

Table 10. SOYBEAN: Herbicide, insecticide and fungicide usage and application methods, North Dakota, 1984.

Pesticides	Acres of soybeans treated ²		Applications				Applicator		Method of Application	
			1	2	3	4 or more	Farm operator	Custom	Aerial	Ground
	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
HERBICIDES¹										
Acifluorfen	49.4	6.6	98.8	1.2	0.0	0.0	77.6	22.4	20.1	79.9
Alachlor	6.4	0.8	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
AC 222,293	0.9	0.1	100.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
Atrazine	0.3	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
Barban	5.8	0.8	100.0	0.0	0.0	0.0	11.8	88.2	88.2	11.8
Bentazon	305.2	40.7	90.7	9.3	0.0	0.0	83.0	17.0	19.1	80.9
Chloramben	26.7	3.6	87.3	12.7	0.0	0.0	96.9	3.1	3.1	96.9
Cyanazine	1.8	0.2	100.0	0.0	0.0	0.0	12.5	87.5	87.5	12.5
Diallate	54.4	7.3	91.9	8.1	0.0	0.0	77.0	23.0	0.0	100.0
Dicamba	5.9	0.8	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Diclofop	17.7	2.4	100.0	0.0	0.0	0.0	46.4	53.6	52.0	48.0
EPTC	7.2	1.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
EPTC plus Safener	1.9	0.3	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Ethalfuralin	74.8	10.0	94.4	5.6	0.0	0.0	84.2	15.8	2.6	97.4
Fluazifop	11.0	1.5	100.0	0.0	0.0	0.0	61.2	38.8	27.2	72.8
Glyphosate	2.0	0.3	100.0	0.0	0.0	0.0	89.5	10.5	10.5	89.5
MCPA amine	1.1	0.1	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Metolachlor	9.8	1.3	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Metribuzin	153.0	20.4	100.0	0.0	0.0	0.0	90.0	10.0	2.5	97.5
Naptalam & Dinoseb	9.2	1.2	74.3	25.7	0.0	0.0	92.1	7.9	7.9	92.1
Naptalam & 2,4-DB	1.7	0.2	100.0	0.0	0.0	0.0	54.5	45.5	74.5	25.5
Pendimethalin	20.2	2.7	100.0	0.0	0.0	0.0	97.8	2.2	0.0	100.0
Prometone	0.8	0.1	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Sethoxydim	15.8	2.1	98.7	1.3	0.0	0.0	77.9	22.1	18.8	81.2
Triallate	85.2	11.4	100.0	0.0	0.0	0.0	95.6	4.4	2.6	97.4
Trifluralin	553.1	73.7	99.0	1.0	0.0	0.0	90.9	9.1	2.5	97.5
All Herbicides	1421.4	189.5	96.5	3.5	0.0	0.0	87.1	12.9	8.1	91.9
INSECTICIDES										
Acephate	2.1	0.3	74.6	25.4	0.0	0.0	61.4	38.6	41.0	59.0
Carbaryl	0.2	.0	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Carbofuran	1.7	0.2	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Chlorpyrifos	0.7	0.1	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Dioxathion	0.1	.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Fenvalerate	2.4	0.3	96.9	3.1	0.0	0.0	8.3	91.7	91.7	8.3
Malathion	0.6	0.1	100.0	0.0	0.0	0.0	66.7	33.3	33.3	66.7
Parathion	4.1	0.5	51.8	8.0	40.2	0.0	1.6	98.4	100.0	0.0
All Insecticides	11.9	1.6	80.2	8.1	11.7	0.0	31.5	68.5	69.4	30.6
FUNGICIDES										
Maneb & Zinc	0.1	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Sulfur	2.5	0.3	100.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
All Fungicides	2.7	0.3	100.0	0.0	0.0	0.0	5.4	94.6	0.0	100.0

¹Herbicides applied as a tank mixture were considered separately unless a commercial premix was used.

²Multiple applications to the same acreage were totaled the same as individual applications to separate acreages. Thus, acres treated can exceed 100% of planted acres.

Table 11. POTATOES: Herbicide, insecticide and fungicide usage and application methods, North Dakota, 1984.

Pesticides	Acres of potatoes treated ²		Applications				Applicator		Method of Application	
			1	2	3	4 or more	Farm operator	Custom	Aerial	Ground
	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
HERBICIDES¹										
Alachlor	1.5	1.1	100.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
Diallate	6.5	4.8	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Diclofop	0.2	0.1	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
EPTC	17.4	12.8	100.0	0.0	0.0	0.0	100.0	0.0	2.6	97.4
Metribuzin	4.1	3.0	100.0	0.0	0.0	0.0	40.0	60.0	40.0	60.0
Pendimethalin	5.1	3.7	100.0	0.0	0.0	0.0	90.7	9.3	9.3	90.7
Sethoxydim	1.2	0.9	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Triallate	2.8	2.1	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Trifluralin	9.4	6.9	100.0	0.0	0.0	0.0	100.0	0.0	4.9	95.1
All Herbicides	48.2	35.4	100.0	0.0	0.0	0.0	88.5	11.5	6.6	93.4
INSECTICIDES										
Aldicarb	4.8	3.5	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Carbaryl	9.5	7.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Carbofuran	2.8	2.1	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Diazinon	1.5	1.1	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Disulfoton	0.5	0.4	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Endosulfan	2.7	2.0	0.0	0.0	100.0	0.0	0.0	100.0	100.0	0.0
Fenvalerate	106.6	78.4	3.6	16.7	78.1	1.6	77.3	22.7	19.8	80.2
Monocrotophos	7.6	5.6	37.5	62.5	0.0	0.0	100.0	0.0	0.0	100.0
Oxamyl	1.8	1.3	0.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Permethrin	23.2	17.1	1.6	49.0	49.4	0.0	88.9	11.1	11.1	88.9
Phorate	6.2	4.6	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Phosphamidon	31.0	22.8	39.5	20.3	40.2	0.0	95.8	4.2	4.2	95.8
Toxaphene	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
All Insecticides	198.1	145.7	23.6	20.1	55.4	0.9	83.8	16.2	14.7	85.3
FUNGICIDES										
Mancozeb	23.9	17.6	14.6	0.0	16.1	69.3	62.0	38.0	38.0	62.0
Maneb	37.3	27.5	0.0	17.0	17.1	65.3	100.0	0.0	0.0	100.0
Maneb & Zinc	21.2	15.6	77.7	0.0	0.0	22.3	100.0	0.0	0.0	100.0
Metiram & Maneb	16.0	11.8	0.0	9.0	88.0	2.2	91.0	9.0	9.0	91.0
Triphenyl Tin Hydroxide	24.6	18.1	36.4	44.3	19.2	0.0	92.8	7.2	7.2	92.8
All Fungicides	123.0	90.4	23.4	14.9	23.8	37.8	90.0	10.0	10.0	90.0
OTHER CHEMICALS										
Dinoseb	32.5	23.9	91.6	8.4	0.0	0.0	36.8	63.2	58.1	41.9
Diquat	25.7	18.9	89.0	11.0	0.0	0.0	82.6	17.4	17.4	82.6
Sulfuric Acid	1.7	1.2	100.0	0.0	0.0	0.0	0.0	100.0	85.7	14.3
All Other Chemicals	59.9	44.0	90.7	9.3	0.0	0.0	54.9	45.1	41.9	58.1

