

Table 3. (continued)

District <sup>3</sup>	Pesticide treated acres <sup>2</sup>												
	Acres planted <sup>1</sup>	On-Farm						On-farm					
		Treated seed	treated seed	Herbi- cide	Insecti- cide	Fungi- cide	Desic- cants	Treated seed	treated seed	Herbi- cide	Insecti- cide	Fungi- cide	Desic- cants
(1000)	(1000)	(1000)	(1000)	(1000)	(1000)	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	
<b>Corn</b>													
Northwest	13.0	13.0	.	8.3	.	.	100.0	.	64.1	.	.	.	
North Central	40.0	36.4	0.6	27.1	.	.	91.0	1.6	67.7	.	.	.	
Northeast	50.0	49.7	.	44.1	.	.	99.5	.	88.2	.	.	.	
West Central	56.0	54.0	.	24.8	.	.	96.4	.	44.3	.	.	.	
Central	97.0	97.0	1.6	82.7	1.1	.	100.0	1.7	85.3	1.1	.	.	
East Central	145.0	144.3	19.9	142.3	13.2	0.0	99.5	13.7	98.1	9.1	0.0	.	
Southwest	39.0	38.9	.	12.7	.	.	99.7	.	32.5	.	.	.	
South Central	110.0	107.0	2.3	43.1	.	.	97.3	2.1	39.1	.	.	.	
Southeast	450.0	446.0	32.1	412.4	68.2	.	99.1	7.1	91.6	15.1	.	.	
Total	1000.0	986.3	56.5	797.4	82.4	0.0	98.6	5.7	79.7	8.2	0.0	.	
<b>Sunflower</b>													
Northwest	62.2	48.9	5.1	60.0	8.3	.	78.7	8.1	96.5	13.3	.	.	
North Central	148.0	134.1	12.3	111.4	40.9	.	90.6	8.3	75.3	27.6	.	.	
Northeast	204.5	164.0	20.2	176.3	37.2	1.3	80.2	9.9	86.2	18.2	0.6	.	
West Central	12.6	8.1	.	12.6	3.8	.	64.1	.	100.0	30.5	.	.	
Central	288.0	202.2	9.8	275.5	107.6	.	70.2	3.4	95.7	37.4	.	.	
East Central	242.5	209.5	1.9	219.4	62.9	.	86.4	0.8	90.5	26.0	.	.	
Southwest	5.0	.	.	5.0	5.0	.	.	.	100.0	100.0	.	.	
South Central	12.2	8.6	0.6	9.8	3.6	.	70.7	4.9	80.5	29.3	.	.	
Southeast	250.0	213.0	2.0	226.4	62.7	.	85.2	0.8	90.5	25.1	.	.	
Total	1225.0	988.5	51.8	1096.4	332.0	1.3	80.7	4.2	89.5	27.1	0.1	.	
<b>Soybean</b>													
North Central	1.7	.	.	1.7	.	.	.	.	100.0	.	.	.	
Northeast	53.0	4.6	.	50.7	0.0	.	8.7	.	95.7	0.0	.	.	
West Central	0.3	.	.	.	.	.	.	.	.	.	.	.	
Central	4.3	3.5	.	4.3	.	.	80.4	.	100.0	.	.	.	
East Central	329.0	71.0	15.3	323.3	6.0	.	21.6	4.6	98.3	1.8	.	.	
South Central	1.4	.	.	1.4	.	.	.	.	100.0	.	.	.	
Southeast	310.0	21.3	4.6	305.5	1.6	.	6.9	1.5	98.6	0.5	.	.	
Other Counties	0.3	.	.	0.3	.	.	.	.	100.0	.	.	.	
Total	700.0	100.4	19.9	687.2	7.5	.	14.3	2.8	98.2	1.1	.	.	
<b>Dry bean</b>													
Northwest	1.1	0.8	.	1.0	0.0	.	68.8	.	93.1	0.0	.	.	
North Central	3.2	2.0	.	3.2	.	.	62.7	.	100.0	.	.	.	
Northeast	220.0	167.5	0.7	199.0	0.0	17.7	4.2	76.1	0.3	90.4	0.0	8.0	
West Central	14.0	9.4	.	14.0	.	1.1	.	67.2	.	100.0	.	8.2	
Central	23.5	21.0	.	23.5	.	.	89.5	.	100.0	.	.	.	
East Central	130.0	120.4	.	118.9	.	0.7	0.7	92.6	.	91.5	.	0.5	
Southwest	1.0	.	.	.	.	.	.	.	.	.	.	.	
South Central	2.2	.	.	.	.	.	.	.	.	.	.	.	
Southeast	45.0	38.3	.	45.0	0.2	4.1	2.5	85.0	.	100.0	0.5	9.2	
Total	440.0	359.4	0.7	404.6	0.2	23.6	7.4	81.7	0.2	92.0	0.0	5.4	

<sup>1</sup>Preliminary estimates by the North Dakota Agricultural Statistics Service.

<sup>2</sup>Multiple applications to the same acreage were totaled as one application.

<sup>3</sup>Agricultural statistics districts not listed did not contain significant amounts of the crop.

Table 3. (continued)

District <sup>3</sup>	Pesticide treated acres <sup>2</sup>												
	Acres planted <sup>1</sup>	On-Farm						On-farm					
		Treated seed	treated seed	Herbi- cide	Insecti- cide	Fungi- cide	Desic- cants	Treated seed	treated seed	Herbi- cide	Insecti- cide	Fungi- cide	Desic- cants
(1000)	(1000)	(1000)	(1000)	(1000)	(1000)	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	
<b>Potato</b>													
Northeast	127.7	94.5	91.3	33.4	122.0	115.4	50.8	74.0	71.5	26.1	95.6	90.4	39.8
East Central	8.2	6.5	6.5	4.5	7.6	7.6	2.2	79.6	79.6	54.5	92.2	92.2	26.6
Southeast	5.5	5.5	5.5	5.5	5.5	5.5	1.8	100.0	100.0	100.0	100.0	100.0	33.3
Other Counties	4.6	1.0	0.0	2.1	4.5	1.0	0.3	22.8	0.0	44.8	98.9	22.8	5.5
<b>Total</b>	<b>146.0</b>	<b>107.6</b>	<b>103.3</b>	<b>45.4</b>	<b>139.6</b>	<b>129.5</b>	<b>55.1</b>	<b>73.7</b>	<b>70.8</b>	<b>31.1</b>	<b>95.6</b>	<b>88.7</b>	<b>37.7</b>
<b>Sugarbeet</b>													
Northwest	4.1	4.1	.	3.9	2.2	0.9	.	100.0	.	95.7	53.2	21.7	.
Northeast	103.2	103.2	.	100.8	74.0	19.2	.	100.0	.	97.6	71.7	18.6	.
West Central	9.0	9.0	.	6.6	5.8	2.1	.	100.0	.	73.8	64.6	23.5	.
East Central	55.3	55.3	.	53.6	46.0	26.4	.	100.0	.	97.0	83.1	47.7	.
Southeast	23.9	23.9	.	23.9	11.5	13.2	.	100.0	.	100.0	48.0	55.3	.
<b>Total</b>	<b>195.5</b>	<b>195.5</b>	<b>.</b>	<b>188.8</b>	<b>139.4</b>	<b>61.7</b>	<b>.</b>	<b>100.0</b>	<b>.</b>	<b>96.6</b>	<b>71.3</b>	<b>31.6</b>	<b>.</b>
<b>Alfalfa hay</b>													
Northwest	110.0	.	.	.	.	.	.	.	.	.	.	.	.
North Central	100.0	.	.	1.0	4.7	.	.	.	.	1.0	4.7	.	.
Northeast	26.0	1.1	.	.	.	.	.	4.2	.	.	.	.	.
West Central	200.0	3.2	.	0.1	0.9	.	.	1.6	.	0.0	0.4	.	.
Central	185.0	5.4	.	0.0	1.4	.	.	2.9	.	0.0	0.8	.	.
East Central	34.0	0.8	.	.	.	.	.	2.5	.	.	.	.	.
Southwest	250.0	1.1	.	1.6	0.1	.	.	0.4	.	0.6	0.0	.	.
South Central	240.0	1.0	.	0.5	.	.	.	0.4	.	0.2	.	.	.
Southeast	155.0	3.8	.	0.7	.	.	.	2.4	.	0.5	.	.	.
<b>Total</b>	<b>1300.0</b>	<b>16.4</b>	<b>.</b>	<b>3.9</b>	<b>7.2</b>	<b>.</b>	<b>.</b>	<b>1.3</b>	<b>.</b>	<b>0.3</b>	<b>0.6</b>	<b>.</b>	<b>.</b>
<b>Other hay</b>													
Northwest	155.0	.	.	0.3	0.4	.	.	.	.	0.2	0.3	.	.
North Central	260.0	.	.	8.7	0.6	.	.	.	.	3.3	0.2	.	.
Northeast	83.0	.	.	0.1	5.0	.	.	.	.	0.2	6.0	.	.
West Central	200.0	1.0	.	0.4	0.2	.	.	0.5	.	0.2	0.1	.	.
Central	230.0	0.2	.	6.2	.	.	.	0.1	.	2.7	.	.	.
East Central	47.0	0.1	.	1.3	.	.	.	0.3	.	2.7	.	.	.
Southwest	180.0	.	.	0.9	.	.	.	.	.	0.5	.	.	.
South Central	270.0	1.2	.	1.9	.	.	.	0.5	.	0.7	.	.	.
Southeast	175.0	.	.	4.0	.	.	.	.	.	2.3	.	.	.
<b>Total</b>	<b>1600.0</b>	<b>2.6</b>	<b>.</b>	<b>23.8</b>	<b>6.2</b>	<b>.</b>	<b>.</b>	<b>0.2</b>	<b>.</b>	<b>1.5</b>	<b>0.4</b>	<b>.</b>	<b>.</b>

