SURVEY OF WEED CONTROL AND PRODUCTION PRACTICES ON SUGARBEET IN EASTERN NORTH DAKOTA AND MINNESOTA - 2003

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Other portions of the survey are published in the
Entomology and Plant Pathology sections.

The thirty-fifth annual weed control and production practices questionnaire was mailed in September, 2003 to sugarbeet growers producing sugarbeet for the American Crystal Sugar Company, the Minn-Dak Farmers Cooperative, and the Southern Minnesota Beet Sugar Cooperative. Growers were requested to evaluate weed control and sugarbeet injury from specific herbicides, and to list the most important weed and production problems. In addition, growers were requested to list insecticide use, fungicide use, total acreage, acres of hand-weeded sugarbeet, herbicide application methods, cost of hand thinning and hand weeding,. Insecticide use and fungicide use portions of the survey can be found in the Entomology and Plant Pathology sections.

Sugarbeet growers planted 729,000 acres of sugarbeet in the Red River Valley and West Central Minnesota in 2003. Growers representing 26 percent of the total acres responded to the survey. The responses to the questionnaire are reported in Tables 1 to 27.

Table 1 gives a summary of herbicide use and performance averaged over all counties. The number of growers reporting the use of a herbicide treatment is listed and the acres treated is expressed as a percentage of the total acreage reported on the survey. Multiple herbicide treatments are tabulated for each herbicide treatment, thus the number of growers reporting in Table 1 exceeds the total number of responses. Also, multiple herbicide treatments on the same acreage are listed separately in the tables, thus acres treated exceeds 100%. The ratings of weed control and sugarbeet injury are presented as the percentage of growers who judged weed control or sugarbeet injury as belonging in the listed categories. Data for individual counties are in Tables 2 through 17.

The trade names listed in the tables for the herbicides are the original trade names. These old trade names also represent the generic formulations of the same active ingredient. Thus Nortron represents Etho SC and Ethotron; Betamix represents D-P Mix and Phen-Des; Betanex represents Des and Alphanex; Progress represents Des-Phen-Etho; Stinger represents ClopyrAg; and Select represents Prism and Arrow.

Total sugarbeet acreage treated with herbicides in 2003 was 437%, which compares to 428% in 2002, 368% in 2001 and 348% in 2000. The acres treated does not include "other weed control methods" which were non-herbicidal methods. Eptam, Ro-Neet, Dual and Nortron, used in combination as well as used alone, were the soil applied herbicides reported in 2003. Soil applied herbicide use was 47% in 1989, 32% in 1993, 11% in 1998, 4% in 1999, 4% in 2001, 4% in 2002 and 29% in 2003. Postemergence herbicide use was 380% in 2003, 388% in 2002, 342% in 2001, 338% in 2000, 337% in 1999,and 374% in 1998. The use of soil applied herbicides increased from 4% in 2002 to 29% in 2003 primarily due to the new label for Dual Magnum and increased use of Nortron. Postemergence herbicide use only dropped from 388% in 2002 to 380% in 2003. The increased use of soil applied herbicides did not significantly reduce postemergence herbicide use. Sugarbeet injury from PRE or PPI Dual Magnum was widespread in 2003 with 53% of the survey respondents indicating moderate or severe sugarbeet injury.

The usage of postemergence grass control herbicides was 214% of the acreage in 2003 as compared to 209% in 2002, 214% in 2001, and 235% in 2000. Assure II was used on 15% of the acreage in 2001, 13% in 2002 and 15% in 2003. Prism/Select was used on 163% of the acreage in 2001, 190% in 2002 and 180% in 2003. Poast was used on 36% of the acreage in 2001, 17% in 2002 and 19% in 2003. Most of the grass herbicides were applied in combination with the micro-rate which included an oil adjuvant. About 52% of the acres treated with a grass herbicide were treated with a grass herbicide used alone.

Betanex use was 190% of the acreage in 1999, 149% in 2000, 107% in 2001 and 112% in 2002 and 100% in 2003. Betamix use was 95% of the acreage in 1999, 107% in 2000, 116% in 2001 and 139% in 2002 and 115% in 2003. Progress use was 21% of the acreage in 1999, 54% in 2000, 81% in 2001 and 97% in 2002 and 122% in 2003. Progress use is increasing due to the increase in kochia in sugarbeet. UpBeet use was 301% of the acreage in 2000, 278% in 2001, 332% in 2002 and 324% in 2003. Stinger use was 138% of the acreage in 1997, 291% in 1999, 298% in 2000, 274% in 2001, 304% in 2002 and 305% in 2003. The most common herbicide treatment in 2003 was Betamix + UpBeet + Stinger + Select + Oil adjuvant on 50% of the acreage. This combination was used on less than 1% of the acreage in 1997. Combination treatments that included an oil generally would be micro-rate treatments. Treatments including oil were applied to 294% of the acreage in 2003, 301% in 2002, 265% in 2001, and 285% in 2000. Lay-by Outlook was used on 17% of the acreage in 2003, and 26% in 2002 under a Section 18 label for eastern ND and MN.

The rotary hoe or harrow were used on 65% of the acres in 2003 compared to 42% in 2002, 63% in 2001, 62% in 2000 and 48% in 1999. The electrical discharge system, weed pullers, mowing or swathing were used on 7.6% of the acreage in 1995, 1.6% in 1997, less than 1% in 1999, 1.7% in 2000, 2.4% in 2001 and 3.1% in 2002 and 2% in 2003.

