0	18.0	7.5	92.5
Metribuzin	158.7	0.4	88.9	11.1	4.2	95.8
Naptalam + dinoseb	9.2	0.0	92.1	7.9	7.9	92.1
Naptalam + 2,4-DB	2.5	0.0	65.8	34.2	56.0	44.0
Pendimethalin	233.3	0.6	89.4	10.6	5.5	94.5
Picloram	258.5	0.6	78.0	22.0	11.1	88.9
Prometone	0.8	0.0	0.0	100.0	100.0	0.0
Propachlor	0.3	0.0	100.0	0.0	0.0	100.0
Propanil	15.7	0.0	90.7	9.3	0.0	100.0
Propham	0.1	0.0	100.0	0.0	0.0	100.0
Pyrazon	4.0	0.0	100.0	0.0	0.0	100.0
Sethoxydim	50.0	0.1	86.5	13.5	10.7	89.3
TCA	7.2	0.0	100.0	0.0	0.0	100.0
Triallate	1675.3	4.1	94.8	5.2	3.1	96.9
Trifluralin	4540.6	11.1	92.2	7.8	3.6	96.4
2,4-D	548.5	1.3	77.7	22.3	16.5	83.5
2,4-D amine	5137.9	12.6	82.9	17.1	12.3	87.7
2,4-D ester	2887.8	7.1	86.4	13.6	8.5	91.5
2,4-DB	0.3	0.0	100.0	0.0	0.0	100.0
Total	24819.3	60.6	86.6	13.4	9.3	90.7

¹McMullen, M.P., A. G. Dexter, J. D. Nalewaja, W. Hamlin, and K. Davison. 1985. Pesticide Use on Major Crops in North Dakota, 1984. North Dakota State University in cooperation with North Dakota Crop and Livestock Reporting Service, Agronomy Report 3. 31p.

Table 20C. Herbicide usage in North Dakota, 1978¹

Herbicides	Acres treated	Acres treated	Applicator		Method of application	
			Farm operator	Custom	Aerial	Ground
			(1000)	(%)	(%)	(%)
Alachlor	150.2	0.5	84	16	1	99
Atrazine	61.9	0.2	78	22	6	94
Barban	624.2	1.9	71	29	24	76
Bentazon	16.9	0.0	47	53	69	31
Bromoxynil	21.2	0.1	45	55	45	55
Bromoxynil + MCPA	26.7	0.1	69	31	31	69
Chloramben	14.6	0.0	90	10	0	100
Cyanazine	127.5	0.4	75	25	4	96
Cycloate	6.0	0.0	100	0	0	100
Dalapon	48.8	0.2	61	39	23	77
Desmedipham	30.7	0.1	99	1	0	110
Diallate	72.1	0.2	97	3	2	98
Dicamba	135.2	0.4	75	25	12	88
Dicamba + MCPA	140.4	0.4	75	25	13	87
Diclofop	1.7	0.0	92	8	0	100
Diethatyl	0.1	0.0	100	0	0	100
Difenzoquat	66.9	0.2	83	17	13	87
Dinitramine	24.4	0.1	90	10	0	100
Endothall	2.9	0.0	72	28	22	78
EPTC	490.4	1.5	95	5	2	98
EPTC + R-25788	27.7	0.1	93	7	6	94
Fluchloralin	2.6	0.0	100	0	0	100
Glyphosate	9.2	0.0	41	59	0	100
Linuron	1.6	0.0	100	0	0	100
MCPA	1744.4	5.4	77	23	11	89
Metolachlor	4.9	0.0	34	66	66	34
Metribuzin	12.7	0.0	91	9	0	100
Butylate	2.7	0.0	75	25	0	100
Parquat	0.3	0.0	100	100		
Pendimethalin	7.8	0.0	17	83	95	5
Phenmedipham	8.9	0.0	100	0	0	100
Picloram	374.2	1.2	68	32	6	94
Profluralin	147.0	0.5	72	27	2	98
Propachlor	0.5	0.0	100	0	100	
Propanil	18.0	0.0	91	9	3	97
Pyrazon	15.7	0.0	91	9	0	100
TCA	23.7	0.1	79	21	12	88
Triallate	1045.9	3.2	88	12	2	97
Trifluralin	2052.5	6.3	85	15	3	97
2,4-D all	9339.1	28.9	73	27	16	90
Unknown	45.3	0.2	45	55	9	87
Total	16947.3	52.4	76	24	12	92

¹Nalewaja, J. D., A. G. Dexter, J. Buchli, W. Hamlin, and G. Kimmel. 1980. Pesticide Usage in Major North Dakota Crops. North Dakota State University in cooperation with North Dakota Crop and Livestock Reporting Service, Agronomy Report 1. 33p.