¹Herbicides applied as a tank mixture were considered separately unless a commercial premix was used.

²Multiple applications to the same acreage were totaled the same as individual applications to separate acreages. Thus, acres treated can exceed 100% of planted acres.

Table 12. SUGARBEETS: Herbicide, insecticide and fungicide usage and application methods, North Dakota, 1984.

Pesticides	Acres of sugarbeets treated ²		Applications				Applicator		Method of Application	
							Farm			
			(1000)	(%)	1	2	3	4 or more	operator	Custom
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
HERBICIDES¹										
Barban	8.4	6.0	89.7	0.0	0.0	10.3	58.9	41.1	41.1	58.9
Bentazon	0.9	0.7	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Bromoxynil	1.2	0.8	0.0	100.0	0.0	0.0	100.0	0.0	100.0	0.0
Cycloate	14.8	10.6	100.0	0.0	0.0	0.0	82.7	17.3	0.0	100.0
Dalapon	10.1	7.2	93.1	6.9	0.0	0.0	100.0	0.0	5.3	94.7
Desmedipham	17.2	12.3	68.7	10.9	0.0	10.5	100.0	0.0	6.7	93.3
Desmedipham & Phenmed.	70.9	50.7	30.9	49.3	17.4	2.4	95.2	4.8	8.4	91.6
Diallate	44.2	31.6	100.0	0.0	0.0	0.0	81.6	18.4	11.7	88.3
Diclofop	1.5	1.1	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Diethatyl	13.5	9.7	83.7	0.0	12.4	4.0	100.0	0.0	0.0	100.0
Endothall	9.4	6.7	79.3	0.0	20.7	0.0	95.3	4.7	4.7	95.3
EPTC	37.0	26.5	100.0	0.0	0.0	0.0	84.7	15.3	1.9	98.1
Ethalfuralin	0.7	0.5	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Ethofumesate	8.9	6.4	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Fluazifop	8.9	6.4	66.3	14.8	18.9	0.0	92.4	7.6	7.6	92.4
Glyphosate	0.4	0.3	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
MCPA	0.8	0.5	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Propham	0.1	0.1	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Pyrazon	4.0	2.8	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Sethoxydim	13.6	9.7	99.2	0.8	0.0	0.0	86.7	13.3	12.4	87.6
TCA	7.2	5.1	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Triallate	6.0	4.3	100.0	0.0	0.0	0.0	92.1	7.9	0.0	100.0
Trifluralin	8.7	6.2	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
All Herbicides	288.2	206.1	78.5	14.0	5.8	1.6	90.9	9.1	7.0	93.0
INSECTICIDES										
Aldicarb	0.9	0.6	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Chlorpyrifos	30.2	21.6	95.4	0.0	4.6	0.0	94.7	5.3	7.1	92.9
Fenvalerate	0.6	0.4	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Fonofos	6.6	4.7	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Methidathion	0.5	0.4	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Methyl Parathion	0.4	0.3	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Phorate	0.3	0.2	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Terbufos	30.9	22.1	97.6	2.4	0.0	0.0	97.6	2.4	2.4	97.6
Trichlorfon	0.7	0.5	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
All Insecticides	71.0	50.8	96.9	1.0	2.1	0.0	95.5	4.5	5.3	94.7
FUNGICIDES										
Benomyl	0.4	0.3	0.0	0.0	100.0	0.0	0.0	100.0	100.0	0.0
Copper	3.5	2.5	100.0	0.0	0.0	0.0	78.9	21.1	21.1	78.9
Mancozeb	17.4	12.5	45.9	42.9	11.5	0.0	41.9	58.1	58.1	41.9
Maneb	5.7	4.1	30.6	17.3	52.0	0.0	0.0	100.0	100.0	0.0
Maneb & Zinc	5.2	3.7	23.5	19.0	57.5	0.0	62.7	37.3	37.3	62.7
Thiabendazole	5.7	4.1	0.0	80.7	19.3	0.0	58.5	41.5	41.5	58.5
Triphenyl Tin Hydroxide	86.7	62.0	22.7	31.3	37.0	9.0	26.1	73.9	76.7	23.3
All Fungicides	124.6	89.1	27.8	32.5	33.3	6.4	31.5	68.5	70.5	29.5

¹Herbicides applied as a tank mixture were considered separately unless a commercial premix was used.