Pigweed species were NOT named most often as "worst weed" in sugarbeet in 2003 for the second time in 27 years (Table 18). Kochia was the most common "worst weed" choice in 2003 and 2000. "Pigweed (all types)" was listed as a choice rather than redroot pigweed on the survey. Waterhemp was left as a choice on the survey even though waterhemp is a pigweed. The percentage of respondents indicating redroot pigweed as their worst weed was 51% in 1998, 40% in 1999, 18% in 2000, 43% in 2001, 44% in 2002 and 25% in 2003. Waterhemp was named as worst weed by 5% of the respondents in 2002 and 4% in 2003. Kochia was named the worst weed problem by 46% of the survey respondents in 2003 compared to 26% in 2002, 32% in 2001, 43% in 2000, 33% in 1999 and 13% in 1998. The widespread occurrence of kochia that is resistant to UpBeet may explain the prevalence of kochia being named as worst weed.

Weeds were named as the most serious production problem by 61% of the survey respondents in 2003 compared to 53% in 2002, 52% in 2001, 48% in 2000 and 39% in 1999. (Table 19). The percentage of respondents who named emergence and stand as their worst problem was 12% in 1999, 10% in 2000, 5% in 2001, 19% in 2002 and 1% in 2003. The percentage of respondents who named Cercospora leaf spot (CLS) as their worst problem was 5% in 1997, 36% in 1998, 6% in 1999, 3% in 2000, 1% in 2001, 1% in 2002 and 1% in 2003. The Section 18 label for Eminent in 1999, 2000, 2001, 2002 and 2003 and the new label for Headline in 2003 probably explain the reduction in Cercospora being identified as the worst problem. Rhizoctonia/aphanomyces was named as worst problem by 9% of the respondents in 1999, 18% in 2000, 16% in 2001, 9% in 2002 and 11% in 2003. Soil moisture and soil temperature have a very large influence on sugarbeet injury caused by rhizoctonia and aphanomyces.

Rhizomania was listed as a "worst problem" choice for the first time in 1997 (Table 19). Rhizomania caused identifiable yield loss only in the Southern Minnesota Beet Sugar Cooperative in 1998 but it was identified in the Red River Valley in 1999. Rhizomania was named as worst problem by 3% of the respondents in 1998, by 2% in 1999 and 2000, by 3% in 2001 and 2002 and by 2% in 2003. Herbicide injury was written in on the survey by 4% of the respondents as worst production problem. Most of this would be in response to injury from Dual Magnum.

The percentage of acreage hand weeded was 62% in 1996, 45% in 1997, 28% in 1998, 25% in 2000, 23% in 2001, 32% in 2002 and 30% in 2003 (Table 20). Weed problems were worse in 2002 and 2003 than in several previous years and this is reflected in the increase of hand weeding.

Averaged over all herbicides, herbicides were band applied to 37%, broadcast applied with a ground sprayer to 56% and broadcast applied by air to 7% of the sugarbeet acreage (Table 21). In 1998, 40% of the acreage was band treated, 37% was band treated in 2000 and 38% in 2002 . Herbicides were applied by air to 14% of the acreage in 2002, 9% in 2000, and 17% in 1998.

The cost of hand weeding and hand thinning varied from zero to over $80/A in 2003 (Table 22). The most common cost was zero dollars for 41% of the respondents. Zero cost responses were 55% in 1999, 56% in 2000, 57% in 2001 and 48% in 2002. The average cost of hand weeding as calculated from Table 22 was $13.75/A in 2003 as

compared to $15.95/A in 2002, $11.15/A in 2001, $11.90/A in 2000, $11.20/A in 1999, $18.50/A in 1997 and $34/A in 1995. The percentage of respondents who used no hand labor varied by county from 8% in Renville county to 78% in Traill County.

Sugarbeet acreage operated by respondents to the survey in 2003 varied from less than 50 acres to over 2,000 acres (Table 23). The most common acreage was 400 to 599 acres for 20% of the respondents. Other common acreages were 100 to 199 acres at 14%, 200 to 299 acres at 15%, 300 to 399 acres at 12% and 600 to 799 acres at 12%. Ten percent of the respondents reported over 1,000 acres and 18% had over 800 acres. In 1998, 5% reported over 1,000 acres and 11% had over 800 acres.

Sugarbeet was seeded into cover crop on 18% of the acres in 2003, averaged over counties (Table 24). Spring seeded oat and spring seeded barley were the most common cover crops. Renville and Traverse counties had 58% of the sugarbeet acres planted on cover crop. Other counties with over 20% of the acreage on cover crop were Wilkin, Richland, Pembina and Chippewa.

The NDAWN internet web page was used for cercospora prediction or sugarbeet growth stage prediction by 35% of the survey respondents (Table 25). The greatest useage was in Kittson and Pembina counties and the least useage was in Chippewa, Cass and Wilkin.

Sugarbeet information was obtained from the internet by 83% of the survey respondents (Table 26). Counties with the greatest useage included Kittson, Norman, Polk and Walsh. Counties with the least useage included Clay, Richland, Traverse and Wilkin.

The ‘Sugarbeet Growing Tips” radio spots were heard by 42% of the survey respondents (Table 27). Counties with over 50% listener frequency included Cass, Grand Forks, Marshall, Norman, Pembina, Polk, Richland and Traill. Counties with less than 30% listener frequency included Clay, Traverse and Wilkin.

TABLE 1. SUMMARY OF ALL HERBICIDES USED IN SUGARBEET REPORTED IN 2003.
382 GROWERS REPORTED ON 188,325 ACRES: OF THIS TOTAL 1 GROWER
WITH 300 ACRES REPORTED NO HERBICIDES USED.