Table 21A. INSECTICIDE Usage in North Dakota, 1989.

Insecticide	Acres treated ² (1000)	Acres treated (%)	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Acephate	0.1	0.0	100.0	.	.	.	100.0	.	.	100.0
Aldicarb	12.5	0.0	100.0	.	.	.	100.0	.	.	100.0
Azinphos-methyl	0.6	0.0	100.0	.	.	.	.	100.0	100.0	.
Carbaryl	80.3	0.2	95.8	1.3	2.8	.	41.7	58.3	57.7	42.3
Carbofuran	530.4	1.3	78.8	18.1	2.6	0.5	58.5	41.5	46.5	53.5
Chlordane	0.1	0.0	.	100.0	.	.	100.0	.	.	100.0
Chlorpyrifos	71.9	0.2	97.4	2.6	.	.	72.7	27.3	25.1	74.9
Dimethoate	14.2	0.0	100.0	.	.	.	91.1	8.9	5.6	94.4
Disulfoton	4.1	0.0	100.0	.	.	.	.	100.0	100.0	.
Encapsulated methyl parathion	12.6	0.0	88.9	11.1	.	.	45.5	54.5	54.5	45.5
Endosulfan	33.7	0.1	56.5	43.5	.	.	100.0	.	.	100.0
Esfenvalerate	261.4	0.7	75.5	15.1	1.6	7.7	55.9	44.1	45.2	54.8
Ethyl parathion	348.1	0.9	81.1	18.9	.	.	8.7	91.3	95.1	4.9
Fenvalerate	280.4	0.7	73.8	24.4	1.8	.	48.7	51.3	59.3	40.7
Fonofos	1.9	0.0	100.0	.	.	.	79.7	20.3	20.3	79.7
Malathion	101.4	0.3	67.7	32.3	.	.	27.8	72.2	71.9	28.1
Methidathion	1.6	0.0	100.0	.	.	.	.	100.0	100.0	.
Methyl parathion	197.9	0.5	76.9	11.5	11.6	.	4.4	95.6	99.1	0.9
Oxamyl	2.5	0.0	100.0	.	.	.	100.0	.	.	100.0
Phorate	68.8	0.2	100.0	.	.	.	100.0	.	2.4	97.6
Phosphamidon	68.3	0.2	84.2	15.8	.	.	87.6	12.4	12.4	87.6
Pyrethroid	4.4	0.0	100.0	.	.	.	64.8	35.2	64.8	35.2
Terbufos	132.1	0.3	98.9	1.1	.	.	94.9	5.1	.	100.0
Trichlorafon	4.4	0.0	100.0	.	.	.	.	100.0	100.0	.
Total	2233.7	5.7	80.8	16.0	2.2	1.0	48.0	52.0	54.9	45.1

Table 21B. Insecticide usage in North Dakota, 1984¹

Insecticide	Acres treated (1000)	Acres treated (%)	Applicator		Method of application	
			Farm operator (%)	Custom (%)	Aerial (%)	Ground (%)
Acephate	30.8	0.0	51.8	45.2	45.5	54.5
Aldicarb	9.7	0.0	67.2	32.8	7.7	92.3
Carbaryl	78.4	0.2	71.4	28.6	28.6	71.4
Carbofuran	419.7	1.0	57.0	43.0	42.6	57.4
Chlorpyrifos	43.1	0.1	91.7	8.3	7.7	92.3
Diazinon	6.4	0.0	5.8	94.2	94.2	5.8
Dimethoate	0.4	0.0	0.0	100.00	100.0	0.0
Dioxathion	1.2	0.0	5.9	94.1	94.1	5.9
Disulfoton	0.5	0.0	100.0	0.0	0.0	100.0
Endosulfan	3.6	0.0	35.7	64.3	64.3	35.7
Fenvalerate	1414.1	3.5	37.2	62.8	64.0	36.0
Fonofos	7.7	0.0	91.0	9.0	9.0	91.0
Lindane	27.7	0.0	100.0	0.0	0.0	100.0
Malathion	101.9	0.2	18.1	81.9	85.5	14.5
Methidathion	6.5	0.0	0.0	100.0	100.0	0.0
Methoxychlor	0.4	0.0	100.0	0.0	0.0	100.0
Methyl Parathion	14.5	0.0	9.1	90.9	90.9	9.1
Monocrotophos	9.5	0.0	79.4	20.6	20.6	79.4
Naled	0.3	0.0	100.0	0.0	0.0	100.0
Oxamyl	1.8	0.0	100.0	0.0	0.0	100.0
Parathion	504.8	1.2	4.5	95.5	92.1	7.9
Permethrin	24.6	0.0	89.5	10.5	10.5	89.5
Phorate	55.9	0.1	97.9	2.1	2.1	97.9
Phosphamidon	31.0	0.0	95.8	4.2	4.2	95.8
Terbufos	74.6	0.2	98.9	1.1	1.1	98.9
Toxaphene	10.4	0.0	57.2	42.8	42.8	57.2
Trichlorfon	0.7	0.0	100.0	0.0	0.0	100.0
Total	2880.2	7.0	41.1	58.9	58.8	41.2