²Multiple applications to the same acreage were totaled the same as individual applications to separate acreages. Thus, acres treated can exceed 100% of planted acres.

Table 13. DRY BEANS: Herbicide, insecticide and fungicide usage and application methods, North Dakota, 1984.

Pesticides	Acres of dry beans treated ²		Applications				Applicator		Method of Application	
			1	2	3	4 or more	Farm operator	Custom	Aerial	Ground
	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
HERBICIDES¹										
Acifluorfen	0.2	0.1	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Alachlor	1.1	0.5	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Bentazon	61.0	29.7	98.3	1.7	0.0	0.0	93.0	7.0	5.6	94.4
Butylate & Safener	0.5	0.2	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Chloramben	4.9	2.4	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Diallate	16.7	8.1	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Diclofop	10.6	5.2	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
EPTC	17.4	8.5	100.0	0.0	0.0	0.0	96.0	4.0	0.0	100.0
Ethalfuralin	45.0	22.0	100.0	0.0	0.0	0.0	93.5	6.5	7.2	92.8
Fluazifop	1.9	0.9	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Fluchloralin	1.4	0.7	100.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
Glyphosate	2.7	1.3	100.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
MCPA	0.6	0.3	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
MCPA amine	2.6	1.3	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Pendimethalin	1.2	0.6	100.0	0.0	0.0	0.0	91.1	8.9	0.0	100.0
Sethoxydim	3.8	1.8	100.0	0.0	0.0	0.0	85.1	14.9	0.0	100.0
Triallate	29.4	14.3	100.0	0.0	0.0	0.0	93.3	6.7	3.3	96.7
Trifluralin	123.1	60.1	100.0	0.0	0.0	0.0	93.4	6.6	1.2	98.8
All Herbicides	323.7	157.9	99.7	0.3	0.0	0.0	93.7	6.3	2.8	97.2
INSECTICIDES										
Acephate	0.1	0.1	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Fenvalerate	0.1	0.1	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Parathion	0.5	0.2	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
All Insecticides	0.7	0.34	100.0	0.0	0.0	0.0	16.1	83.9	83.9	16.1
FUNGICIDES										
Benomyl	0.8	0.4	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0
Mancozeb	8.6	4.2	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Maneb	2.4	1.2	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0
Maneb & Zinc	27.4	13.3	64.7	31.3	4.0	0.0	14.6	85.4	83.0	17.0
Metiram & Maneb	0.5	0.2	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
All Fungicides	39.5	19.3	67.9	29.2	2.9	0.0	10.5	89.5	87.8	12.2
OTHER CHEMICALS										
Sodium Chlorate	2.4	1.2	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
All Other Chemicals	2.4	1.2	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0

¹Herbicides applied as a tank mixture were considered separately unless a commercial premix was used.

²Multiple applications to the same acreage were totaled the same as individual applications to separate acreages. Thus, acres treated can exceed 100% of planted acres.

Table 14. ALFALFA: Herbicide, insecticide and fungicide usage and application methods, North Dakota, 1984.

Pesticides	Acres of alfalfa treated ²		Applications				Applicator		Method of Application	
			1	2	3	4 or more	Farm operator	Custom	Aerial	Ground
	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
HERBICIDES¹										
Dicamba	0.7	.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
EPTC	1.7	0.1	100.0	0.0	0.0	0.0	57.0	43.0	0.0	100.0
Glyphosate	1.3	0.1	70.3	29.7	0.0	0.0	100.0	0.0	0.0	100.0
Picloram	6.4	0.4	24.9	75.1	0.0	0.0	31.7	68.3	0.0	100.0
Trifluralin	1.6	0.1	100.0	0.0	0.0	0.0	64.5	35.5	35.5	64.5
2,4-D amine	1.2	0.1	66.0	34.0	0.0	0.0	100.0	0.0	0.0	100.0
2,4-D ester	0.4	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
2,4-DB	0.3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
All Herbicides	13.6	0.8	60.0	40.0	0.0	0.0	53.4	46.6	4.3	95.7
INSECTICIDES										
Acephate	1.7	0.1	100.0	0.0	0.0	0.0	81.3	18.8	18.8	81.3
Carbaryl	3.9	0.3	84.2	15.8	0.0	0.0	70.7	29.3	5.7	94.3
Carbofuran	0.4	0.0	100.0	0.0	0.0	0.0	71.4	28.6	28.6	71.4
Chlorpyrifos	1.3	0.1	100.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
Fenvalerate	0.7	0.0	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Malathion	2.7	0.2	92.5	0.0	7.5	0.0	74.6	25.4	20.9	79.1
Methyl Parathion	0.9	0.1	0.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0
Monocrotophos	0.3	0.0	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Parathion	3.9	0.3	100.0	0.0	0.0	0.0	10.5	89.5	89.5	10.5
Toxaphene	1.1	0.1	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
All Insecticides	16.9	1.1	90.3	8.5	1.3	0.0	52.8	47.2	34.1	65.9
FUNGICIDES										
Sulfur	0.2	.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
Triadimefon	0.3	.0	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
All Fungicides	0.5	.0	100.0	0.0	0.0	0.0	0.0	100.0	53.6	46.4

¹Herbicides applied as a tank mixture were considered separately unless a commercial premix was used.

²Multiple applications to the same acreage were totaled the same as individual applications to separate acreages. Thus, acres treated can exceed 100% of planted acres.

Table 15. HAY: Herbicide, insecticide and fungicide usage and application methods, North Dakota, 1984.