<sup>1</sup>Preliminary estimates by the North Dakota Agricultural Statistics Service.

<sup>2</sup>Multiple applications to the same acreage were totaled as one application.

<sup>3</sup>Agricultural statistics districts not listed did not contain significant amounts of the crop.

Table 3. (continued)

District	Pesticide treated acres <sup>2</sup>												
	Acres planted <sup>1</sup>	On-Farm						On-farm					
		Treated seed	treated seed	Herbi- cide	Insecti- cide	Fungi- cide	Desic- cants	Treated seed	treated seed	Herbi- cide	Insecti- cide	Fungi- cide	Desic- cants
(1000)	(1000)	(1000)	(1000)	(1000)	(1000)	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	
<b>Pasture</b>													
Northwest	1229.6	.	.	6.8	0.4	.	.	.	.	0.6	0.0	.	.
North Central	821.0	.	.	23.2	0.0	.	.	.	.	2.8	0.0	.	.
Northeast	256.3	.	.	9.0	14.1	.	.	.	.	3.5	5.5	.	.
West Central	2319.9	0.9	.	10.4	0.5	.	.	0.0	.	0.4	0.0	.	.
Central	1025.5	0.3	.	24.1	.	.	.	0.0	.	2.3	.	.	.
East Central	204.0	0.1	.	12.5	0.4	.	.	0.1	.	6.1	0.2	.	.
Southwest	2543.6	.	.	15.5	.	.	.	.	.	0.6	.	.	.
South Central	2603.8	.	.	15.1	.	.	.	.	.	0.6	.	.	.
Southeast	934.5	.	.	36.0	.	.	.	.	.	3.9	.	.	.
<b>Total</b>	<b>11938.2</b>	<b>1.3</b>	<b>.</b>	<b>152.7</b>	<b>15.4</b>	<b>.</b>	<b>.</b>	<b>0.0</b>	<b>.</b>	<b>1.3</b>	<b>0.1</b>	<b>.</b>	<b>.</b>
<b>Summer fallow</b>													
Northwest	1180.0	.	.	388.6	0.2	.	.	.	.	32.9	0.0	.	.
North Central	420.0	0.4	.	92.9	.	0.7	.	0.1	.	22.1	.	0.2	.
Northeast	400.0	.	.	34.6	.	.	.	.	.	8.7	.	.	.
West Central	520.0	1.0	0.0	112.5	.	.	0.2	0.2	0.0	21.6	.	.	0.0
Central	295.0	3.6	.	47.0	.	.	.	1.2	.	15.9	.	.	.
East Central	155.0	1.4	.	19.9	.	.	.	0.9	.	12.8	.	.	.
Southwest	630.0	1.2	.	110.9	.	.	.	0.2	.	17.6	.	.	.
South Central	300.0	1.9	.	65.3	.	.	.	0.6	.	21.8	.	.	.
Southeast	200.0	0.8	.	24.9	.	.	.	0.4	.	12.5	.	.	.
<b>Total</b>	<b>4100.0</b>	<b>10.2</b>	<b>0.0</b>	<b>896.6</b>	<b>0.2</b>	<b>0.7</b>	<b>0.2</b>	<b>0.2</b>	<b>0.0</b>	<b>21.9</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>CRP</b>													
Northwest	382.6	.	.	4.5	.	.	.	.	.	1.2	.	.	.
North Central	361.1	.	.	21.1	8.6	.	.	.	.	5.8	2.4	.	.
Northeast	339.7	.	.	3.4	0.3	.	.	.	.	1.0	0.1	.	.
West Central	191.4	2.3	.	0.9	0.6	.	.	1.2	.	0.4	0.3	.	.
Central	488.5	6.9	.	24.2	4.4	.	.	1.4	.	5.0	0.9	.	.
East Central	110.1	.	.	2.8	2.9	.	.	.	.	2.5	2.6	.	.
Southwest	426.1	.	.	7.5	.	.	.	.	.	1.8	.	.	.
South Central	290.6	0.9	.	5.4	.	.	.	0.3	.	1.9	.	.	.
Southeast	308.6	.	.	15.2	1.3	.	.	.	.	4.9	0.4	.	.
<b>Total</b>	<b>2898.7</b>	<b>10.1</b>	<b>.</b>	<b>85.0</b>	<b>18.2</b>	<b>.</b>	<b>.</b>	<b>0.3</b>	<b>.</b>	<b>2.9</b>	<b>0.6</b>	<b>.</b>	<b>.</b>

<sup>1</sup>Preliminary estimates by the North Dakota Agricultural Statistics Service.

<sup>2</sup>Multiple applications to the same acreage were totaled as one application.

<sup>3</sup>Agricultural statistics districts not listed did not contain significant amounts of the crop.

**Table 4. ON-FARM SEED TREATMENT: Acres and percent of crop with various seed treatment products and method of seed treatment for selected crops. North Dakota, 1992.**