¹McMullen, M. P., A. G. Dexter, J. D. Nalewaja, W. Hamlin, and K. Davison. 1985. Pesticide Use on Major Crops in North Dakota, 1984. North Dakota State University in cooperation with North Dakota Crop and Livestock Reporting Service, Agronomy Report 3. 31p.

Table 21C. Insecticide usage in North Dakota, 1978¹

Insecticide	Acres treated (1000)	Acres treated (%)	Applicator		Method of application	
			Farm operator	Custom	Aerial	Ground
			(%)	(%)	(%)	(%)
Aldicarb	31.3	0.1	99	1	0	100
Azinphos-methyl	72.8	0.2	97	3	12	88
Carbaryl	4.6	0.0	83	17	11	89
Carbofuran	12.4	0.0	100	0	0	100
Chlordane	4.9	0.0	100	0	0	100
Diazinon	2.5	0.0	100	0	0	100
Disulfoton	21.3	0.0	100	0	0	100
Endosulfan	11.1	0.0	90	10	58	42
Ethoprop	1.4	0.0	100	0	0	0
Fonofos	17.7	0.0	98	2	0	94
Methamidophos	0.7	0.0	100	0	0	100
Monocrotophos	15.1	0.0	100	0	0	100
Methyl parathion	17.7	0.0	55	45	67	33
Methyl parathion (encap.)	1.0	0.0	0	100	100	0
Malathion	6.3	0.0	12	88	47	30
Methidathion	9.9	0.0	40	60	60	40
Naled	0.4	0.0	100	100	0	0
Phorate	30.6	0.0	96	4	2	98
Phosphamidon	9.1	0.0	71	29	29	71
Terbufos	24.6	0.0	100	0	0	100
Trichlorfon	0.2	0.0	100	0	0	100
Toxaphene	65.1	0.2	50	50	49	50
Unknown	4.9	0.0	63	37	37	63
Total	365.6	1.1	83	17	21	79

¹Nalewaja, J.D., A. G. Dexter, J. Buchli, W. Hamlin, and G. Kimmet. 1980. Pesticide Usage in Major North Dakota Crops. North Dakota State University in cooperation with North Dakota Crop and Livestock Reporting Service, Agronomy Report 1. 33p.

Table 22A. FUNGICIDE Usage in North Dakota, 1989.

Fungicide	Acres treated ² (1000)	Acres treated (%)	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Benomyl	4.1	0.0	3.4	96.6	.	.	100.0	.	.	100.0
Mancozeb	165.5	0.4	47.5	7.7	36.6	8.2	45.5	54.5	57.1	42.9
Maneb	7.7	0.0	100.0	.	.	.	39.0	61.0	61.0	39.0
Maneb + zinc	35.6	0.1	22.2	77.8	.	.	50.3	49.7	49.7	50.3
Metiram + maneb	24.0	0.1	14.2	27.7	58.0	.	37.5	62.5	62.5	37.5
Propiconazole	162.7	0.4	99.0	1.0	.	.	15.3	84.7	86.8	13.2
Sulfur	3.9	0.0	.	100.0	.	.	100.0	.	.	100.0
Sulfur + copper	2.8	0.0	100.0	.	.	.	100.0	.	.	100.0
Thiabendazole	3.4	0.0	100.0	.	.	.	100.0	.	.	100.0
Triphenyltin hydroxide	172.6	0.4	25.6	46.8	24.5	3.2	72.9	27.1	25.9	74.1
Total	581.5	1.5	53.1	23.6	20.1	3.3	46.4	53.6	54.6	45.4

Table 22B. Fungicide usage in North Dakota, 1984¹

Fungicides	Acres treated (1000)	Acres treated (%)	Applicator		Method of application	
			Farm operator	Custom	Aerial	Ground
			(%)	(%)	(%)	(%)
Benomyl	1.2	0.0	0.0	100.0	100.0	0.0
Copper	3.5	0.0	78.9	21.1	21.1	78.9
Mancozeb	186.4	0.5	16.1	83.9	82.5	17.5
Maneb	57.9	0.1	61.2	38.8	38.8	61.2
Maneb + zinc	117.8	0.2	43.7	56.3	55.8	44.2
Metiram + maneb	16.5	0.0	88.8	11.2	11.2	88.8
Sulfar	2.7	0.0	0.0	100.0	0.0	100.0
Thiabendazole	5.7	0.0	58.5	41.5	41.5	58.5
Triadimefon	0.3	0.0	0.0	100.0	100.0	0.0
Triphenyltin Hydroxide	113.5	0.3	36.5	63.5	65.9	34.1
Total	505.5	1.2	35.5	64.5	64.1	35.9

¹McMullen, M. P., A. G. Dexter, J. D. Nalewaja, W. Hamlin, and K. Davison. 1985. Pesticide Use on Major Crops in North Dakota, 1984. North Dakota State University in cooperation with North Dakota Crop and Livestock Reporting Service, Agronomy Report 3. 31p.