Pesticides	Acres of hay treated ²		Applications				Applicator		Method of Application	
							Farm	Custom	Aerial	Ground
	(1000)	(%)	1	2	3	4 or more	operator	(%)	(%)	(%)
HERBICIDES¹										
Dicamba	0.5	.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Glyphosate	0.3	.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Picloram	5.3	0.4	94.9	5.1	0.0	0.0	92.4	7.6	7.6	92.4
2,4-D amine	2.6	0.2	81.5	18.5	0.0	0.0	58.7	41.3	25.6	74.4
2,D-4 ester	2.9	0.2	100.0	0.0	0.0	0.0	58.5	41.5	0.0	100.0
All Herbicides	11.7	0.8	93.2	6.8	0.0	0.0	77.4	22.6	9.6	90.4
INSECTICIDES										
Carbaryl	0.3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Carbofuran	0.7	0.1	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Chlorpyrifos	0.7	0.1	0.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0
Malathion	1.0	0.0	100.0	0.0	0.0	0.0	13.2	86.8	86.8	13.2
Parathion	1.2	0.1	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Toxaphene	0.1	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
All Insecticides	3.9	0.3	83.1	16.9	0.0	0.0	47.3	52.7	52.7	47.3
OTHER CHEMICALS										
Paraquat	0.1	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
All Other Chemicals	0.1	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0

¹Herbicides applied as a tank mixture were considered separately unless a commercial premix was used.

²Multiple applications to the same acreage were totaled the same as individual applications to separate acreages. Thus, acres treated can exceed 100% of planted acres.

Table 16. SUMMER FALLOW: Herbicide, insecticide and fungicide usage and application methods, North Dakota, 1984.

Pesticides	Acres of summer fallow treated ²		Applications				Applicator		Method of Application	
							Farm operator	Custom	Aerial	Ground
	(1000)	(%)	1 (%)	2 (%)	3 (%)	4 or more (%)	(%)	(%)	(%)	(%)
HERBICIDES¹										
Bromoxynil	3.0	.0	.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0
Bromoxynil & MCPA	4.3	.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Chloramben	1.9	.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Chlorsulfuron	45.5	0.5	100.0	0.0	0.0	0.0	64.9	35.1	19.3	80.7
Dalapon	4.1	.0	100.0	0.0	0.0	0.0	100.0	0.0	4.2	95.8
Dicamba	330.2	3.3	85.9	7.5	6.7	0.0	90.2	9.8	3.5	96.5
Diclofop	0.1	.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Difenzoquat	1.5	.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Glyphosate	792.2	8.0	87.0	8.7	4.3	0.0	86.4	13.6	4.5	95.5
MCPA	12.4	0.1	100.0	0.0	0.0	0.0	95.0	5.0	0.0	100.0
MCPA amine	14.7	0.1	100.0	0.0	0.0	0.0	95.1	4.9	4.9	95.1
MCPA ester	7.4	0.1	100.0	0.0	0.0	0.0	91.4	8.6	0.0	100.0
Picloram	78.0	0.8	92.5	7.5	0.0	0.0	93.2	6.8	4.8	95.2
Triallate	30.2	0.3	100.0	0.0	0.0	0.0	100.0	0.0	12.9	87.1
Trifluralin	175.9	1.8	100.0	0.0	0.0	0.0	95.1	4.9	1.6	98.4
2,4-D	82.5	0.8	91.2	5.9	2.9	0.0	83.5	16.5	2.0	98.0
2,4-D amine	352.9	3.6	87.8	12.1	0.1	0.0	90.7	9.3	1.5	98.5
2,4-D ester	462.5	4.7	84.4	9.2	6.4	0.0	91.9	8.1	6.5	93.5
All Herbicides	2399.3	24.2	88.3	8.0	3.7	0.0	89.3	10.7	4.4	95.6
INSECTICIDES										
Acephate	4.5	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0
Fenvalerate	1.7	0.0	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Malathion	2.2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Parathion	1.7	0.0	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
All Insecticides	10.1	0.1	57.1	42.9	0.0	0.0	42.9	57.1	57.1	42.9
OTHER CHEMICALS										
Paraquat	2.2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
All Other Chemicals	2.2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0

¹Herbicides applied as a tank mixture were considered separately unless a commercial premix was used.

²Multiple applications to the same acreage were totaled the same as individual applications to separate acreages. Thus, acres treated can exceed 100% of planted acres.

Table 17. PASTURE AND RANGE: Herbicide, insecticide and fungicide usage and application methods, North Dakota, 1984.

Pesticides	Acres of pasture and rangeland treated ²		Applications				Applicator		Method of Application	
							Farm		Aerial	Ground
			(1000)	(%)	1	2	3	4 or more	operator	Custom
HERBICIDES¹										
Amitrole	0.6	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Bromoxynil & MCPA	0.1	0.0	83.3	16.7	0.0	0.0	100.0	0.0	0.0	100.0
Dicamba	3.0	0.0	91.0	9.0	0.0	0.0	98.5	1.5	0.0	100.0
Glyphosate	3.7	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
MCPA amine	0.2	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
MCPA ester	2.9	0.0	100.0	0.0	0.0	0.0	69.5	30.5	0.0	100.0
Picloram	67.0	0.7	94.4	5.5	0.1	0.0	79.8	20.2	16.8	83.2
Trifluralin	0.2	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
2,4-D	9.3	0.1	95.3	4.7	0.0	0.0	47.9	52.1	52.1	47.9
2,4-D amine	29.2	0.3	91.6	8.4	0.0	0.0	88.9	11.1	13.1	86.9
2,4-D ester	33.7	0.3	95.4	4.4	0.2	0.0	77.2	22.8	14.7	85.3
All Herbicides	149.7	1.5	94.4	5.6	0.1	0.0	79.8	20.2	16.7	83.3
INSECTICIDES										
Acephate	4.9	0.1	94.3	5.7	0.0	0.0	18.1	81.9	81.9	18.1
Carbaryl	2.2	0.0	100.0	0.0	0.0	0.0	54.5	45.5	45.5	54.5
Fenvalerate	1.5	0.0	48.2	51.8	0.0	0.0	0.0	100.0	100.0	0.0
Malathion	16.8	0.2	100.0	0.0	0.0	0.0	0.2	99.8	99.8	0.2
Monocrotophos	1.6	0.0	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Parathion	17.2	0.2	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Toxaphene	0.9	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
All Insecticides	45.2	0.5	97.9	2.1	0.0	0.0	5.9	94.1	94.1	5.9

¹Herbicides applied as a tank mixture were considered separately unless a commercial premix was used.