HERBICIDES (IN ORDER OF ACRES TREATED)	NUMBER GROWERS RPTG.	ACRES TREATED % OF TOTAL	Avg no. of appl	% GROWERS REPORTING WEED CONTROL NR*	EXC*	GD*	FR*	PR*	% GROWERS REPORTING CROP INJURY NR	None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:													
DUAL(PRE/PPI)	126	18.8	1.0	8	22	50	18	2	7	10	29	36	17
NORTRON(PRE/PPI)	68	9.7	1.0	3	24	54	18	1	7	76	13	3	0
EPTAM+RO-NEET	1	0.2	1.0	0	100	0	0	0	0	100	0	0	0
RO-NEET	1	0.1	1.0	0	100	0	0	0	0	100	0	0	0
EPTAM	1	0.0	1.0	0	100	0	0	0	0	100	0	0	0
TOTAL-PPI&PRE	197	28.8	1.0	6	24	51	18	2	7	35	23	24	11
B. POSTEMERGENCE HERBICIDES:													
BMIX+STING+UPBT+SLCT+OIL	87	51.7	2.0	9	20	62	7	2	13	38	47	2	0
PROG+STING+UPBT+SLCT+OIL	95	48.8	1.9	9	16	61	9	4	13	38	48	1	0
BETX+STING+UPBT+SLCT+OIL	83	33.8	1.7	12	14	60	11	2	17	40	37	5	1
SELECT/PRISM	108	27.6	1.3	14	60	23	3	0	19	77	5	0	0
BMIX+STING+UPBEET+OIL	67	23.1	1.8	6	13	61	18	1	13	27	57	3	0
BETX+STING+UPBEET+OIL	56	22.2	1.7	5	18	63	13	2	9	38	46	7	0
PROG+STING+UPBEET+OIL	50	20.6	1.7	8	20	52	18	2	14	22	50	14	0
BMIX+STING+UPBT+NORT+OIL	33	19.2	1.8	0	27	55	12	6	3	27	64	6	0
BETX+STING+UPBT+NORT+OIL	25	14.3	1.8	16	16	52	16	0	20	24	48	8	0
PROG+STING+UPBT+NORT+OIL	34	12.8	1.6	9	24	56	9	3	12	38	35	12	3
PROG+UPBEET+SELECT+OIL	21	10.3	1.5	10	5	67	19	0	10	48	43	0	0
PROG+STINGER+UPBEET	32	7.8	1.6	9	13	63	16	0	16	22	56	6	0
BETX+STINGER+UPBEET	23	7.5	1.7	22	13	57	9	0	26	30	43	0	0
PROG+STNG+UPBT+POAST+OIL	16	6.0	2.1	13	19	38	31	0	13	38	44	6	0
PROGRESS+UPBEET	21	5.9	1.7	10	5	43	38	5	10	52	24	14	0
BETX+STNG+UPBT+POAST+OIL	8	5.8	1.8	0	25	75	0	0	13	25	63	0	0
BETX+STING+UPBT+ASR+OIL	12	5.8	1.8	8	17	67	8	0	8	50	42	0	0
PROGRESS	28	5.6	1.4	4	11	54	32	0	11	39	43	7	0
BETX+UPBEET+SELECT+OIL	19	5.5	1.3	5	5	68	21	0	5	58	37	0	0
BMIX+STINGER+UPBEET	19	5.3	1.8	16	11	37	37	0	26	42	32	0	0
BETAMIX+STINGER	14	4.8	1.6	0	14	57	29	0	0	29	57	14	0
BMIX+STNG+UPBT+POAST+OIL	12	4.2	1.8	8	8	67	17	0	8	17	75	0	0
BETAMIX	20	4.2	1.5	5	0	50	40	5	5	40	45	5	5
BMIX+STING+UPBT+ASR+OIL	10	4.0	1.9	10	20	60	10	0	10	60	30	0	0
POAST	11	2.9	1.3	9	73	18	0	0	9	91	0	0	0
BMIX+UPBEET+SELECT+OIL	8	2.8	1.5	13	13	75	0	0	25	25	50	0	0
PROG+STING+UPBT+ASR+OIL	5	2.7	2.0	20	0	60	20	0	40	0	40	20	0
STINGER	14	2.4	1.4	0	36	57	7	0	0	50	43	7	0
ASSURE II	14	2.1	1.2	14	57	21	7	0	14	86	0	0	0
BETANEX+UPBEET	17	2.1	1.1	12	12	35	41	0	12	47	41	0	0
BETANEX	8	1.8	1.0	0	0	38	63	0	13	75	13	0	0
OTHER COMBINATIONS	6	1.6	1.5	17	17	50	17	0	17	17	50	17	0
UPBEET	6	1.5	1.8	0	17	33	50	0	0	33	50	17	0
PROGRESS+STINGER	14	1.4	1.3	0	14	71	7	7	0	50	50	0	0
BETANEX+STINGER	9	0.9	1.1	0	11	67	22	0	0	44	44	11	0
BETAMIX+UPBEET	4	0.7	1.3	0	0	100	0	0	25	50	25	0	0
TOTAL-POST	1009	379.5	1.6	9	21	53	15	2	13	42	40	4	0