Treatment	Acres seeded <sup>1</sup>	Acres seeded	Treatment method		
			Drill box	Auger	Other
	(1000)	(%)	(%)	(%)	(%)
<b>Wheat</b>					
Captan	1.6	0.0	100.0	.	.
Captan + Carboxin	1.5	0.0	100.0	.	.
Captan + Lindane	2.3	0.0	100.0	.	.
Captan + Thiabendazole	2.5	0.0	.	100.0	.
Carboxin	828.2	7.1	23.5	63.8	12.7
Carboxin + Maneb + Lindane	320.4	2.8	29.2	67.8	3.0
Carboxin + Thiram	944.2	8.1	9.7	86.1	4.2
Carboxin + Thiram + Lindane	198.0	1.7	2.9	93.0	4.1
Chlorpyrifos	0.4	0.0	.	.	100.0
Diazinon	5.3	0.0	100.0	.	.
Formaldehyde	1.2	0.0	.	.	100.0
Imazalil	175.6	1.5	7.8	86.9	5.3
Lindane	182.7	1.6	44.8	34.8	20.5
Mancozeb	18.9	0.2	54.0	46.0	.
Maneb	47.3	0.4	42.0	58.0	.
Maneb + Lindane	1916.8	16.5	21.9	71.9	6.2
Maneb + Thiabendazole	3.2	0.0	61.9	38.1	.
PCNB	23.7	0.2	.	72.8	27.2
Thiram	21.3	0.2	.	100.0	.
Thiram + Thiabendazole	5.6	0.0	.	100.0	.
<b>Total</b>	<b>4700.8</b>	<b>40.5</b>	<b>20.1</b>	<b>72.8</b>	<b>7.2</b>
<b>Barley</b>					
Captan + Carboxin	0.3	0.0	100.0	.	.
Carboxin	261.9	9.7	23.1	70.0	6.5
Carboxin + Maneb + Lindane	144.4	5.3	29.8	70.0	0.2
Carboxin + Thiram	264.9	9.8	7.0	84.0	9.0
Carboxin + Thiram + Lindane	65.6	2.4	.	96.6	3.4
Chlorpyrifos	0.5	0.0	.	.	100.0
Formaldehyde	0.8	0.0	64.1	.	35.9
Imazalil	27.8	1.0	15.1	78.6	6.3
Lindane	42.5	1.6	27.2	65.0	7.8
Mancozeb	4.8	0.2	12.3	87.7	.
Maneb	10.5	0.4	8.1	91.9	.
Maneb + Lindane	434.6	16.1	24.2	71.0	4.8
Maneb + Thiabendazole	2.1	0.1	100.0	.	.
PCNB	7.0	0.3	.	36.6	63.4
Thiram	3.2	0.1	24.3	75.7	.
<b>Total</b>	<b>1271.1</b>	<b>47.1</b>	<b>19.5</b>	<b>74.5</b>	<b>5.9</b>

<sup>1</sup>Acres reported seeded with treated seed include multiple applications to the same seed and seed treatment products applied as a tank mixture were totaled separately unless applied as a commercial premix.

Table 4. (continued)

Treatment	Acres seeded <sup>1</sup>	Acres seeded	Treatment method		
			Drill box	Auger	Other
	(1000)	(%)	(%)	(%)	(%)
<b>Oat</b>					
Carboxin	2.3	0.3	15.5	84.5	.
Carboxin + Maneb + Lindane	0.8	0.1	.	100.0	.
Carboxin + Thiram	6.6	0.8	1.5	73.1	25.4
Carboxin + Thiram + Lindane	0.2	0.0	.	100.0	.
Formaldehyde	0.3	0.0	.	.	100.0
Lindane	5.9	0.8	3.0	75.3	21.7
Maneb	0.9	0.1	100.0	.	.
Maneb + Lindane	21.2	2.7	85.6	13.3	1.1
Maneb + Thiabendazole	1.4	0.2	35.3	64.7	.
<b>Total</b>	<b>39.5</b>	<b>5.1</b>	<b>50.9</b>	<b>40.2</b>	<b>8.9</b>
<b>Flax</b>					
Maneb + Lindane	1.1	0.8	32.2	67.8	.
Prochloraz	1.1	0.8	.	100.0	.
<b>Total</b>	<b>2.3</b>	<b>1.6</b>	<b>16.0</b>	<b>84.0</b>	<b>.</b>
<b>Soybean</b>					
Captan	0.2	0.0	100.0	.	.
Captan + Lindane	1.4	0.2	100.0	.	.
Carboxin	5.8	0.8	.	100.0	.
Carboxin + Maneb + Lindane	1.8	0.3	.	100.0	.
Carboxin + Thiram	5.6	0.8	37.0	50.6	12.4
Maneb + Lindane	3.6	0.5	.	100.0	.
Thiram	1.5	0.2	.	100.0	.
<b>Total</b>	<b>19.9</b>	<b>2.8</b>	<b>18.5</b>	<b>78.0</b>	<b>3.5</b>
<b>Potato</b>					
Captan	4.4	3.0	.	.	100.0
Mancozeb	62.4	42.7	.	5.4	94.6
Maneb + Streptomycin + Bark	13.9	9.6	.	61.1	38.9
Thiabendazole	1.4	1.0	.	.	100.0
Thiophanate Methyl	22.3	15.3	.	6.9	93.1
Zineb	3.8	2.6	.	.	100.0
<b>Total</b>	<b>108.2</b>	<b>74.1</b>	<b>.</b>	<b>12.4</b>	<b>87.6</b>

<sup>1</sup>Acres reported seeded with treated seed include multiple applications to the same seed and seed treatment products applied as a tank mixture were totaled separately unless applied as a commercial premix.

**Table 5. ON-FARM SEED TREATMENT: Total acres and percent of crop with various seed treatment products and method of seed treatment averaged over crops. North Dakota, 1992.**

Treatment	Acres seeded <sup>1</sup>	Acres seeded	Treatment method		
			Drill box	Auger	Other
	(1000)	(%)	(%)	(%)	(%)
Captan	6.2	0.1	29.8	.	70.2
Captan + Carboxin	1.8	0.0	100.0	.	.
Captan + Lindane	3.6	0.0	100.0	.	.
Captan + Thiabendazole	2.5	0.0	.	100.0	.
Carboxin	1098.2	7.0	23.3	65.5	11.1
Carboxin + Maneb + Lindane	467.4	3.0	29.2	68.6	2.1
Carboxin + Thiram	1221.3	7.7	9.2	85.4	5.4
Carboxin + Thiram + Lindane	263.8	1.7	2.2	93.9	3.9
Chlorpyrifos	0.9	0.0	.	.	100.0
Diazinon	5.3	0.0	100.0	.	.
Formaldehyde	2.3	0.0	21.6	.	78.4
Imazalil	203.4	1.4	8.8	85.8	5.4
Lindane	231.2	1.5	40.5	41.3	18.2
Mancozeb	86.1	0.6	12.6	18.9	68.5
Maneb	58.7	0.4	36.8	63.2	.
Maneb + Lindane	2377.3	14.9	22.8	71.2	5.9
Maneb + Streptomycin + Bark	13.9	9.6	.	61.1	38.9
Maneb + Thiabendazole	6.7	0.0	68.4	31.6	.
PCNB	30.8	0.2	.	64.5	35.5
Prochloraz	1.1	0.8	.	100.0	.
Thiabendazole	1.4	1.0	.	.	100.0
Thiophanate methyl	22.3	15.3	.	6.9	93.1
Thiram	26.0	0.2	3.0	97.0	.
Thiram + Thiabendazole	5.6	0.0	.	100.0	.
Zineb	3.8	2.6	.	.	100.0
<b>Total</b>	<b>6141.7</b>	<b>38.2</b>	<b>19.8</b>	<b>71.9</b>	<b>8.3</b>

TABLE 6. WHEAT: Herbicide, Insecticide, Fungicide and Desiccant usage and application method. North Dakota, 1992.