²Multiple applications to the same acreage were totaled the same as individual applications to separate acreages. Thus, acres treated can exceed 100% of planted acres.

Table 18A. Herbicide usage in North Dakota, 1984.

Herbicides	Acres treated (1000)	Applications				Applicator		Method of Application	
		1	2	3	4 or more	Farm operator	Custom	Aerial	Ground
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Acifluorfen	102.6	99.3	0.7	0.0	0.0	85.9	14.1	15.5	84.5
Alachlor	188.1	100.0	0.0	0.0	0.0	88.1	11.9	7.8	92.2
Amitrole	0.6	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
AC 222,293	1.1	100.0	0.0	0.0	0.0	15.4	84.6	0.0	100.0
Asulam	0.7	100.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
Atrazine	211.3	97.4	2.6	0.0	0.0	78.5	21.5	13.4	86.6
Atrazine & Metolachlor	10.0	100.0	0.0	0.0	0.0	88.4	11.6	0.0	100.0
Barban	182.7	96.5	2.8	0.0	0.0	77.7	22.3	19.5	80.5
Bentazon	368.1	91.6	8.4	0.0	0.0	83.9	16.1	17.6	82.4
Bromoxynil	222.2	98.5	1.5	0.0	0.0	88.1	11.9	11.3	88.7
Bromoxynil & MCPA	710.8	99.8	0.2	0.0	0.0	83.6	16.4	17.2	82.8
Butylate & Safener	26.7	100.0	0.0	0.0	0.0	96.7	3.3	1.0	99.0
Chloramben	53.5	92.7	7.3	0.0	0.0	74.8	25.2	26.4	73.6
Chlorsulfuron	281.3	100.0	0.0	0.0	0.0	70.0	30.0	21.0	79.0
Cycloate	14.8	100.0	0.0	0.0	0.0	82.7	17.3	0.0	100.0
Cyanazine	214.1	95.9	4.1	0.0	0.0	80.4	19.6	13.0	87.0
Dalapon	42.1	95.2	4.8	0.0	0.0	94.5	5.5	3.9	96.1
Desmedipham	17.9	69.3	20.4	0.0	10.2	100.0	0.0	7.7	92.3
Desmedipham & Phenmed.	72.2	31.8	48.7	17.1	2.4	95.2	4.8	8.3	91.7
Diallate	136.8	97.1	2.9	0.0	0.0	83.7	16.3	5.3	94.7
Dicamba	1469.4	98.1	1.0	0.8	0.0	88.3	11.7	6.3	93.7
Diclofop	655.7	98.4	1.6	0.0	0.0	81.0	19.0	15.2	84.8
Diethatyl	13.5	83.7	0.0	12.4	4.0	100.0	0.0	0.0	100.0
Difenzoquat	245.1	100.0	0.0	0.0	0.0	84.1	15.9	12.9	87.1
Dinoseb	2.8	100.0	0.0	0.0	0.0	74.3	25.7	25.7	74.3
Dinoseb amine salt	1.3	100.0	0.0	0.0	0.0	24.2	75.8	75.8	24.2
Endothall	9246	79.3	0.0	20.7	0.0	95.3	4.7	4.7	95.3
EPTC	175.1	97.4	2.6	0.0	0.0	90.5	9.5	4.3	95.7
EPTC & Safener	232.5	100.0	0.0	0.0	0.0	90.0	10.0	4.8	95.2
Ethofumesate	8.9	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Ethalfuralin	153.6	97.0	3.0	0.0	0.0	88.1	11.9	3.1	96.9
Fluazifop	25.5	87.0	5.7	7.3	0.0	77.6	22.4	14.9	85.1
Fluchloralin	1.4	100.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
Glyphosate	880.3	89.1	7.4	3.5	0.0	86.1	13.9	6.0	94.0
Linuron	2.4	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
MCPA	222.2	100.0	0.0	0.0	0.0	85.8	14.2	16.0	84.0
MCPA amine	1326.8	99.7	0.3	0.0	0.0	81.7	18.3	14.6	85.4
MCPA ester	512.4	99.9	0.1	0.0	0.0	90.9	9.1	7.5	92.5
Metolachlor	29.0	91.0	9.0	0.0	0.0	82.0	18.0	7.5	92.5
Metribuzin	158.7	100.0	0.0	0.0	0.0	88.9	11.1	4.2	95.8
Naptalam & Dinoseb	9.2	74.3	25.7	0.0	0.0	92.1	7.9	7.9	92.1
Naptalam & 2,4-DB	2.5	100.0	0.0	0.0	0.0	65.8	34.2	56.0	44.0
Pendimethalin	233.3	97.8	2.2	0.0	0.0	89.4	10.6	5.5	94.5
Picloram	258.5	93.3	6.7	0.0	0.0	78.0	22.0	11.1	88.9
Prometone	0.8	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Propachlor	0.3	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Propanil	15.7	100.0	0.0	0.0	0.0	90.7	9.3	0.0	100.0
Propham	0.1	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Pyrazon	4.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Sethoxydim	50.0	99.3	0.7	0.0	0.0	86.5	13.5	10.7	89.3
TCA	7.2	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Triallate	1675.3	99.3	0.7	0.0	0.0	94.8	5.2	3.1	96.9
Trifluralin	4540.6	98.7	1.3	0.0	0.0	92.2	7.8	3.6	96.4
2,4-D	548.5	97.2	2.5	0.2	0.0	77.7	22.3	16.5	83.5
2,4-D amine	5137.9	99.2	0.8	0.0	0.0	82.9	17.1	12.3	87.7
2,4-D ester	2887.8	98.0	1.4	0.6	0.0	86.4	13.6	8.5	91.5
2,4-DB	0.3	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Total	24819.3	98.0	1.6	0.3	0.0	86.6	13.4	9.3	90.7

Table 18B. Herbicide usage in North Dakota, 1978.