Table 22C. Fungicide usage in North Dakota, 1978¹

Fungicides	Acres treated (1000)	Acres treated (%)	Applicator		Method of application	
			Farm operator	Custom	Aerial	Ground
			(%)	(%)	(%)	(%)
Benomyl	1.7	0.0	0	100	100	0
Captafol	5.0	0.0	100	0	0	100
Chlorothalonil	4.2	0.0	90	10	10	90
Copper hydroxide	2.9	0.0	0	100	100	0
Mancozeb	45.9	0.1	68	32	32	68
Maneb	15.1	0.0	50	50	100	0
Manzate 200	0.4	0.0	0	100	100	0
Thiabendazole	25.6	0.1	82	18	22	78
Zineb	3.0	0.0	100	0	0	100
Total	103.8	0.3	69	31	39	61

¹Nalewaja, J. D., A. G. Dexter, J. Buchli, W. Hamlin, and G. Kimmet. 1980. Pesticide Usage in Major North Dakota Crops. North Dakota State University in cooperation with North Dakota Crop and Livestock Reporting Service, Agronomy Report 1. 33p.

Table 23A. DESICCANT Usage in North Dakota, 1989.

Desiccant	Acres treated ² (1000)	Acres treated (%)	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Diquat	12.9	0.0	100.0	.	.	.	21.9	78.1	34.3	65.7
Sodium chlorate	6.3	0.0	73.2	26.8	.	.	.	100.0	89.8	10.2
Sulfuric acid	4.1	0.0	100.0	.	.	.	5.6	94.4	.	100.0
Total	23.3	0.1	92.7	7.3	.	.	13.1	86.9	43.4	56.6

Table 23B. Other chemical usage in North Dakota, 1984¹

Other chemicals	Acres treated (1000)	Acres treated (%)	Applicator		Method of application	
			Farm operator	Custom	Aerial	Ground
			(%)	(%)	(%)	(%)
Dinoseb	32.5	0.0	37.7	62.3	57.1	42.9
Diquat	25.7	0.0	82.6	17.4	17.4	82.6
Paraquat	8.7	0.0	46.9	53.1	93.4	6.6
Sodium chlorate	2.4	0.0	0.0	100.0	100.0	0.0
Sulfuric acid	1.7	0.0	0.0	100.0	85.7	14.3
Total	71.0	0.2	53.3	46.7	48.1	51.9

¹McMullen, M. P., A. G. Dexter, J. d. Nalewaja, W. Hamlin, and K. Davison. 1985. Pesticide Use on Major Crops in North Dakota, 1984. North Dakota State University in cooperation with North Dakota Crop and Livestock Reporting Service, Agronomy Report 3. 31p.

Table 23C. Desiccants, bird repellents, and growth regulator usage in North Dakota 1978¹

Other chemicals	Acres treated (1000)	Acres treated (%)	Applicator		Method of application	
			Farm operator	Custom	Aerial	Ground
			(%)	(%)	(%)	(%)
Dinoseb	27.7	0.1	30	70	57	43
Parquat	50.8	0.2	19	81	51	48
Sodium chlorate	0.8	0.0	0	100	100	0
Sulfuric acid	3.8	0.0	0	100	0	100
4-AP	1.5	0.0	0	100	100	0
30% Maleic hydrazide	27.8	0.1	98	2	4	96
2,4-D ester	6.9	0.0	100	0	0	100
Total	119.3	0.4	44	56	38	62

¹Nalewaja, J. D., A. G. Dexter, J. Buchli, W. Hamlin, and G. Kimmet. 1980. Pesticide Usage in Major North Dakota Crops. North Dakota State University in cooperation with North Dakota Crop and Livestock Reporting Service, Agronomy Report 1. 33p.

APPENDIX A.

North Dakota



Agricultural
Statistics
Service

P O Box 3166
Fargo, North Dakota 58108-3166
Telephone: (701) 239-5306

U.S. Department of Agriculture
National Agricultural
Statistics Service

Cooperating with

North Dakota State University
Agricultural Experiment Station
and Extension Service
January 1990

1989 PESTICIDE USE SURVEY

Dear North Dakota Farm Operator:

Your Help is Needed! Please take the time to complete and return this 1989 Pesticide Use Survey. Individual reports will be kept confidential.