	Acres treated <sup>2</sup>	Acres treated	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
Herbicide <sup>1</sup>	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
2,4-D	5986.7	51.6	100.0	0.0	.	.	89.0	11.0	7.0	93.0
Acifluorfen	0.3	0.0	100.0	.	.	.	100.0	.	.	100.0
Barban	18.1	0.2	100.0	.	.	.	72.0	28.0	25.5	74.5
Bentazon	0.8	0.0	100.0	.	.	.	.	100.0	.	100.0
Bromoxynil	218.2	1.9	96.7	3.3	.	.	88.2	11.8	7.2	92.8
Bromoxynil + MCPA	544.3	4.7	100.0	.	.	.	89.8	10.2	9.2	90.8
Clopyralid + 2,4-D	14.3	0.1	100.0	.	.	.	94.4	5.6	12.6	87.4
Dicamba	3029.6	26.1	100.0	0.0	.	.	89.7	10.3	4.9	95.1
Diclofop	347.5	3.0	100.0	.	.	.	82.6	17.4	13.0	87.0
Difenzoquat	45.2	0.4	100.0	.	.	.	84.7	15.3	4.0	96.0
Ethalfuralin	4.5	0.0	100.0	.	.	.	100.0	.	.	100.0
Ethofumesate	4.5	0.0	100.0	.	.	.	100.0	.	.	100.0
Fenoxaprop + 2,4-D + MCPA	534.0	4.6	100.0	.	.	.	83.0	17.0	13.4	86.6
Fenoxaprop + MCPA	262.7	2.3	98.7	1.3	.	.	90.4	9.6	5.0	95.0
Fenoxaprop + MCPA + thifensulfuron	193.6	1.7	100.0	.	.	.	94.6	5.4	1.5	98.5
Glyphosate	35.7	0.3	100.0	.	.	.	75.6	24.4	17.0	83.0
Glyphosate + dicamba	1.2	0.0	100.0	.	.	.	100.0	.	.	100.0
Imazamethabenz	175.1	1.5	100.0	.	.	.	86.7	13.3	9.0	91.0
MCPA	2227.7	19.2	99.4	0.6	.	.	91.4	8.6	5.2	94.8
Metsulfuron	361.6	3.1	100.0	.	.	.	93.9	6.1	3.7	96.3
Nicosulfuron	1.5	0.0	100.0	.	.	.	100.0	.	.	100.0
Picloram	38.0	0.3	100.0	.	.	.	80.7	19.3	1.0	99.0
Propanil + MCPA	0.4	0.0	100.0	.	.	.	100.0	.	.	100.0
Sethoxydim	3.8	0.0	100.0	.	.	.	51.3	48.7	.	100.0
Thifensulfuron + tribenuron	905.5	7.8	100.0	.	.	.	91.9	8.1	9.6	90.4
Triallate	330.9	2.9	100.0	.	.	.	88.1	11.9	0.2	99.8
Triallate + trifluralin	71.1	0.6	100.0	.	.	.	84.1	15.9	5.2	94.8
Triasulfuron	28.9	0.2	100.0	.	.	.	48.2	51.8	51.8	48.2
Tribenuron	1001.0	8.6	100.0	.	.	.	89.9	10.1	6.5	93.5
Trifluralin	1369.2	11.8	99.2	0.8	.	.	95.1	4.9	3.1	96.9
All herbicides	17756.0	153.1	99.8	0.2	.	.	89.8	10.2	6.4	93.6
<b>Insecticide</b>										
Carbaryl	7.2	0.1	100.0	.	.	.	61.8	38.2	30.6	69.4
Carbofuran	47.5	0.4	100.0	.	.	.	47.0	53.0	53.0	47.0
Chlorpyrifos	1.5	0.0	100.0	.	.	.	100.0	.	.	100.0
Dimethoate	6.3	0.1	100.0	.	.	.	82.8	17.2	17.2	82.8
Encapsulated methyl parathion	4.9	0.0	100.0	.	.	.	6.1	93.9	93.9	6.1
Esfenvalerate	2.8	0.0	100.0	.	.	.	53.9	46.1	46.1	53.9
Ethyl parathion	10.9	0.1	100.0	.	.	.	.	100.0	100.0	.
Fonofos	10.3	0.1	100.0	.	.	.	.	100.0	100.0	.
Malathion	4.4	0.0	100.0	.	.	.	76.2	23.8	23.8	76.2
Methyl parathion	4.7	0.0	100.0	.	.	.	12.7	87.3	87.3	12.7
Nosema locustae fungus	0.4	0.0	100.0	.	.	.	100.0	.	.	100.0
All Insecticides	101.0	0.9	100.0	.	.	.	39.3	60.7	60.2	39.8

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.

TABLE 6. (Continued)

Fungicide <sup>1</sup>	Acres treated <sup>2</sup> (1000)	Acres treated (%)	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Benlate	0.5	0.0	100.0	.	.	.	100.0	.	.	100.0
Chlorothalonil	5.3	0.0	100.0	.	.	.	36.8	63.2	63.2	36.8
Mancozeb	139.9	1.2	79.5	20.5	.	.	30.7	69.3	69.1	30.9
Maneb + zinc	10.3	0.1	100.0	.	.	.	88.3	11.7	11.7	88.3
Propiconazole	174.0	1.5	100.0	.	.	.	14.7	85.3	85.3	14.7
Triademefon	2.5	0.0	100.0	.	.	.	.	100.0	100.0	.
All Fungicides	332.5	2.9	91.4	8.6	.	.	24.1	75.9	75.8	24.2

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.

TABLE 7. BARLEY: Herbicide, Insecticide, Fungicide and Desiccant usage and application method. North Dakota, 1992.

Herbicide <sup>1</sup>	Acres treated <sup>2</sup> (1000)	Acres treated (%)	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
2,4-D	1360.0	50.4	99.5	0.5	.	.	92.4	7.6	5.6	94.4
Ametryn	2.0	0.1	100.0	.	.	.	100.0	.	.	100.0
Barban	8.1	0.3	100.0	.	.	.	30.4	69.6	69.6	30.4
Bentazon	0.3	0.0	100.0	.	.	.	.	100.0	.	100.0
Bromoxynil	48.1	1.8	100.0	.	.	.	83.3	16.7	1.3	98.7
Bromoxynil + MCPA	151.7	5.6	100.0	.	.	.	86.0	14.0	9.6	90.4
Chlorsulfuron	0.8	0.0	100.0	.	.	.	100.0	.	.	100.0
Clopyralid + 2,4-D	3.1	0.1	100.0	.	.	.	89.3	10.7	10.7	89.3
Dicamba	167.0	6.2	100.0	.	.	.	89.1	10.9	1.2	98.8
Diclofop	67.9	2.5	100.0	.	.	.	85.8	14.2	7.1	92.9
Difenzoquat	38.7	1.4	100.0	.	.	.	86.4	13.6	9.6	90.4
Fenoxaprop	0.4	0.0	100.0	.	.	.	100.0	.	.	100.0
Fenoxaprop + 2,4-D + MCPA	14.8	0.5	100.0	.	.	.	82.9	17.1	16.5	83.5
Fenoxaprop + MCPA	1.9	0.1	100.0	.	.	.	100.0	.	.	100.0
Fenoxaprop + MCPA + thifensulfuron	0.1	0.0	100.0	.	.	.	100.0	.	.	100.0
Glyphosate	9.8	0.4	100.0	.	.	.	96.8	3.2	3.2	96.8
Imazamethabenz	33.5	1.2	100.0	.	.	.	79.8	20.2	11.6	88.4
MCPA	608.6	22.5	100.0	.	.	.	93.3	6.7	2.8	97.2
Metsulfuron	94.4	3.5	100.0	.	.	.	90.7	9.3	9.6	90.4
Picloram	11.3	0.4	100.0	.	.	.	100.0	.	.	100.0
Propanil + MCPA	1.2	0.0	100.0	.	.	.	100.0	.	.	100.0
Thifensulfuron + tribenuron	225.5	8.4	99.4	0.6	.	.	88.6	11.4	6.2	93.8
Triallate	63.9	2.4	100.0	.	.	.	81.5	18.5	0.9	99.1
Triallate + trifluralin	38.2	1.4	100.0	.	.	.	87.7	12.3	.	100.0
Tribenuron	366.4	13.6	99.4	0.6	.	.	93.6	6.4	3.0	97.0
Trifluralin	323.3	12.0	99.5	0.5	.	.	95.5	4.5	1.2	98.8
All Herbicides	3640.9	134.8	99.7	0.3	.	.	91.5	8.5	4.7	95.3

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.



TABLE 7. (Continued)

	Acres treated <sup>2</sup>	Acres treated	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
Insecticide <sup>1</sup>	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Acephate	1.0	0.0	100.0	.	.	.	.	100.0	100.0	.
Carbaryl	1.6	0.1	100.0	.	.	.	97.0	3.0	17.1	82.9
Carbofuran	8.3	0.3	100.0	.	.	.	81.0	19.0	19.0	81.0
Dimethoate	2.4	0.1	100.0	.	.	.	100.0	.	.	100.0
Encapsulated methyl parathion	2.0	0.1	100.0	.	.	.	.	100.0	100.0	.
Esfenvalerate	0.1	0.0	100.0	.	.	.	100.0	.	.	100.0
Fonofos	3.4	0.1	100.0	.	.	.	.	100.0	100.0	.
Malathion	0.7	0.0	68.0	.	32.0	.	100.0	.	.	100.0
All Insecticides	19.5	0.7	98.8	.	1.2	.	59.1	40.9	42.0	58.0
<b>Fungicide</b>										
Chlorothalonil	0.7	0.0	100.0	.	.	.	100.0	.	.	100.0
Mancozeb	23.2	0.9	72.2	27.8	.	.	27.9	72.1	72.1	27.9
Maneb + zinc	6.3	0.2	100.0	.	.	.	100.0	.	.	100.0
Propiconazole	52.4	1.9	100.0	.	.	.	5.6	94.4	94.4	5.6
All Fungicides	82.6	3.1	92.2	7.8	.	.	19.9	80.1	80.1	19.9

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.