Herbicides	Acres treated (1000)	Treatment rate (lb/A)	Total lb. a.i. (1000)	Applicator			
				Farm		Method of Application	
				operator (%)	Custom (%)	Aerial (%)	Ground (%)
Alachlor	150.2	1.40	210.2	84	16	1	99
Atrazine	61.9	1.52	93.8	78	22	6	94
Barban	624.2	0.27	168.4	71	29	24	76
Bentazon	16.9	0.64	10.9	47	53	69	31
Bromoxynil	21.2	0.31	6.6	45	55	45	55
Bromoxynil & MCPA	26.7	0.44	11.8	69	31	31	69
Butylate	2.7	1.74	4.7	75	25	0	100
Chloramben	14.6	0.66	9.7	90	10	9	100
Cyanazine	127.5	1.26	160.3	75	25	4	96
Cycloate	6.0	1.12	6.7	100	0	0	100
Dalapon	48.8	2.43	118.4	61	39	23	77
Desmedipham	30.7	0.50	15.2	99	1	0	100
Diallate	72.1	1.45	104.5	97	3	2	98
Dicamba	135.2	0.22	30.3	75	25	12	88
Dicamba & MCPA	140.4	0.43	59.7	75	25	13	87
Diclofop	1.7	0.76	1.3	92	8	0	100
Diethatyl	0.1	1.00	0.1	100	0	0	100
Difenzoquat	66.9	0.62	41.7	83	17	13	87
Dinitramine	24.4	0.48	11.7	90	10	0	100
Endothall	2.9	0.48	1.4	72	28	22	78
EPTC	490.4	2.65	1300.0	95	5	2	98
EPTC + R-25788	27.7	3.45	95.7	93	7	6	94
Fluchloralin	2.6	0.19	0.5	100	0	0	100
Glyphosate	9.2	0.84	7.7	41	59	0	100
Linuron	1.6	1.19	1.9	100	0	0	100
MCPA all	1744.4	0.35	681.2	77	23	11	89
Metolachlor	4.9	1.10	5.4	34	66	66	34
Metribuzin	12.7	0.21	2.7	91	9	0	100
Paraquat	0.3	1.00	91.5	100	—	—	100
Pendimethalin	7.8	0.40	3.1	17	83	95	5
Phenmedipham	8.9	0.53	4.7	100	0	0	100
Picloram	374.2	0.24	24.9	68	32	6	94
Profluralin	147.0	0.78	115.0	72	27	2	98
Propachlor	0.5	—	—	100	0	0	100
Propanil	18.0	1.27	22.8	91	9	3	97
Pyrazon	15.7	2.76	43.3	91	9	0	100
TCA	23.7	2.95	69.8	79	21	12	88
Triallate	1045.9	1.01	1054.7	88	12	2	97
Trifluralin	2052.5	0.72	1487.3	85	15	3	97
2,4-D all	9339.1	0.42	3942.7	73	27	16	90
Unknown	45.3	0.25	11.3	45	55	9	87
Total	16947.3		10009.1	76	24	12	92

Table 19A. Insecticide usage in North Dakota, 1984.

Insecticides	Acres treated (1000)	Applications				Applicator		Method of Application	
		1	2	3	4 or more	Farm operator	Custom	Aerial	Ground
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Acephate	30.8	69.9	30.1	0.0	0.0	54.8	45.2	45.5	54.5
Aldicarb	9.7	100.0	0.0	0.0	0.0	67.2	32.8	7.7	92.3
Carbaryl	78.4	97.7	2.3	0.0	0.0	71.4	28.6	28.6	71.4
Carbofuran	419.7	95.6	4.3	0.1	0.0	57.0	43.0	42.6	57.4
Chlorpyrifos	43.1	95.6	0.9	3.6	0.0	91.7	8.3	7.7	92.3
Diazinon	6.4	100.0	0.0	0.0	0.0	5.8	94.2	94.2	5.8
Dimethoate	0.4	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Dioxathion	1.2	100.0	0.0	0.0	0.0	5.9	94.1	94.1	5.9
Disulfoton	0.5	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Endosulfan	3.6	35.7	0.0	64.3	0.0	35.7	64.3	64.3	35.7
Fenvalerate	1414.1	89.9	3.9	6.1	0.1	37.2	62.8	64.0	36.0
Fonofos	7.7	100.0	0.0	0.0	0.0	91.0	9.0	9.0	91.0
Lindane	27.7	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Malathion	101.9	92.3	7.4	0.3	0.0	18.1	81.9	85.5	14.5
Methidathion	6.5	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Methoxychlor	0.4	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Methyl Parathion	14.5	95.4	4.6	0.0	0.0	9.1	90.9	90.9	9.1
Monocrotophos	9.5	50.3	49.7	0.0	0.0	79.4	20.6	20.6	79.4
Naled	0.3	0.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0
Oxamyl	1.8	0.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Parathion	504.8	88.3	10.2	1.5	0.0	4.5	95.5	92.1	7.9
Permethrin	24.6	7.0	46.3	46.7	0.0	89.5	10.5	10.5	89.5
Phorate	55.9	100.0	0.0	0.0	0.0	97.9	2.1	2.1	97.9
Phosphamidon	31.0	39.5	20.3	40.2	0.0	95.8	4.2	4.2	95.8
Terbufos	74.6	98.9	1.1	0.0	0.0	98.9	1.1	1.1	98.9
Toxaphene	10.4	99.7	0.0	0.3	0.0	57.2	42.8	42.8	57.2
Trichlorfon	0.7	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Total	2880.2	90.1	5.7	4.1	0.1	41.1	58.9	58.8	41.2

Table 19B. Insecticide usage in North Dakota, 1978.