Recent public concern about pesticides and the potential risks associated with pesticide use is resulting in increased regulation and fewer pesticides. Accurate information on acreage treated with specific pesticides can be used to develop risk-benefit analyses and to identify gaps in available pest controls. Such information can support the continued registration of pesticides and encourage the development of new pesticides or alternative pest control methods.

A survey conducted in 1984 was used to lower Environmental Protection Agency (EPA) estimates about the extent of pesticides used on various crops in North Dakota. The 1984 survey also was used successfully to encourage EPA to reevaluate the burdensome proposed requirements for a mixing pad for 2,4-D.

Accurate information on current pesticide use in North Dakota is needed. Your participation in completing this survey will help to ensure that the pesticides you use are not needlessly lost. Thank you.

Sincerely,

William H. Pietsch
Director
N.D.S.U. Extension Service

Steven D. Wiyatt
State Statistician
N.D. Agricultural Statistics Service

I. ACREAGE AND TREATMENTS BY CROP

REPORT FOR THE FARM YOU OPERATE (Include Land Rented from Others, Exclude Land Rented Out).							
1989 CROP	TOTAL ACRES PLANTED	ACRES PLANTED WITH TREATED SEED (Exclude inoculants)		How many acres were treated for: (Include 1988 applications for 1989 crop. Exclude seed treatment).			
		TOTAL	W/on Farm Treated Seed	WEED CONTROL (Herbicides)	INSECT CONTROL (Insecticides)	DISEASE CONTROL (Fungicides)	DESICCANTS VINE KILLERS
WHEAT (Durum, other spg., winter)	001	002	003	004	005	006	007
BARLEY	008	009	010	011	012	013	014
OATS	015	016	017	018	019	020	021
FLAX	022	023	024	025	026	027	028
CORN	029	030	031	032	033	034	035
SUNFLOWER	036	037	038	039	040	041	042
SOYBEANS	043	044	045	046	047	048	049
POTATOES	050	051	052	053	054	055	056
SUGARBEETS	057	058	059	060	061	062	063
DRY BEANS	064	065	066	067	068	069	070
ALFALFA HAY	071	072	073	074	075	076	077
OTHER HAY	078	079	080	081	082	083	084
CRP	085	086	087	088	089	090	091
FALLOW and SET ASIDE (ACR)	092	093	094	095	096	097	098
PASTURE & RANGE	099	100	101	102	103	104	105
TOTAL ACRES OPERATED	106						

II. FARM TREATED SEED - for 1989 crop (Please report for seed that was treated on your farm and used on your operation, excluding inoculants. Include on farm custom and self applied treatment).

PRODUCT USED TO TREAT (Refer to enclosed list)	OFFICE USE	ACRES SEEDED W/THIS SEED	METHOD 1 = Drill Box 2 = Auger 3 = Other	PRODUCT USED TO TREAT (Refer to enclosed list)	OFFICE USE	ACRES SEEDED W/THIS SEED	METHOD 1 = Drill Box 2 = Auger 3 = Other
WHEAT (All) SEED	110	111	112	FLAX SEED	170	171	172
	113	114	115		173	174	175
	116	117	118		SOYBEAN SEED	190	191	192
119	120	121	193	194		195	
BARLEY SEED	130	131	132	POTATO SEED		210	211	212
	133	134	135		213	214	215
	136	137	138		216	217	218
OAT SEED	150	151	152	OTHER SEED	230	231	232
	153	154	155		233	234	235

III. USAGE OF INDIVIDUAL PESTICIDES ON 1989 CROPS - Include applications after Sept. 1, 1988 on crops for 1989 harvest.
 (Please report below the acres treated with each individual chemical during 1989 by crop and or land use. If pesticides were applied in combination, report each separately. Exclude seed treatment and inoculants.)