TABLE 8. OAT: Herbicide, Insecticide, Fungicide and Desiccant usage and application method. North Dakota, 1992.

	Acres treated <sup>2</sup>	Acres treated	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
Herbicide <sup>1</sup>	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
2,4-D	110.1	14.1	99.7	0.3	.	.	75.7	24.3	6.9	93.1
Bromoxynil	2.0	0.3	100.0	.	.	.	82.8	17.2	.	100.0
Bromoxynil + MCPA	13.2	1.7	100.0	.	.	.	90.8	9.2	.	100.0
Dicamba	47.4	6.1	100.0	.	.	.	88.1	11.9	5.6	94.4
Glyphosate	2.9	0.4	100.0	.	.	.	100.0	.	.	100.0
Glyphosate + 2,4-D	0.5	0.1	100.0	.	.	.	.	100.0	.	100.0
MCPA	124.1	15.9	100.0	.	.	.	87.6	12.4	4.0	96.0
Picloram	5.4	0.7	100.0	.	.	.	81.1	18.9	18.9	81.1
Thifensulfuron + tribenuron	1.1	0.1	100.0	.	.	.	53.1	46.9	.	100.0
Tribenuron	2.0	0.3	100.0	.	.	.	45.9	54.1	20.4	79.6
All Herbicides	308.7	39.6	99.9	0.1	.	.	83.0	17.0	5.4	94.6
<b>Insecticide</b>										
Carbaryl	1.7	0.2	100.0	.	.	.	88.8	11.2	11.2	88.8
Malathion	0.3	0.0	100.0	.	.	.	100.0	.	.	100.0
All Insecticides	2.0	0.3	100.0	.	.	.	90.6	9.4	9.4	90.6

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.

TABLE 8. (Continued)

	Acres treated <sup>2</sup>	Acres treated	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
Desiccant <sup>1</sup>	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Paraquat	0.5	0.1	100.0	.	.	.	100.0	.	.	100.0
All Desiccants	0.5	0.1	100.0	.	.	.	100.0	.	.	100.0

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.

TABLE 9. FLAX: Herbicide, Insecticide, Fungicide and Desiccant usage and application method. North Dakota, 1992.

	Acres treated <sup>2</sup>	Acres treated	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
Herbicide <sup>1</sup>	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
2,4-D	5.8	4.0	100.0	.	.	.	83.5	16.5	13.4	86.6
Bromoxynil	10.6	7.3	100.0	.	.	.	100.0	.	.	100.0
Bromoxynil+MCPA	0.4	0.3	100.0	.	.	.	100.0	.	.	100.0
Dicamba	0.5	0.3	100.0	.	.	.	100.0	.	.	100.0
EPTC	0.4	0.3	100.0	.	.	.	100.0	.	.	100.0
Ethalfluralin	0.3	0.2	100.0	.	.	.	100.0	.	.	100.0
Glyphosate	1.0	0.7	100.0	.	.	.	100.0	.	.	100.0
MCPA	53.7	37.0	100.0	.	.	.	92.4	7.6	5.6	94.4
Metsulfuron	0.5	0.3	100.0	.	.	.	100.0	.	.	100.0
Picloram	7.9	5.4	100.0	.	.	.	100.0	.	.	100.0
Propachlor	0.3	0.2	100.0	.	.	.	100.0	.	.	100.0
Sethoxydim	16.8	11.6	100.0	.	.	.	88.9	11.1	9.7	90.3
Triallate	0.9	0.6	100.0	.	.	.	100.0	.	.	100.0
Triallate+trifluralin	2.8	1.9	100.0	.	.	.	100.0	.	.	100.0
Trifluralin	40.0	27.6	100.0	.	.	.	99.0	1.0	.	100.0
All Herbicides	141.7	97.8	100.0	.	.	.	94.9	5.1	3.8	96.2
<b>Insecticide</b>										
Carbaryl	1.5	1.0	100.0	.	.	.	.	100.0	100.0	.
Esfenvalerate	0.7	0.5	100.0	.	.	.	100.0	.	.	100.0
All Insecticides	2.2	1.5	100.0	.	.	.	30.6	69.4	69.4	30.6

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.

TABLE 10. CORN: Herbicide, Insecticide, Fungicide and Desiccant usage and application method. North Dakota, 1992.

	Acres treated <sup>2</sup>	Acres treated	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
Herbicide <sup>1</sup>	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
2,4-D	45.3	4.5	100.0	.	.	.	79.8	20.2	3.2	96.8
Alachlor	93.9	9.4	100.0	.	.	.	83.6	16.4	.	100.0
Atrazine	19.3	1.9	100.0	.	.	.	76.5	23.5	0.8	99.2
Atrazine + metolachlor	7.5	0.7	100.0	.	.	.	100.0	.	.	100.0
Bentazon + atrazine	2.7	0.3	100.0	.	.	.	100.0	.	.	100.0
Bromoxynil	113.7	11.4	98.6	1.4	.	.	95.0	5.0	3.9	96.1
Bromoxynil + MCPA	0.4	0.0	100.0	.	.	.	100.0	.	.	100.0
Butylate + safener	0.7	0.1	100.0	.	.	.	.	100.0	.	100.0
Cyanazine	113.5	11.3	100.0	.	.	.	76.2	23.8	1.8	98.2
Dicamba	209.8	21.0	99.2	0.8	.	.	90.8	9.2	5.1	94.9
EPTC + safener	230.1	23.0	100.0	.	.	.	75.2	24.8	1.4	98.6
EPTC + safener + extender	6.6	0.7	100.0	.	.	.	62.0	38.0	.	100.0
Ethalfuralin	3.3	0.3	100.0	.	.	.	100.0	.	.	100.0
Glyphosate	10.0	1.0	100.0	.	.	.	100.0	.	.	100.0
Imazamethabenz	10.5	1.1	28.8	71.2	.	.	77.3	22.7	3.5	96.5
Imazethapyr	0.4	0.0	100.0	.	.	.	.	100.0	100.0	.
MCPA	0.8	0.1	100.0	.	.	.	100.0	.	.	100.0
Metolachlor	78.4	7.8	100.0	.	.	.	92.5	7.5	3.1	96.9
Metolachlor + cyanazine	2.3	0.2	100.0	.	.	.	100.0	.	.	100.0
Nicosulfuron	249.5	25.0	99.2	0.8	.	.	91.8	8.2	3.6	96.4
Paraquat	3.6	0.4	100.0	.	.	.	79.7	20.3	.	100.0
Pendimethalin	24.8	2.5	100.0	.	.	.	47.4	52.6	.	100.0
Propachlor	3.2	0.3	100.0	.	.	.	100.0	.	.	100.0
Sethoxydim	0.1	0.0	100.0	.	.	.	100.0	.	.	100.0
Thifensulfuron + tribenuron	4.3	0.4	100.0	.	.	.	100.0	.	.	100.0
Tribenuron	0.3	0.0	100.0	.	.	.	.	100.0	.	100.0
Trifluralin	2.5	0.3	100.0	.	.	.	95.0	5.0	.	100.0
All Herbicides	1237.5	123.8	99.0	1.0	.	.	85.1	14.9	2.8	97.2
<b>Insecticide</b>										
Carbofuran	2.6	0.3	100.0	.	.	.	100.0	.	.	100.0
Chlorpyrifos	6.1	0.6	100.0	.	.	.	100.0	.	.	100.0
Esfenvalerate	1.1	0.1	100.0	.	.	.	100.0	.	.	100.0
Ethyl parathion	0.3	0.0	100.0	.	.	.	.	100.0	.	100.0
Permethrin	6.1	0.6	100.0	.	.	.	4.0	96.0	82.2	17.8
Phorate	2.5	0.2	100.0	.	.	.	100.0	.	.	100.0
Tefluthrin	40.9	4.1	100.0	.	.	.	100.0	.	.	100.0
Terbufos	22.9	2.3	100.0	.	.	.	74.6	25.4	.	100.0
All Insecticides	82.4	8.2	100.0	.	.	.	85.4	14.6	6.1	93.9

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.