Insecticides	Acres treated (1000)	Treatment rate (lb/A)	Total lb. a.i. (1000)	Applicator		Method of Application	
				Farm operator	Custom	Aerial	Ground
				(%)	(%)	(%)	(%)
Aldicarb	31.3	2.39	74.7	99	1	0	100
Azinphos-methyl	72.8	1.50	108.0	97	3	12	88
Carbaryl	4.6	—	—	83	17	11	89
Carbofuran	12.4	0.85	10.6	100	0	0	100
Chlordane	4.9	1.16	5.7	100	0	0	100
Diazinon	2.5	1.84	4.6	100	0	0	100
Disulfoton	21.3	2.38	50.8	100	0	0	100
Endosulfan	11.1	2.24	24.9	90	10	58	42
Ethoprop	1.4	—	—	100	0	0	0
Fonofos	17.7	1.37	24.3	98	2	0	94
Methamidophos	0.7	1.57	1.1	100	0	0	100
Monocrotophos	15.1	0.31	4.7	100	0	0	100
Methyl Parathion	17.7	0.06	1.0	55	45	67	33
Methyl Parathion (encap.)	1.0	—	—	0	100	100	0
Malathion	6.3	—	—	12	88	47	30
Methidathion	9.9	—	—	40	60	60	40
Naled	0.4	—	—	0	100	100	0
Phorate	30.6	1.91	58.3	96	4	2	98
Phosphamidon	9.1	2.45	22.3	71	29	29	71
Terbufos	24.6	1.04	25.6	100	0	0	100
Trichlorfon	0.2	—	—	100	0	0	100
Toxaphene	65.1	1.38	89.9	50	50	49	50
Unknown	4.9	—	—	63	37	37	63
Total	365.6	—	507.4	83	17	21	79

Table 20A. Fungicide usage in North Dakota, 1984.

Fungicides	Acres treated (1000)	Applications				Applicator		Method of Application	
		1	2	3	4 or more	Farm operator	Custom	Aerial	Ground
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Benomyl	1.2	0.0	53.8	46.2	0.0	0.0	100.0	100.0	0.0
Copper	3.5	100.0	0.0	0.0	0.0	78.9	21.1	21.1	78.9
Mancozeb	186.4	35.2	47.8	8.8	8.2	16.1	83.9	82.5	17.5
Maneb	57.9	21.6	20.6	17.8	40.0	61.2	38.8	38.8	61.2
Maneb & Zinc	117.8	44.5	47.3	4.2	3.9	43.7	56.3	55.8	44.2
Metiram & Maneb	16.5	2.5	8.8	86.6	2.2	88.8	11.2	11.2	88.8
Sulfur	2.7	100.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
Thiabendazole	5.7	0.0	80.7	19.3	0.0	58.5	41.5	41.5	58.5
Triadimefon	0.3	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Triphenyl Tin Hydroxide	113.5	25.9	32.6	34.0	7.6	36.5	63.5	65.9	34.1
Total	505.5	32.7	39.0	18.3	10.0	35.5	64.5	64.1	35.9

Table 20B. Fungicide usage in North Dakota, 1978.

Fungicides	Acres treated (1000)	Treatment rate (lb/A)	Total lb. a.i. (1000)	Applicator		Method of Application	
				Farm operator	Custom	Aerial	Ground
				(%)	(%)	(%)	(%)
Benomyl	1.7	0.88	1.5	0	100	100	0
Captafol	5.0	2.34	11.7	100	0	0	100
Chlorothalonil	4.2	0.76	3.2	90	10	10	90
Copper Hydroxide	2.9	—	—	0	100	100	0
Mancozeb	45.9	4.10	188.3	68	32	32	68
Maneb	15.1	1.45	21.9	50	50	100	0
Manzate 200	0.4	1.25	0.5	0	100	100	0
Thiabendazole	25.6	0.52	13.4	82	18	22	78
Zineb	3.0	—	—	100	0	0	100
Total	103.8		240.5	69	31	39	61

Table 21A. Other chemical usage in North Dakota, 1984.

Other Chemicals	Acres treated (1000)	Applications				Applicator		Method of Application	
		1	2	3	4 or more	Farm operator	Custom	Aerial	Ground
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Dinoseb	32.5	91.4	8.6	0.0	0.0	37.7	62.3	57.1	42.9
Diquat	25.7	89.0	11.0	0.0	0.0	82.6	17.4	17.4	82.6
Paraquat	8.7	92.3	7.7	0.0	0.0	46.9	53.1	93.4	6.6
Sodium chlorate	2.4	100.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
Sulfuric acid	1.7	100.0	0.0	0.0	0.0	0.0	100.0	85.7	14.3
Total	71.0	91.0	9.0	0.0	0.0	53.3	46.7	48.1	51.9

Table 21B. Other chemical usage in North Dakota, 1978.

Fungicides	Acres treated (1000)	Treatment rate (lb/A)	Total lb. a.i. (1000)	Applicator		Method of Application	
				Farm operator	Custom	Aerial	Ground
				(%)	(%)	(%)	(%)
Dinoseb	27.7	1.91	53.0	30	70	57	43
Paraquat	50.8	0.82	41.8	19	81	51	48
Sodium chlorate	0.8	6.38	5.1	0	100	100	0
Sulfuric acid	3.8	—	—	0	100	0	100
4-AP	1.5	—	—	0	100	100	0
30% Maleic hydrazide	27.8	0.88	24.5	98	2	4	96
2,4-D ester	6.9	0.12	0.8	100	0	0	100
Total	119.3		125.2	44	56	38	62

Table 22. Insecticide ear tag usage in North Dakota, 1984.