NAME OF PESTICIDE USED <small>(Please list chemical used. If necessary refer to enclosed list.)</small>	OFFICE USE	ACRES TREATED	No. Of Applications	APPLICATOR		METHOD	NAME OF PESTICIDE USED <small>(Please list chemical used. If necessary refer to enclosed list.)</small>	OFFICE USE	ACRES TREATED	No. Of Applications	APPLICATOR		METHOD
				1	2						1	2	
				S	C	A					S	C	A
				E	U	E					E	U	E
				L	S	R					L	S	R
				F	T	I					F	T	I
				O	M	A					O	M	A
				M		L					M		L
						N							N
						D							D
(Example) <i>Avenge</i>		500	1	2	1		(Example) <i>Var-90</i>		200	1	1	2	
WHEAT (Durum, other spring, winter)						BARLEY							
	250	251	252	253	254		300	301	302	303	304		
	255	256	257	258	259		305	306	307	308	309		
	260	261	262	263	264		310	311	312	313	314		
	265	266	267	268	269		315	316	317	318	319		
	270	271	272	273	274		320	321	322	323	324		
	275	276	277	278	279		325	326	327	328	329		
OATS						FLAX							
	350	351	352	353	354		400	401	402	403	404		
	355	356	357	358	359		405	406	407	408	409		
	360	361	362	363	364		410	411	412	413	414		
	365	366	367	368	369		415	416	417	418	419		
CORN						SUNFLOWER							
	450	451	452	453	454		500	501	502	503	504		
	455	456	457	458	459		505	506	507	508	509		
	460	461	462	463	464		510	511	512	513	514		
	465	466	467	468	469		515	516	517	518	519		
	470	471	472	473	474		520	521	522	523	524		
SOYBEANS						DRY BEANS							
	550	551	552	553	554		600	601	602	603	604		
	555	556	557	558	559		605	606	607	608	609		
	560	561	562	563	564		610	611	612	613	614		
	565	566	567	568	569		615	616	617	618	619		
	570	571	572	573	574		620	621	622	623	624		
POTATOES						SUGARBEETS							
	650	651	652	653	654		700	701	702	703	704		
	655	656	657	658	659		705	706	707	708	709		
	660	661	662	663	664		710	711	712	713	714		
	665	666	667	668	669		715	716	717	718	719		
	670	671	672	673	674		720	721	722	723	724		
	675	676	677	678	679		725	726	727	728	729		
ALFALFA HAY						OTHER HAY							
	750	751	752	753	754		800	801	802	803	804		
	755	756	757	758	759		805	806	807	808	809		
CRP						FALLOW, SET ASIDE (ACR)							
	850	851	852	853	854		900	901	902	903	904		
	855	856	857	858	859		905	906	907	908	909		
PASTURE													
	950	951	952	953	954								

COMMENTS: _____

THANK YOU!

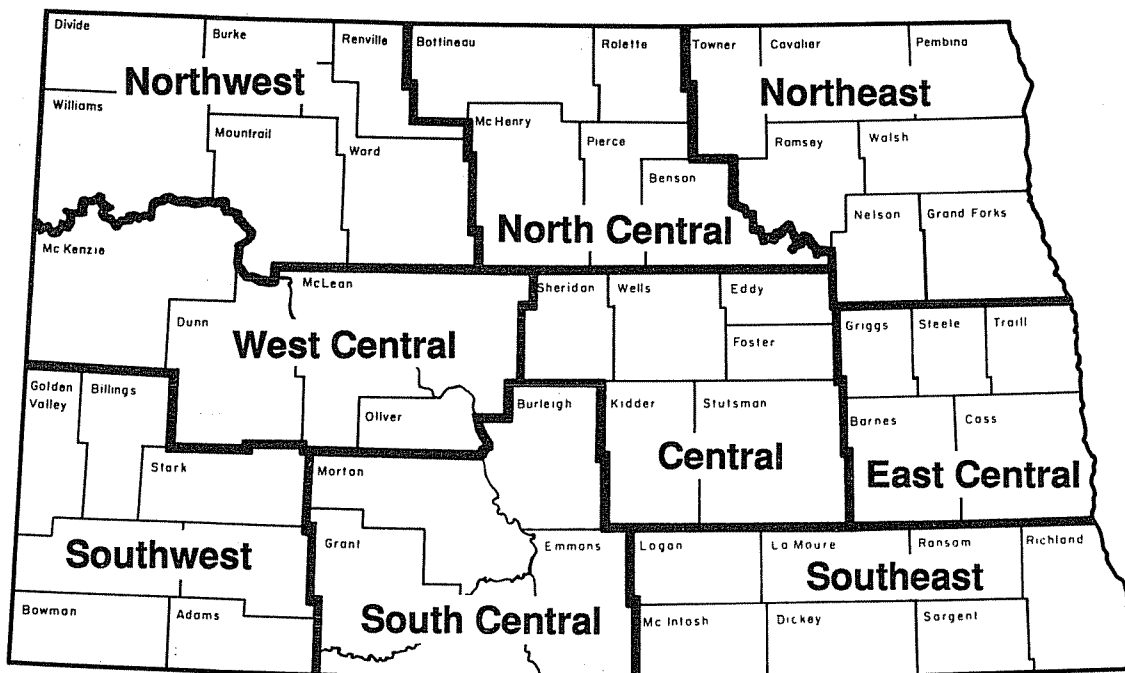
Reported By _____

Phone _____

Date _____

APPENDIX B.