TABLE 11. SUNFLOWER: Herbicide, Insecticide, Fungicide and Desiccant usage and application method. North Dakota, 1992.

	Acres treated <sup>2</sup>	Acres treated	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
Herbicide <sup>1</sup>	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
2,4-D	2.5	0.2	100.0	.	.	.	100.0	.	.	100.0
Alachlor	1.1	0.1	100.0	.	.	.	100.0	.	.	100.0
Barban	0.3	0.0	100.0	.	.	.	100.0	.	.	100.0
Chloramben	7.5	0.6	100.0	.	.	.	100.0	.	.	100.0
Ethalfuralin	499.1	40.7	100.0	.	.	.	84.1	15.9	5.2	94.8
Fenoxaprop	1.4	0.1	100.0	.	.	.	100.0	.	.	100.0
Glyphosate	6.8	0.6	63.1	36.9	.	.	100.0	.	.	100.0
Imazamethabenz	12.8	1.0	100.0	.	.	.	100.0	.	.	100.0
Pendimethalin	15.6	1.3	100.0	.	.	.	57.1	42.9	.	100.0
Picloram	3.8	0.3	100.0	.	.	.	.	100.0	.	100.0
Sethoxydim	36.5	3.0	73.2	26.8	.	.	71.7	28.3	32.2	67.8
Triallate	1.3	0.1	100.0	.	.	.	100.0	.	.	100.0
Trifluralin	566.5	46.2	99.1	0.9	.	.	93.6	6.4	0.9	99.1
All Herbicides	1155.1	94.3	98.5	1.5	.	.	88.2	11.8	3.7	96.3
<b>Insecticide</b>										
Carbaryl	3.4	0.3	100.0	.	.	.	17.5	82.5	82.5	17.5
Carbofuran	14.2	1.2	100.0	.	.	.	58.7	41.3	41.3	58.7
Chlorpyrifos	1.8	0.1	100.0	.	.	.	100.0	.	.	100.0
Esfenvalerate	125.6	10.3	90.8	9.2	.	.	48.9	51.1	54.0	46.0
Ethyl parathion	113.3	9.2	85.1	14.9	.	.	4.1	95.9	95.9	4.1
Fenvalerate	2.5	0.2	100.0	.	.	.	.	100.0	100.0	.
Malathion	20.1	1.6	91.6	8.4	.	.	36.1	63.9	63.9	36.1
Methyl parathion	77.7	6.3	91.4	8.6	.	.	3.8	96.2	95.1	4.9
Tefluthrin	5.1	0.4	100.0	.	.	.	100.0	.	.	100.0
All Insecticides	363.7	29.7	89.9	10.1	.	.	25.3	74.7	75.5	24.5
<b>Fungicide</b>										
Maneb + zinc	1.3	0.1	100.0	.	.	.	.	100.0	100.0	.
All Fungicides	1.3	0.1	100.0	.	.	.	.	100.0	100.0	.

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.

TABLE 12. SOYBEAN: Herbicide, Insecticide, Fungicide and Desiccant usage and application method. North Dakota, 1992.

Herbicide <sup>1</sup>	Acres treated <sup>2</sup> (1000)	Acres treated (%)	Applications				Applicator		Method of application	
			1 (%)	2 (%)	3 (%)	4 (%)	Farm operator (%)	Custom (%)	Aerial (%)	Ground (%)
2,4-D	1.7	0.2	100.0	.	.	.	100.0	.	.	100.0
Acifluorfen	61.8	8.8	94.0	6.0	.	.	95.1	4.9	2.0	98.0
Acifluorfen + bentazon	50.3	7.2	100.0	.	.	.	95.1	4.9	4.9	95.1
Alachlor	13.3	1.9	100.0	.	.	.	100.0	.	.	100.0
Alachlor + trifluralin	11.5	1.6	100.0	.	.	.	100.0	.	.	100.0
Bentazon	301.4	43.1	90.7	9.3	.	.	86.2	13.8	13.5	86.5
Bromoxynil	0.6	0.1	.	100.0	.	.	100.0	.	.	100.0
Chloramben	3.3	0.5	100.0	.	.	.	100.0	.	.	100.0
Chlorimuron	2.1	0.3	100.0	.	.	.	100.0	.	.	100.0
Diclofop	1.3	0.2	100.0	.	.	.	100.0	.	.	100.0
Ethalfuralin	198.3	28.3	96.7	3.3	.	.	85.1	14.9	1.5	98.5
Fenoxaprop	8.6	1.2	75.4	24.6	.	.	75.4	24.6	.	100.0
Fluazifop-P	4.4	0.6	100.0	.	.	.	89.2	10.8	3.0	97.0
Fluazifop-P + fenoxaprop	11.1	1.6	100.0	.	.	.	82.8	17.2	.	100.0
Glyphosate	0.5	0.1	100.0	.	.	.	63.0	37.0	.	100.0
Imazamethabenz	2.5	0.4	100.0	.	.	.	100.0	.	.	100.0
Imazethapyr	60.4	8.6	100.0	.	.	.	78.9	21.1	18.2	81.8
Lactofen	31.7	4.5	93.5	6.5	.	.	77.0	23.0	23.0	77.0
Linuron	0.2	0.0	100.0	.	.	.	100.0	.	.	100.0
Metolachlor	4.5	0.6	100.0	.	.	.	54.2	45.8	.	100.0
Metribuzin	14.5	2.1	100.0	.	.	.	51.8	48.2	0.9	99.1
Naptalam + 2,4-D	0.6	0.1	100.0	.	.	.	.	100.0	100.0	.
Nicosulfuron	1.6	0.2	100.0	.	.	.	100.0	.	.	100.0
Pendimethalin	7.6	1.1	100.0	.	.	.	79.2	20.8	20.8	79.2
Quizalofop-P	5.8	0.8	100.0	.	.	.	97.0	3.0	.	100.0
Sethoxydim	70.7	10.1	97.0	3.0	.	.	90.9	9.1	5.8	94.2
Thifensulfuron	62.2	8.9	93.4	6.6	.	.	84.7	15.3	11.2	88.8
Thifensulfuron + tribenuron	0.5	0.1	100.0	.	.	.	.	100.0	100.0	.
Triallate + trifluralin	0.7	0.1	100.0	.	.	.	100.0	.	.	100.0
Trifluralin	319.3	45.6	100.0	.	.	.	93.1	6.9	1.6	98.4
All Herbicides	1253.0	179.0	96.1	3.9	.	.	87.9	12.1	6.7	93.3
<b>Insecticide</b>										
Carbofuran	1.6	0.2	100.0	.	.	.	70.1	29.9	29.9	70.1
Dimethoate	1.2	0.2	100.0	.	.	.	58.3	41.7	41.7	58.3
Esfenvalerate	4.7	0.7	100.0	.	.	.	81.0	19.0	19.0	81.0
All Insecticides	7.5	1.1	100.0	.	.	.	74.9	25.1	25.1	74.9

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.

TABLE 13. DRY BEAN: Herbicide, Insecticide, Fungicide and Desiccant usage and application method. North Dakota, 1992.