District and State	1984 Cattle Operations Using Tags	No. of Cattle Treated 1984	All Cattle Inventory January 1, 1984
	(%)	(000)	(000)
Northwest	48.6	54.1	144.0
North Central	55.0	77.2	177.0
Northeast	50.7	36.9	87.0
West Central	60.8	119.2	310.0
Central	53.8	104.7	250.0
East Central	56.6	48.1	101.0
Southwest	56.2	118.9	270.0
South Central	64.8	220.5	375.0
Southeast	60.2	173.8	336.0
State	57.0	940.7	2050.0

1984 PESTICIDE USE SURVEY

Dear North Dakota Farm Operator:

We are conducting a pesticide usage survey and you have been randomly selected to be a part of this survey. Since pesticides are under strict controls concerning their usage, it is important to have accurate, current, reliable, documented information on their use to support their continued need and economic necessity to agriculture.

Your report will remain confidential and will be used only in combination with other reports to develop summaries of the survey. Your response to

this survey is completely voluntary and not required by law, but your help is needed to reliably appraise continued use of pesticides and various alternatives.

Duane Berglund
 Duane Berglund, Asst. Director
 Cooperative Extension Service
 North Dakota State University

Robert F. Carver
 Robert F. Carver
 Agricultural Statistician
 in Charge

I. CROPS

REPORT FOR THE FARM YOU OPERATE (Include Land Rented from Others, Exclude Land Rented Out.)					
1984 CROP	TOTAL ACRES PLANTED	HOW MANY ACRES WERE TREATED FOR: (Exclude Seed Treatment)			
		WEED CONTROL (Herbicides)	INSECT CONTROL (Insecticides)	DISEASE CONTROL (Fungicides)	OTHER CONTROL (Defoliants, regulators, etc.)
WHEAT (Durum, other spg., winter)	001	002	003	004	005
BARLEY	006	007	008	009	010
OATS	011	012	013	014	015
FLAX	016	017	018	019	020
CORN	021	022	023	024	025
SUNFLOWER	026	027	028	029	030
SOYBEANS	031	032	033	034	035
POTATOES	036	037	038	039	040
SUGARBEETS	041	042	043	044	045
DRY BEANS	046	047	048	049	050
ALFALFA HAY	051	052	053	054	055
OTHER HAY	056	057	058	059	060
OTHER CROPS (specify) _____	061	062	063	064	065
SUMMER FALLOW, PIK, ARP	066	067	068	069	070
PASTURE & RANGE	071	072	073	074	075
Land not Reported Above	076				
TOTAL ACRES OPERATED	077				

II. LIVESTOCK

a) Were any cattle or calves on this operation at any time last year (1984)?

Yes, Number on hand December 31, 1984 080

No, Continue on Back 081

Office
Use

b) Were any of the cattle and calves on your operation treated with insecticide ear tags last year?

Yes, Number treated 082

No, Continue on Back

III. USAGE OF INDIVIDUAL PESTICIDES BY CROP

Please report below the acres treated with each individual chemical during 1984 by crop and or land use. If pesticides were applied in combination, report each separately. (Exclude Seed Treatment)

NAME OF PESTICIDE USED Please list Chemical used, if necessary refer to enclosed list. (Example) Avenge	Office Use	Acres Treated	No. of Applications	Applicator		Method
				1=Self	2=Custom	
		500	1	2	1	
WHEAT (Durum, other spg., winter)						
	100	101	102	103	104	
	105	106	107	108	109	
	110	111	112	113	114	
	115	116	117	118	119	
	120	121	122	123	124	
	125	126	127	128	129	
BARLEY						
	150	151	152	153	154	
	155	156	157	158	159	
	160	161	162	163	164	
	165	166	167	168	169	
	170	171	172	173	174	
	175	176	177	178	179	
OATS						
	200	201	202	203	204	
	205	206	207	208	209	
	210	211	212	213	214	
	215	216	217	218	219	
	220	221	222	223	224	
	225	226	227	228	229	
FLAX						
	250	251	252	253	254	
	255	256	257	258	259	
	260	261	262	263	264	
	265	266	267	268	269	
	270	271	272	273	274	
	275	276	277	278	279	
CORN						
	300	301	302	303	304	
	305	306	307	308	309	
	310	311	312	313	314	
	315	316	317	318	319	
	320	321	322	323	324	
	325	326	327	328	329	
SUNFLOWER						
	350	351	352	353	354	
	355	356	357	358	359	
	360	361	362	363	364	
	365	366	367	368	369	
	370	371	372	373	374	
	375	376	377	378	379	

NAME OF PESTICIDE USED Please list Chemical used, if necessary refer to enclosed list.	Office Use	Acres Treated	No. of Applications	Applicator		Method
				1=Self	2=Custom	
SOYBEANS						
	400	401	402	403	404	
	405	406	407	408	409	
	410	411	412	413	414	
	415	416	417	418	419	
	420	421	422	423	424	
	425	426	427	428	429	
POTATOES						
	450	451	452	453	454	
	455	456	457	458	459	
	460	461	462	463	464	
	465	466	467	468	469	
	470	471	472	473	474	
	475	476	477	478	479	
SUGARBEETS						
	500	501	502	503	504	
	505	506	507	508	509	
	510	511	512	513	514	
	515	516	517	518	519	
	520	521	522	523	524	
	525	526	527	528	529	
DRY BEANS						
	550	551	552	553	554	
	555	556	557	558	559	
	560	561	562	563	564	
	565	566	567	568	569	
	570	571	572	573	574	
	575	576	577	578	579	
ALFALFA HAY						
	600	601	602	603	604	
	605	606	607	608	609	
	610	611	612	613	614	
OTHER HAY						
	650	651	652	653	654	
	655	656	657	658	659	
	660	661	662	663	664	
WINTER FALLOW, BR, ARP						
	700	701	702	703	704	
	705	706	707	708	709	
PASTURE & RANGE						
	800	801	802	803	804	
	805	806	807	808	809	

REPORTED BY _____

PHONE NO. _____

DATE _____

APPENDIX B. North Dakota Crop Reporting Districts.