North Dakota Agricultural Statistics Districts



APPENDIX C.

TRADE AND COMMON NAMES OF PESTICIDES

HERBICIDES

TRADE NAME	COMMON NAME	TRADE NAME	COMMON NAME	TRADE NAME	COMMON NAME
Ally	Metsulfuron	Genep	EPTC	Sutazine +	Butylate + Safener + Atrazine
Amiben	Chloramben	Glean	Chlorsulfuron	Tackle	Acifluorfen
Amitrole T	Amitrole	Gramoxone	Paraquat	Tandem	Tridiphane
Antor	Diethatyl	Super		Tiller	Fenoxaprop + MCPA + 2,4-D
Assert	Imazamethabenz	Harmony	DPX-M6316	Tordon 22K	Picloram
Assure	Quizalofop	Herbicide 273	Endothall	Treflan	Trifluralin
Atrazine	Atrazine	Hoelon	Diclofop	Turbo	Metribuzin + Metholachlor
Avadex	Diallate	Krenite	Fosamine	2,4-D	2,4-D
Avenge	Difenzoquat	Laddok	Bentazon + Atrazine	Agasco 400	
Balan	Benefin	Landmaster	Glyphosate + 2,4-D BW	Cenex BE4	
Banvel	Dicamba	Landmaster II	Glyphosate + 2,4-D	Cenex BE6	
Basagran	Bentazon	Lariat	Alachlor + Atrazine	Cenex LV4	
Betamix	Desmedipham + Phenmedipham	Lasso	Alachlor	Cenex LV6	
Betanex	Desmedipham	Lexone	Metribuzin	Cenex 40A	
Bicep	Atrazine + Metolachlor	Lorox	Linuron	Clean Crop 2,4-D amine	
Bladex	Cyanazine	MCPA	MCPA	Clean Crop 2,4-D ester	
Blazer	Acifluorfen	Agasco MXL		Esteron 99	
Bronate	Bromoxynil + MCPA	Cenex MCPA		Formula 40	
Bronco	Alachlor + Glyphosate	Cenex MCPA		Riverside 2,4-D amine	
Buckle	Triallate + Trifluralin	Clean Crop MCP amine		Riverside LV4	
Buctril	Bromoxynil	Clean Crop MCP ester		See 2,4-D, LV4	
Butyrac Ester & 200	2,4-DB	Rhomene		Weedar Emulsamine	
Butoxone	2,4-DB	Rhonox		Weedar 64	
Carbyne 2EC	Barban	Riverside MCP amine		Weedone LV4	
Cobra	Lactofen	Riverside MCP ester		Weedone LV6	
Command	Clomazone	Weedar Sodium MCPA		Weedmaster	Dicamba + 2,4-D
Commence	Trifluralin + Clomazone	Marksman	Dicamba + Atrazine	Whip	Fenoxaprop
Conquest	Cyanazine + Atrazine	Nortron	Ethofumesate		
Crossbow	Triclopyr + 2,4-D	One Shot	Diclofop + Bromoxynil + MCPA		
Curtail	Clopyralid + 2,4-D	Pinnacle	DPX-M6316		
Cyclone	Paraquat	Poast	Sethoxydim		
Cytrol	Amitrole	Princep	Simazine		
Diquat	Diquat	Prowl	Pendimethalin		
Dual	Metolachlor	Prozine	Pendimethalin + Atrazine		
Eptam	EPTC	Pyramin	Pyrazon		
Eradicane	EPTC + Safener	Ramrod	Propachlor		
Eradicane Extra	EPTC + Safener + Extender	Rescue	Naptalam + 2,4-DB		
Evik	Ametryn	Ro-Neet	Cycloate		
Extrazine	Cyanazine + Atrazine	Roundup	Glyphosate		
Extrazine II	Cyanazine + Atrazine	Salute	Trifluralin + Metribuzin		
Fallow Master	Glyphosate + Dicamba	Sencor	Metribuzin		
Far-Go	Triallate	Showdown	Triallate		
Fusilade 2000	Fluazifop-P	Sonalan	Ethalfluralin		
Galaxy	Acifluorfen + Bentazon	Stampede CM	Propanil + MCPA		
Genate	Butylate + Safener	Stinger	Clopyralid		
		Sutan +	Butylate + Safener		

DESICCANTS

TRADE NAME	COMMON NAME
Defol	Sodium chlorate
Des-i-cate	Endothall
Diquat	Diquat
Gramoxone Super	Paraquat
Leafex	Sodium chlorate
Sulfuric acid	Sulfuric acid