	Acres treated <sup>2</sup>	Acres treated	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
Herbicide <sup>1</sup>	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
2,4-D	2.3	0.5	100.0	.	.	.	39.5	60.5	.	100.0
Acifluorfen	2.4	0.5	100.0	.	.	.	84.7	15.3	15.3	84.7
Alachlor	4.8	1.1	100.0	.	.	.	76.4	23.6	.	100.0
Bentazon	143.4	32.6	88.3	10.6	1.1	.	94.2	5.8	5.6	94.4
Bromoxynil	2.6	0.6	100.0	.	.	.	.	100.0	.	100.0
Chloramben	0.5	0.1	100.0	.	.	.	100.0	.	.	100.0
EPTC	7.5	1.7	100.0	.	.	.	62.6	37.4	.	100.0
Ethalfuralin	241.4	54.9	100.0	.	.	.	89.6	10.4	2.0	98.0
Fluazifop-P	0.2	0.0	100.0	.	.	.	100.0	.	.	100.0
Glyphosate	3.4	0.8	100.0	.	.	.	86.6	13.4	.	100.0
Metolachlor	4.9	1.1	100.0	.	.	.	100.0	.	.	100.0
Pendimethalin	0.3	0.1	100.0	.	.	.	.	100.0	.	100.0
Sethoxydim	29.9	6.8	98.4	1.6	.	.	87.9	12.1	3.3	96.7
Triallate	1.8	0.4	100.0	.	.	.	81.5	18.5	.	100.0
Trifluralin	122.4	27.8	100.0	.	.	.	82.7	17.3	0.3	99.7
All Herbicides	567.7	129.0	97.0	2.8	0.3	.	88.1	11.9	2.6	97.4
<b>Insecticide</b>										
Dimethoate	0.2	0.0	100.0	.	.	.	.	100.0	100.0	.
All Insecticides	0.2	0.0	100.0	.	.	.	.	100.0	100.0	.
<b>Fungicide</b>										
Benlate	1.4	0.3	100.0	.	.	.	100.0	.	.	100.0
Chlorothalonil	4.8	1.1	100.0	.	.	.	80.8	19.2	19.2	80.8
Mancozeb	2.4	0.5	100.0	.	.	.	.	100.0	84.6	15.4
Maneb + zinc	9.3	2.1	100.0	.	.	.	51.8	48.2	40.6	59.4
Sulfur	1.1	0.3	100.0	.	.	.	.	100.0	100.0	.
Thiophanate methyl	5.2	1.2	100.0	.	.	.	67.5	32.5	32.5	67.5
All Fungicides	24.2	5.5	100.0	.	.	.	56.2	43.8	39.4	60.6
<b>Desiccant</b>										
Diquat	0.4	0.1	100.0	.	.	.	.	100.0	100.0	.
Paraquat	2.7	0.6	100.0	.	.	.	.	100.0	100.0	.
Sodium chlorate	4.2	1.0	100.0	.	.	.	.	100.0	100.0	.
All Desiccants	7.4	1.7	100.0	.	.	.	.	100.0	100.0	.

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.

TABLE 14. POTATO: Herbicide, Insecticide, Fungicide and Desiccant usage and application method. North Dakota, 1992.

	Acres treated <sup>2</sup>	Acres treated	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<b>Herbicide<sup>1</sup></b>	<b>(1000)</b>	<b>(%)</b>	<b>(%)</b>	<b>(%)</b>	<b>(%)</b>	<b>(%)</b>	<b>(%)</b>	<b>(%)</b>	<b>(%)</b>	<b>(%)</b>
2,4-D	1.8	1.2	.	100.0	.	.	.	100.0	100.0	.
EPTC	3.1	2.1	100.0	.	.	.	100.0	.	.	100.0
Glyphosate	1.6	1.1	100.0	.	.	.	100.0	.	.	100.0
Metolachlor	10.2	7.0	100.0	.	.	.	100.0	.	.	100.0
Metribuzin	6.2	4.3	100.0	.	.	.	99.4	0.6	0.6	99.4
Pendimethalin	13.5	9.2	100.0	.	.	.	94.6	5.4	5.4	94.6
Sethoxydim	4.2	2.8	100.0	.	.	.	82.6	17.4	21.5	78.5
Trifluralin	16.6	11.4	100.0	.	.	.	98.6	1.4	1.4	98.6
<b>All Herbicides</b>	<b>57.2</b>	<b>39.2</b>	<b>96.8</b>	<b>3.2</b>	<b>.</b>	<b>.</b>	<b>93.8</b>	<b>6.2</b>	<b>6.5</b>	<b>93.5</b>
<b>Insecticide</b>										
Aldicarb	0.7	0.5	100.0	.	.	.	100.0	.	.	100.0
Azinphos-methyl	17.9	12.3	100.0	.	.	.	94.9	5.1	5.1	94.9
Carbaryl	6.6	4.5	7.7	.	92.3	.	92.3	7.7	.	100.0
Carbofuran	168.7	115.6	24.2	62.2	13.6	.	77.2	22.8	22.8	77.2
Encapsulated methyl parathion	9.5	6.5	30.2	69.8	.	.	100.0	.	.	100.0
Endosulfan	61.6	42.2	56.5	43.5	.	.	87.5	12.5	12.5	87.5
Esfenvalerate	22.3	15.2	82.9	.	17.1	.	82.9	17.1	17.1	82.9
Ethyl parathion	3.0	2.1	100.0	.	.	.	65.3	34.7	34.7	65.3
Fenvalerate	2.0	1.4	100.0	.	.	.	100.0	.	.	100.0
Malathion	0.1	0.1	100.0	.	.	.	.	100.0	100.0	.
Methamidophos	29.6	20.3	9.9	35.4	11.7	.	34.2	65.8	65.8	34.2
Nosema locustae fungus	4.0	2.8	.	100.0	.	.	100.0	.	.	100.0
Permethrin	8.9	6.1	100.0	.	.	.	.	100.0	100.0	.
Phorate	16.0	11.0	100.0	.	.	.	85.9	14.1	19.0	81.0
Phosphamidon	1.4	0.9	100.0	.	.	.	100.0	.	.	100.0
<b>All Insecticides</b>	<b>352.4</b>	<b>241.3</b>	<b>42.7</b>	<b>43.4</b>	<b>10.3</b>	<b>.</b>	<b>76.4</b>	<b>23.6</b>	<b>23.7</b>	<b>76.3</b>
<b>Fungicide</b>										
Chlorothalonil	79.6	54.5	23.1	11.0	.	65.9	62.4	37.6	37.6	62.4
Mancozeb	192.1	131.6	17.0	23.3	39.7	5.9	81.5	18.5	18.5	81.5
Maneb + triphenyltin hydroxide	36.1	24.7	70.1	29.9	.	.	82.3	17.7	17.7	82.3
Maneb + zinc	18.6	12.7	3.9	27.7	.	.	31.7	68.3	68.3	31.7
Metalaxyl + chlorothalonil	0.3	0.2	100.0	.	.	.	.	100.0	100.0	.
Metalaxyl + mancozeb	21.6	14.8	79.1	20.9	.	.	43.8	56.2	56.2	43.8
Sulfur	0.2	0.1	100.0	.	.	.	100.0	.	.	100.0
Triphenyltin hydroxide	50.0	34.3	43.7	.	50.4	5.9	65.8	34.2	34.2	65.8
<b>All Fungicides</b>	<b>398.6</b>	<b>273.0</b>	<b>29.3</b>	<b>18.6</b>	<b>25.5</b>	<b>16.7</b>	<b>71.4</b>	<b>28.6</b>	<b>28.6</b>	<b>71.4</b>
<b>DESICCANT</b>										
Diquat	60.4	41.3	72.4	27.6	.	.	52.5	47.5	46.3	53.7
Endothall	2.8	1.9	100.0	.	.	.	.	100.0	100.0	.
Paraquat	1.1	0.8	100.0	.	.	.	100.0	.	.	100.0
<b>All Desiccants</b>	<b>64.3</b>	<b>44.0</b>	<b>74.1</b>	<b>25.9</b>	<b>.</b>	<b>.</b>	<b>51.0</b>	<b>49.0</b>	<b>47.9</b>	<b>52.1</b>

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.

TABLE 15. SUGARBEET: Herbicide, Insecticide, Fungicide and Desiccant usage and application method. North Dakota, 1992.