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HERBICIDES (IN ORDER OF ACRES TREATED)	NUMBER GROWERS RPTG.	ACRES TREATED % OF TOTAL	Avg no. of appl	% GROWERS REPORTING WEED CONTROL NR*	EXC*	GD*	FR*	PR*	% GROWERS REPORTING CROP INJURY NR	None	Slt	Mod	Sev
C. PREEMERGE & LAY-BY HERBICIDES:													
OUTLOOK (LAY-BY)	116	17.2	1.0	10	24	50	10	5	18	46	29	7	0
ROUNDUP (PRE)	39	6.3	1.0	13	44	31	10	3	13	79	8	0	0
DUAL (LAY-BY)	21	2.9	1.0	0	19	52	29	0	5	19	67	0	10
TREFLAN (LAY-BY)	11	1.8	1.0	18	18	36	18	9	27	45	27	0	0
TOTAL-PRE&LAY-BY	187	28.3	1.0	10	27	45	13	4	16	50	29	4	1
D. OTHER WEED CONTROL METHODS:													
ROTARY HOE	147	58.5	1.5	18	9	35	34	3	21	30	45	3	1
HARROW	37	6.4	1.1	16	11	43	24	5	16	35	35	14	0
SWATH/FLAIL/MOW	9	0.7	1.0	33	0	0	44	22	33	22	22	22	0
WEED PULLER	6	0.7	1.2	17	17	33	33	0	33	0	67	0	0
ELECTRICAL (EDS)	1	0.3	1.0	0	0	0	100	0	0	0	100	0	0
TOTAL-OTHER	200	66.6	1.4	19	9	35	33	5	21	30	43	6	1
TOTAL TREATMENTS	1593	503.2	1.5	10	21	50	17	2	1	2	3	0	0

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 2. **CASS COUNTY**: 14 GROWERS REPORTED ON 6,470 ACRES.

TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NO. OF GROWERS REPORTING: WEED CONTROL NR*	EXC*	GD*	FR*	PR*	NR	CROP INJURY None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
DUAL(PRE/PPI)	2	422	6.5	1.0	0	2	0	0	0	0	1	0	0	1
NORTRON(PRE/PPI)	1	70	1.1	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-PPI&PRE	3	492	7.6	1.0	0	2	1	0	0	0	2	0	0	1
B. POSTEMERGENCE HERBICIDES:														
BMIX+STING+UPBT+SLCT+OIL	9	10469	161.8	2.2	0	4	5	0	0	1	4	3	1	0
BETX+STING+UPBT+SLCT+OIL	5	3874	59.9	1.6	0	1	4	0	0	1	1	3	0	0
SELECT/PRISM	1	1950	30.1	3.0	1	0	0	0	0	1	0	0	0	0
BMIX+STING+UPBT+NORT+OIL	3	1487	23.0	1.0	0	2	1	0	0	0	2	1	0	0
BETX+STING+UPBT+NORT+OIL	1	1300	20.1	2.0	0	0	1	0	0	0	0	1	0	0
BMIX+STING+UPBEET+OIL	3	1288	19.9	2.3	0	0	3	0	0	0	1	1	1	0
PROG+STING+UPBT+SLCT+OIL	2	1224	18.9	3.5	0	1	1	0	0	1	0	1	0	0
BETX+STING+UPBT+ASR+OIL	1	1050	16.2	2.0	0	1	0	0	0	0	1	0	0	0
PROG+STINGER+UPBEET	2	837	12.9	1.0	0	2	0	0	0	0	2	0	0	0
BMIX+STING+UPBT+ASR+OIL	1	525	8.1	1.0	0	1	0	0	0	0	1	0	0	0
BETX+STING+UPBEET+OIL	2	456	7.0	1.0	0	0	2	0	0	0	0	1	1	0
BMIX+UPBEET+SELECT+OIL	1	380	5.9	1.0	0	0	1	0	0	0	1	0	0	0
POAST	1	81	1.3	1.0	0	1	0	0	0	0	1	0	0	0
PROG+STING+UPBEET+OIL	1	70	1.1	1.0	0	0	1	0	0	0	0	1	0	0
TOTAL-POST	33	24991	386.3	1.8	1	13	19	0	0	4	14	12	3	0
C. PREEMERGE & LAY-BY HERBICIDES:														
ROUNDUP (PRE)	3	907	14.0	1.0	0	2	0	1	0	0	3	0	0	0
OUTLOOK (LAY-BY)	2	648	10.0	1.0	1	0	1	0	0	1	1	0	0	0
TREFLAN (LAY-BY)	1	475	7.3	1.0	0	0	0	0	1	0	0	1	0	0
TOTAL-PRE&LAY-BY	6	2030	31.4	1.0	1	2	1	1	1	1	4	1	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	5	2465	38.1	1.2	2	1	0	2	0	2	2	1	0	0
TOTAL-OTHER	5	2465	38.1	1.2	2	1	0	2	0	2	2	1	0	0
TOTAL TREATMENTS	47	29978	463.3	1.6	4	18	21	3	1	7	22	14	3	1

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 3.**CHIPPEWA, KANDIYOHI AND SWIFT COUNTY**: 37 GROWERS REPORTED ON 13,769 ACRES.

TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NO. OF GROWERS REPORTING: WEED CONTROL NR*EXC*GD*FR*PR*	CROP INJURY NR	None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:										
DUAL(PRE/PPI)	27	7280	52.9	1.0	6 2 13 6 0	2	2	8	14	1
NORTRON(PRE/PPI)	5	1086	7.9	1.0	0 2 1 2 0	0	4	1	0	0
EPTAM	1	75	0.5	1.0	0 1 0 0 0	0	1	0	0	0
TOTAL-PPI&PRE	33	8441	61.3	1.0	6 5 14 8 0	2	7	9	14	1
B. POSTEMERGENCE HERBICIDES:										
BETX+STING+UPBEET+OIL	11	8417	61.1	1.9	1 0 6 3 1	2	5	4	0	0
BMIX+STING+UPBEET+OIL	16	7574	55.0	2.1	2 1 11 1 1	3	3	10	0	0
BETAMIX+STINGER	6	6996	50.8	1.8	0 0 5 1 0	0	2	3	1	0
BETX+STNG+UPBT+POAST+OIL	1	3960	28.8	4.0	0 0 1 0 0	0	0	1	0	0
PROG+STING+UPBEET+OIL	7	3443	25.0	2.3	2 1 4 0 0	1	3	3	0	0
SELECT/PRISM	13	3282	23.8	1.1	1 8 3 1 0	2	9	2	0	0
BETAMIX	5	2223	16.1	1.2	1 0 2 2 0	1	4	0	0	0
PROG+STINGER+UPBEET	5	1872	13.6	1.2	0 0 5 0 0	0	0	5	0	0
BMIX+STINGER+UPBEET	3	1830	13.3	2.7	0 0 2 1 0	1	1	1	0	0
PROG+STING+UPBT+NORT+OIL	2	1732	12.6	1.5	0 0 0 2 0	1	0	1	0	0
BETX+STINGER+UPBEET	3	1678	12.2	1.3	1 0 2 0 0	1	1	1	0	0
ASSURE II	3	1535	11.1	1.0	1 1 1 0 0	1	2	0	0	0
BMIX+STNG+UPBT+POAST+OIL	2	1227	8.9	1.0	0 0 1 1 0	0	0	2	0	0
PROGRESS	8	1186	8.6	1.3	1 0 3 4 0	2	3	3	0	0
POAST	3	865	6.3	1.0	0 3 0 0 0	0	3	0	0	0
PROGRESS+STINGER	3	574	4.2	1.0	0 0 3 0 0	0	3	0	0	0
BETANEX+STINGER	1	400	2.9	1.0	0 1 0 0 0	0	1	0	0	0
PROG+STING+UPBT+SLCT+OIL	1	375	2.7	1.0	1 0 0 0 0	1	0	0	0	0
BMIX+STING+UPBT+NORT+OIL	2	301	2.2	1.5	0 0 1 1 0	0	0	2	0	0
BETANEX	1	300	2.2	1.0	0 0 0 1 0	0	1	0	0	0
BETANEX+UPBEET	3	254	1.8	1.0	0 0 1 2 0	0	2	1	0	0
BMIX+STING+UPBT+SLCT+OIL	1	250	1.8	1.0	1 0 0 0 0	1	0	0	0	0
STINGER	2	213	1.5	1.5	0 0 1 1 0	0	1	1	0	0
BETX+STING+UPBT+ASR+OIL	1	200	1.5	1.0	0 0 1 0 0	0	1	0	0	0
BETX+STING+UPBT+SLCT+OIL	1	82	0.6	1.0	0 0 1 0 0	0	1	0	0	0
TOTAL-POST	104	50769	368.7	1.6	12 15 54 21 2	17	46	40	1	0
C. PREEMERGE & LAY-BY HERBICIDES:										
OUTLOOK (LAY-BY)	16	4251	30.9	1.0	3 1 11 0 1	3	7	6	0	0
DUAL (LAY-BY)	3	654	4.7	1.0	0 0 2 1 0	0	1	2	0	0
TREFLAN (LAY-BY)	2	576	4.2	1.0	0 1 0 1 0	0	2	0	0	0
TOTAL-PRE&LAY-BY	21	5481	39.8	1.0	3 2 13 2 1	3	10	8	0	0
D. OTHER WEED CONTROL METHODS:										
ROTARY HOE	15	10195	74.0	1.6	2 1 10 2 0	1	6	6	2	0
WEED PULLER	1	828	6.0	2.0	0 0 1 0 0	0	0	1	0	0
HARROW	4	600	4.4	1.0	0 0 2 2 0	0	0	4	0	0
SWATH/FLAIL/MOW	2	290	2.1	1.0	0 0 0 2 0	0	1	0	1	0
TOTAL-OTHER	22	11913	86.5	1.5	2 1 13 6 0	1	7	11	3	
TOTAL TREATMENTS	180	76604	556.4	1.4	23 23 94 37 3	23	70	68	18	1

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 4. **CLAY AND BECKER COUNTY**: 29 GROWERS REPORTED ON 20,122 ACRES.

TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NO. OF GROWERS REPORTING: WEED CONTROL NR*	EXC*	GD*	FR*	PR*	NR	CROP INJURY None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
NORTRON(PRE/PPI)	5	3465	17.2	1.0	0	1	3	1	0	1	3	0	1	0
DUAL(PRE/PPI)	8	2435	12.1	1.0	0	6	2	0	0	1	1	3	0	3
TOTAL-PPI&PRE	13	5900	29.3	1.0	0	7	5	1	0	2	4	3	1	3
B. POSTEMERGENCE HERBICIDES:														
BMIX+STING+UPBT+SLCT+OIL	9	16002	79.5	2.7	2	3	4	0	0	3	4	2	0	0
PROG+STNG+UPBT+SLCT+OIL	10	13947	69.3	1.9	2	5	3	0	0	2	6	2	0	0
BETX+STING+UPBEET+OIL	6	8324	41.4	1.5	0	1	5	0	0	0	3	3	0	0
BETX+STNG+UPBT+SLCT+OIL	10	7858	39.1	1.3	3	2	5	0	0	3	4	3	0	0
PROG+STING+UPBEET+OIL	5	4394	21.8	1.6	0	1	4	0	0	0	0	3	2	0
PROG+UPBEET+SELECT+OIL	2	2989	14.9	1.5	1	0	0	1	0	0	2	0	0	0
BMIX+STING+UPBT+ASR+OIL	3	2945	14.6	2.7	1	0	2	0	0	1	2	0	0	0
PROG+STING+UPBT+NORT+OIL	3	1728	8.6	1.7	0	1	2	0	0	0	1	1	1	0
SELECT/PRISM	6	1668	8.3	1.2	1	5	0	0	0	1	5	0	0	0
BETX+STING+UPBT+ASR+OIL	2	1495	7.4	2.0	0	1	1	0	0	0	2	0	0	0
BMIX+STING+UPBT+NORT+OIL	1	1410	7.0	3.0	0	0	0	1	0	0	0	1	0	0
BETX+STING+UPBT+NORT+OIL	1	1300	6.5	1.0	0	0	1	0	0	0	0	1	0	0
BMIX+STING+UPBEET+OIL	3	1166	5.8	1.0	1	0	1	1	0	1	2	0	0	0
BMIX+STNG+UPBT+POAST+OIL	2	851	4.2	3.5	0	1	1	0	0	0	1	1	0	0
BETX+UPBEET+SELECT+OIL	1	700	3.5	1.0	0	1	0	0	0	0	1	0	0	0
PROG+STNG+UPBT+POAST+OIL	1	540	2.7	2.0	0	0	0	1	0	0	1	0	0	0
BETAMIX+STINGER	2	293	1.5	1.0	0	1	1	0	0	0	1	1	0	0
STINGER	2	220	1.1	1.0	0	2	0	0	0	0	1	1	0	0
PROG+STINGER+UPBEET	1	100	0.5	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-POST	70	67930	337.6	1.7	11	24	31	4	0	11	37	19	3	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	7	1463	7.3	1.0	0	2	4	1	0	0	4	0	3	0
DUAL (LAY-BY)	3	1390	6.9	1.0	0	2	1	0	0	0	1	2	0	0
ROUNDUP (PRE)	3	1140	5.7	1.3	0	1	2	0	0	0	3	0	0	0
TREFLAN (LAY-BY)	1	290	1.4	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-PRE&LAY-BY	14	4283	21.3	1.1	0	5	8	1	0	0	9	2	3	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	21	21050	104.6	1.6	2	2	13	4	0	3	4	13	1	0
HARROW	4	2700	13.4	1.0	1	0	3	0	0	1	2	1	0	0
TOTAL-OTHER	25	23750	118.0	1.5	3	2	16	4	0	4	6	14	1	0
TOTAL TREATMENTS	122	101863	506.2	1.5	14	38	60	10	0	17	56	38	8	3

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 5. **GRAND FORKS COUNTY**: 17 GROWERS REPORTED ON 7,137 ACRES.

TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NO. OF GROWERS REPORTING: WEED CONTROL NR*	EXC*	GD*	FR*	PR*	NR	CROP INJURY None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
DUAL(PRE/PPI)	1	900	12.6	1.0	0	0	1	0	0	0	0	1	0	0
NORTRON(PRE/PPI)	2	140	2.0	1.0	0	0	1	1	0	0	1	1	0	0
TOTAL-PPI&PRE	3	1040	14.6	1.0	0	0	2	1	0	0	1	2	0	0
B. POSTEMERGENCE HERBICIDES:														
BMIX+STING+UPBT+NORT+OIL	2	3440	48.2	2.5	0	0	2	0	0	0	0	2	0	0
BMIX+UPBEET+SELECT+OIL	2	3150	44.1	2.5	0	0	2	0	0	0	1	1	0	0
SELECT/PRISM	2	3030	42.5	2.0	1	1	0	0	0	1	1	0	0	0
BMIX+STING+UPBT+SLCT+OIL	3	2593	36.3	2.0	0	0	1	2	0	0	0	3	0	0
BETX+UPBEET+SELECT+OIL	3	2470	34.6	1.3	0	0	2	1	0	0	1	2	0	0
PROG+STING+UPBT+SLCT+OIL	5	2424	34.0	1.8	0	2	1	1	1	0	3	2	0	0
BETX+STING+UPBT+SLCT+OIL	5	2258	31.6	2.0	1	1	3	0	0	1	3	1	0	0
PROG+UPBEET+SELECT+OIL	1	1870	26.2	2.0	0	0	1	0	0	0	0	1	0	0
PROG+STING+UPBEET+OIL	4	1525	21.4	1.5	0	2	1	0	1	0	2	2	0	0
PROG+STNG+UPBT+POAST+OIL	1	1000	14.0	2.0	0	0	0	1	0	0	0	0	1	0
BMIX+STING+UPBEET+OIL	2	810	11.3	1.5	0	0	1	1	0	0	0	2	0	0
BETX+STING+UPBT+NORT+OIL	2	509	7.1	1.0	0	0	1	1	0	0	1	1	0	0
BETX+STNG+UPBT+POAST+OIL	1	500	7.0	1.0	0	0	1	0	0	0	0	1	0	0
BETX+STING+UPBT+ASR+OIL	1	290	4.1	1.0	0	0	0	1	0	0	1	0	0	0
BMIX+STING+UPBT+ASR+OIL	1	290	4.1	1.0	0	0	0	1	0	0	1	0	0	0
BETX+STINGER+UPBEET	1	205	2.9	1.0	0	1	0	0	0	0	1	0	0	0
PROGRESS+UPBEET	1	200	2.8	2.0	0	0	0	1	0	0	0	1	0	0
ASSURE II	1	100	1.4	2.0	0	1	0	0	0	0	1	0	0	0
PROG+STINGER+UPBEET	1	18	0.3	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-POST	39	26682	373.9	1.7	2	8	17	10	2	2	17	19	1	0
C. PREEMERGE & LAY-BY HERBICIDES:														
TREFLAN (LAY-BY)	1	940	13.2	1.0	1	0	0	0	0	1	0	0	0	0
OUTLOOK (LAY-BY)	4	683	9.6	1.3	0	3	0	1	0	1	2	1	0	0
TOTAL-PRE&LAY-BY	5	1623	22.7	1.2	1	3	0	1	0	2	2	1	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	6	4289	60.1	1.3	4	1	0	1	0	4	1	1	0	0
SWATH/FLAIL/MOW	2	375	5.3	1.0	2	0	0	0	0	1	0	1	0	0
WEED PULLER	1	80	1.1	1.0	0	1	0	0	0	0	0	1	0	0
TOTAL-OTHER	9	4744	66.5	1.2	6	2	0	1	0	5	1	3	0	0
TOTAL TREATMENTS	56	34089	477.6	1.6	9	13	19	13	2	9	21	25	1	0