INSECTICIDES

TRADE NAME	COMMONNAME
Ambush	Permethrin
Asana	Esfenvalerate
Counter	Terbufos
Dimecron	Phosphamidon
Di-Syston	Disulfoton
Dyfonate	Fonofos
Dylox	Trichlorfon
Furadan	Carbofuran
Guthion	Azinphos-methyl
Lorsban	Chlorpyrifos
Malathion	Malathion
Marlate	Methoxychlor
Methyl Parathion	Methyl parathion
Mocap	Ethorpor
NOLO™ Bait	Nosema locustae fungus
Orthene	Acephate
Parathion	Ethyl parathion
Pennacp M	Encapsulated methyl parathion
Pounce	Permethrin
Pydrin	Fenvalerate
Sevin	Carbaryl
Supracide	Methidathion
Temik	Aldicarb
Thimet	Phorate
Thiodan	Endosulfan
Vydate	Oxamyl

FOLIAR FUNGICIDES

TRADE NAME	COMMONNAME
Bayleton	Triadimefon
Benlate	Benomyl
Blite Out	Metiram + Maneb
Blitex	Maneb
Blitex Flowable	Maneb + Triphenyltin hydroxide
Bravo	Chlorothalonil
Champ	Copper
Champion	Copper
Dithane	Mancozeb
Du-Ter	Triphenyltin hydroxide
Flo-Tin	Triphenyltin hydroxide
Kocide	Copper
Maneb Plus Zinc F4	Maneb + Zinc
Maneb	Maneb
Manex II	Mancozeb
Manzate	Mancozeb
Mertect	Thiabendazole
MN Flowable	Maneb + Zinc
Penncozeb	Mancozeb
Pro-Tex	Maneb + Triphenyltin hydroxide
Ridomil/Bravo	Methalaxyl + Chlorothalonil
Ridomil MZ58	Methalaxyl + Mancozeb
Rovral	Iprodione
Super Six	Sulfur
Super Tin	Triphenyltin hydroxide
That Flowable	Sulfur
Thiolux	Sulfur
Tilt	Propiconazole
TN-IV	Triphenyltin hydroxide
Top Cop W Sulfur	Sulfur + Copper
Topsin	Thiophanate methyl
Triple Tin	Triphenyltin hydroxide

SEED TREATMENT PRODUCTS
(Fungicides, Insecticides, or Fungicide + Insecticide Combinations)

TRADE NAME	COMMONNAME
Agri-Strep	Streptomycin
Agrosol	Captan + Thiabendazole
Agrosol Flowable	Captan + Thiabendazole
Agrosol Pour-On	Thiram + Thiabendazole
Agrosol T	Thiram + Thiabendazole
Agrox D-L Plus	Captan + Diazinon + Lindane
Apron	Metalaxyl
Apron-Terraclor	Metalaxyl + PCNB
Benlate	Benomyl
Captan	Captan
DB Green	Maneb + Lindane
Dithane	Mancozeb
Double R	Imazalil
Drill Box G	Maneb + Lindane
Dustret	Zineb + Streptomycin + Bark
Dustret A	Maneb + Streptomycin + Bark
Dustret T	Thiophanate methyl
Enhance	Carboxin + Captan + Lindane
Enhance Plus	Carboxin + Maneb + Lindane
Flo-Pro IMZ	Imazalil
Gammasan	Captan + Lindane
Germate Plus	Carboxin + Diazinon + Lindane
Green Top	Maneb + Lindane
Granol NM	Maneb + Lindane
Granol Plus Flowable	Maneb + Thiabendazole + Lindane
Granox Plus	Maneb + Thiabendazole
Lindane	Lindane
Mancozeb 8%	Mancozeb
Maneb	Maneb
Maneb-Lindane	Maneb + Lindane
Manex II	Mancozeb
Manzate	Mancozeb

SEED TREATMENT PRODUCTS__

(Fungicides, Insecticides, or Fungicide
+ Insecticide Combinations)

TRADE NAME	COMMON NAME
Mertect	Thiabendazole
Nu-Gro	Carboxin + Captan
Nusan	TCMTB
Nuzone	Imazalil
PCNB Seed Coat	PCNB
Polyram	Metiram
RTU-PCNB	PCNB
Seed Mate	Carboxin + Captan
Spud Bark	Mancozeb
Spud Bark Potato Seed Treater	Zineb + Douglas fir bark
Terra Coat	PCNB
Tops 2,5D	Thiophanate methyl
Trinox LX	Maneb + Lindane
Triple Noctin	Thiram
Vitavax	Carboxin
Vitavax 200	Carboxin + Thiram
Vitavax Pour-On	Carboxin + Thiram
VML	Vitavax + Maneb + Lindane
YEA	Yield Enhancing Agent, Chitin
Zineb	Zineb

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