	Acres treated <sup>2</sup>	Acres treated	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
Herbicide <sup>1</sup>	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Bromoxynil + MCPA	2.2	1.1	100.0	.	.	.	68.9	31.1	.	100.0
Clopyalid	41.7	21.3	48.1	20.2	31.7	.	98.5	1.5	1.4	98.6
Cycloate	16.1	8.3	100.0	.	.	.	85.7	14.3	.	100.0
Desmedipham	154.2	78.9	47.9	34.6	11.9	5.6	94.8	5.2	6.1	93.9
Desmedipham + phenmedipham	205.4	105.1	38.0	40.5	16.3	5.1	94.9	5.1	4.3	95.7
Diethatyl	11.9	6.1	100.0	.	.	.	100.0	.	.	100.0
Endothall	3.3	1.7	63.7	36.3	.	.	100.0	.	.	100.0
EPTC	11.7	6.0	63.3	36.7	.	.	87.9	12.1	.	100.0
Ethofumesate	11.2	5.7	100.0	.	.	.	100.0	.	.	100.0
Glyphosate	4.5	2.3	100.0	.	.	.	87.3	12.7	6.9	93.1
MCPA	0.8	0.4	100.0	.	.	.	100.0	.	.	100.0
Pyramin	0.5	0.2	100.0	.	.	.	100.0	.	.	100.0
Sethoxydim	153.0	78.3	78.2	18.9	2.9	.	94.3	5.7	5.6	94.4
Thifensulfuron + tribenuron	1.5	0.8	100.0	.	.	.	.	100.0	.	100.0
Trifluralin	6.2	3.2	100.0	.	.	.	78.9	21.1	21.1	78.9
All Herbicides	624.1	319.2	57.0	28.7	11.1	3.1	94.3	5.7	4.6	95.4
<b>Insecticide</b>										
Aldicarb	3.5	1.8	100.0	.	.	.	100.0	.	.	100.0
Chlorpyrifos	78.0	39.9	76.2	11.4	12.4	.	56.7	43.3	46.2	53.8
Diazinon	1.5	0.8	100.0	.	.	.	100.0	.	.	100.0
Esfenvalerate	0.8	0.4	100.0	.	.	.	100.0	.	.	100.0
Terbufos	103.7	53.0	100.0	.	.	.	99.0	1.0	1.9	98.1
All Insecticides	187.5	95.9	90.1	4.7	5.2	.	81.4	18.6	20.3	79.7
<b>Fungicide</b>										
Chlorothalonil	1.1	0.6	100.0	.	.	.	100.0	.	.	100.0
Copper	0.2	0.1	100.0	.	.	.	.	100.0	100.0	.
Mancozeb	3.4	1.8	20.3	79.7	.	.	.	100.0	100.0	.
Metalaxyl + chlorothalonil	0.1	0.1	100.0	.	.	.	.	100.0	100.0	.
Ridomil	0.7	0.3	100.0	.	.	.	100.0	.	.	100.0
Triphenyltin hydroxide	83.6	42.8	47.6	42.1	10.3	.	21.5	78.5	88.7	11.3
All Fungicides	89.1	45.6	47.8	42.5	9.7	.	22.1	77.9	87.5	12.5

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.



**TABLE 16. ALFALFA HAY: Herbicide, Insecticide, Fungicide and Desiccant usage and application method. North Dakota, 1992.**

	Acres treated <sup>2</sup>	Acres treated	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
Herbicide <sup>1</sup>	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
2,4-D	1.0	0.1	1.0	99.0	.	.	100.0	.	.	100.0
Dicamba	1.4	0.1	.	100.0	.	.	100.0	.	.	100.0
Glyphosate + 2,4-D	0.2	0.0	100.0	.	.	.	.	100.0	.	100.0
Glyphosate + dicamba	0.9	0.1	100.0	.	.	.	100.0	.	.	100.0
Picloram	3.0	0.2	33.4	.	66.6	.	100.0	.	.	100.0
Sethoxydim	0.5	0.0	77.2	22.8	.	.	100.0	.	.	100.0
Trifluralin	0.4	0.0	100.0	.	.	.	.	100.0	.	100.0
All Herbicides	7.4	0.6	38.0	34.9	27.1	.	92.9	7.1	.	100.0
<b>Insecticide</b>										
Carbaryl	6.5	0.5	79.3	20.7	.	.	82.1	17.9	16.0	84.0
Carbofuran	0.2	0.0	100.0	.	.	.	100.0	.	.	100.0
Esfenvalerate	1.3	0.1	100.0	.	.	.	.	100.0	100.0	.
Malathion	0.3	0.0	100.0	.	.	.	.	100.0	100.0	.
Nosema locustae fungus	0.1	0.0	100.0	.	.	.	100.0	.	.	100.0
All Insecticides	8.5	0.7	84.2	15.8	.	.	66.7	33.3	31.9	68.1

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.

**TABLE 17. OTHER HAY: Herbicide, Insecticide, Fungicide and Desiccant usage and application method. North Dakota, 1992.**

	Acres treated <sup>2</sup>	Acres treated	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
Herbicide <sup>1</sup>	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
2,4-D	19.6	1.2	100.0	.	.	.	84.8	15.2	10.7	89.3
Bromoxynil	0.3	0.0	100.0	.	.	.	100.0	.	.	100.0
Dicamba	1.9	0.1	100.0	.	.	.	62.9	37.1	37.1	62.9
Glyphosate	2.1	0.1	100.0	.	.	.	79.3	20.7	.	100.0
MCPA	2.5	0.2	100.0	.	.	.	100.0	.	.	100.0
Picloram	4.2	0.3	75.6	.	24.4	.	91.6	8.4	.	100.0
Thifensulfuron + tribenuron	0.1	0.0	100.0	.	.	.	100.0	.	.	100.0
Tribenuron	0.1	0.0	100.0	.	.	.	100.0	.	.	100.0
All Herbicides	30.9	1.9	96.7	.	3.3	.	85.5	14.5	9.1	90.9
<b>Insecticide</b>										
Carbaryl	4.7	0.3	100.0	.	.	.	23.6	76.4	76.4	23.6
Carbofuran	0.3	0.0	100.0	.	.	.	.	100.0	100.0	.
Malathion	1.2	0.1	100.0	.	.	.	100.0	.	.	100.0
All Insecticides	6.2	0.4	100.0	.	.	.	37.0	63.0	63.0	37.0

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.

**TABLE 18. PASTURE: Herbicide, Insecticide, Fungicide and Desiccant usage and application method. North Dakota, 1992.**

	Acres treated <sup>2</sup>	Acres treated	Applications				Applicator		Method of application	
			1	2	3	4	Farm operator	Custom	Aerial	Ground
Herbicide <sup>1</sup>	(1000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
2,4-D	105.9	0.9	96.1	3.7	0.2	.	59.2	40.8	38.9	61.1
Amitrole	0.2	0.0	100.0	.	.	.	100.0	.	.	100.0
Clopyralid + 2,4-D	0.2	0.0	100.0	.	.	.	100.0	.	.	100.0
Dicamba	23.7	0.2	71.9	28.1	.	.	62.0	38.0	57.9	42.1
Glyphosate	1.3	0.0	100.0	.	.	.	100.0	.	.	100.0
MCPA	2.9	0.0	100.0	.	.	.	45.0	55.0	26.6	73.4
Metsulfuron	2.6	0.0	100.0	.	.	.	100.0	.	.	100.0
Picloram	94.3	0.8	88.5	11.3	0.2	.	75.9	24.1	20.9	79.1
All Herbicides	230.9	1.9	90.6	9.2	0.2	.	66.9	33.1	32.6	67.4
<b>Insecticide</b>										
Carbaryl	15.2	0.1	100.0	.	.	.	2.7	97.3	97.3	2.7
Carbofuran	0.2	0.0	100.0	.	.	.	.	100.0	100.0	.
All Insecticides	15.4	0.1	100.0	.	.	.	2.6	97.4	97.4	2.6

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

<sup>2</sup>Multiple applications to the same acreage were totaled as separate values. Thus, acres treated can exceed 100% of planted acres.