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 6. **KITTSON COUNTY**: 19 GROWERS REPORTED ON 9,344 ACRES.

TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NO. OF GROWERS REPORTING: WEED CONTROL NR*	EXC*	GD*	FR*	PR*	NR	CROP INJURY None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
NORTRON(PRE/PPI)	2	645	6.9	1.0	0	0	1	1	0	0	1	1	0	0
DUAL(PRE/PPI)	2	433	4.6	1.0	0	0	1	1	0	0	0	0	1	1
TOTAL-PPI&PRE	4	1078	11.5	1.0	0	0	2	2	0	0	1	1	1	1
B. POSTEMERGENCE HERBICIDES:														
PROG+STNG+UPBT+SLCT+OIL	11	11806	126.3	2.3	2	0	6	3	0	2	2	7	0	0
PROG+UPBEET+SELECT+OIL	3	3845	41.1	2.0	0	0	3	0	0	0	0	3	0	0
PROG+STING+UPBT+NORT+OIL	3	2971	31.8	2.0	0	1	2	0	0	0	0	2	1	0
BETX+UPBEET+SELECT+OIL	3	2836	30.4	1.7	1	0	2	0	0	1	1	1	0	0
BETX+STING+UPBT+SLCT+OIL	5	2690	28.8	1.4	1	1	3	0	0	1	2	1	0	1
BMIX+STING+UPBT+SLCT+OIL	5	2194	23.5	1.6	0	1	4	0	0	0	4	1	0	0
PROG+STING+UPBEET+OIL	1	2010	21.5	3.0	0	0	1	0	0	1	0	0	0	0
PROGRESS+UPBEET	2	870	9.3	2.5	0	0	2	0	0	0	1	0	1	0
BETX+STING+UPBT+ASR+OIL	1	822	8.8	1.0	0	0	1	0	0	0	1	0	0	0
PROG+STINGER+UPBEET	2	431	4.6	1.0	1	0	0	1	0	1	0	1	0	0
BETAMIX	1	420	4.5	1.0	0	0	0	1	0	0	0	0	0	1
SELECT/PRISM	3	280	3.0	1.3	0	1	2	0	0	0	3	0	0	0
BETX+STING+UPBEET+OIL	2	214	2.3	1.0	0	0	2	0	0	0	1	1	0	0
STINGER	1	200	2.1	1.0	0	0	1	0	0	0	0	1	0	0
BMIX+STINGER+UPBEET	1	195	2.1	3.0	0	0	1	0	0	0	1	0	0	0
BMIX+STING+UPBT+NORT+OIL	1	181	1.9	1.0	0	0	1	0	0	0	1	0	0	0
BETANEX+UPBEET	1	154	1.6	2.0	0	0	1	0	0	0	1	0	0	0
ASSURE II	1	110	1.2	1.0	0	0	1	0	0	0	1	0	0	0
BETX+STINGER+UPBEET	1	100	1.1	1.0	1	0	0	0	0	1	0	0	0	0
TOTAL-POST	48	32329	346.0	1.8	6	4	33	5	0	7	19	18	2	2
C. PREEMERGE & LAY-BY HERBICIDES:														
ROUNDUP (PRE)	4	1550	16.6	1.0	1	1	1	1	0	1	3	0	0	0
DUAL (LAY-BY)	1	400	4.3	1.0	0	0	1	0	0	0	1	0	0	0
OUTLOOK (LAY-BY)	1	181	1.9	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-PRE&LAY-BY	6	2131	22.8	1.0	1	1	3	1	0	1	5	0	0	0
D. OTHER WEED CONTROL METHODS:														
HARROW	3	1108	11.9	1.0	1	0	0	1	1	1	0	1	1	0
ELECTRICAL (EDS)	1	600	6.4	1.0	0	0	0	1	0	0	0	1	0	0
ROTARY HOE	2	355	3.8	1.0	0	0	0	1	1	0	0	1	1	0
WEED PULLER	1	100	1.1	1.0	0	0	0	1	0	0	0	1	0	0
SWATH/FLAIL/MOW	1	5	0.1	1.0	0	0	0	0	1	0	0	0	1	0
TOTAL-OTHER	8	2168	23.2	1.0	1	0	0	4	3	1	0	4	3	0
TOTAL TREATMENTS	66	37706	403.5	1.5	8	5	38	12	3	9	25	23	6	3

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 7. **MARSHALL COUNTY**: 25 GROWERS REPORTED ON 14,563 ACRES.

TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NO. OF GROWERS REPORTING: WEED CONTROL NR*	EXC*	GD*	FR*	PR*	NR	CROP INJURY None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
NORTRON(PRE/PPI)	4	1215	8.3	1.0	1	0	3	0	0	1	2	1	0	0
DUAL(PRE/PPI)	4	860	5.9	1.0	0	3	1	0	0	0	0	1	3	0
TOTAL-PPI&PRE	8	2075	14.2	1.0	1	3	4	0	0	1	2	2	3	0
B. POSTEMERGENCE HERBICIDES:														
PROG+STNG+UPBT+SLCT+OIL	16	10965	75.3	1.6	1	3	10	2	0	1	7	8	0	0
BMIX+STING+UPBT+SLCT+OIL	7	6341	43.5	1.4	0	1	6	0	0	0	2	5	0	0
BETX+STING+UPBT+SLCT+OIL	6	3502	24.0	1.8	1	0	2	3	0	1	2	3	0	0
PROG+UPBEET+SELECT+OIL	3	3423	23.5	1.3	0	0	3	0	0	0	3	0	0	0
PROG+STINGER+UPBEET	3	3360	23.1	2.3	0	0	2	1	0	0	0	3	0	0
BMIX+STING+UPBEET+OIL	5	3220	22.1	1.2	0	0	5	0	0	0	0	5	0	0
BETX+STING+UPBEET+OIL	4	2944	20.2	1.3	0	1	3	0	0	0	2	2	0	0
PROG+STING+UPBT+ASR+OIL	1	2829	19.4	3.0	1	0	0	0	0	1	0	0	0	0
PROG+STNG+UPBT+POAST+OIL	2	1786	12.3	2.5	1	0	1	0	0	1	0	1	0	0
SELECT/PRISM	4	1713	11.8	1.3	0	1	3	0	0	0	4	0	0	0
BETX+STINGER+UPBEET	2	1700	11.7	1.5	0	0	1	1	0	0	1	1	0	0
BMIX+STINGER+UPBEET	2	1360	9.3	1.5	0	1	1	0	0	0	2	0	0	0
PROG+STING+UPBEET+OIL	2	1208	8.3	1.0	0	1	1	0	0	0	1	1	0	0
BMIX+STING+UPBT+ASR+OIL	2	1113	7.6	1.0	0	1	1	0	0	0	2	0	0	0
ASSURE II	2	823	5.7	1.0	0	1	1	0	0	0	2	0	0	0
PROGRESS+UPBEET	3	589	4.0	1.0	0	1	2	0	0	0	2	1	0	0
BMIX+UPBEET+SELECT+OIL	1	512	3.5	1.0	0	0	1	0	0	0	0	1	0	0
BETX+STNG+UPBT+POAST+OIL	1	430	3.0	1.0	0	1	0	0	0	0	1	0	0	0
BETX+UPBEET+SELECT+OIL	1	300	2.1	1.0	0	0	1	0	0	0	1	0	0	0
BETANEX+STINGER	1	204	1.4	1.0	0	0	1	0	0	0	1	0	0	0
OTHER COMBINATIONS	1	200	1.4	2.0	0	0	0	1	0	0	0	0	1	0
BETANEX+UPBEET	2	160	1.1	1.0	0	1	0	1	0	0	1	1	0	0
PROGRESS	1	150	1.0	1.0	0	0	1	0	0	0	1	0	0	0
PROG+STING+UPBT+NORT+OIL	1	150	1.0	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-POST	74	49080	337.0	1.5	4	13	48	9	0	4	37	32	1	0
C. PREEMERGE & LAY-BY HERBICIDES:														
ROUNDUP (PRE)	4	1303	8.9	1.0	1	2	0	1	0	1	3	0	0	0
OUTLOOK (LAY-BY)	8	1083	7.4	1.0	1	4	3	0	0	1	3	2	2	0
DUAL (LAY-BY)	1	225	1.5	1.0	0	0	1	0	0	0	0	1	0	0
TOTAL-PRE&LAY-BY	13	2611	17.9	1.0	2	6	4	1	0	2	6	3	2	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	15	9779	67.1	1.3	4	2	4	5	0	4	3	7	1	0
HARROW	10	4638	31.8	1.0	2	1	6	1	0	2	5	2	1	0
WEED PULLER	1	120	0.8	1.0	1	0	0	0	0	1	0	0	0	0
TOTAL-OTHER	26	14537	99.8	1.2	7	3	10	6	0	7	8	9	2	0
TOTAL TREATMENTS	121	68303	469.0	1.3	14	25	66	16	0	14	53	46	8	0

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 8. **NORMAN AND MAHNOMEN COUNTY**: 17 GROWERS REPORTED ON 9,435 ACRES.

TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NO. OF GROWERS REPORTING: WEED CONTROL NR*	EXC*	GD*	FR*	PR*	NR	CROP INJURY None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
DUAL(PRE/PPI)	5	1915	20.3	1.0	0	0	5	0	0	0	0	1	1	3
NORTRON(PRE/PPI)	4	730	7.7	1.0	0	1	3	0	0	0	4	0	0	0
TOTAL-PPI&PRE	9	2645	28.0	1.0	0	1	8	0	0	0	4	1	1	3
B. POSTEMERGENCE HERBICIDES:														
PROG+STING+UPBT+SLCT+OIL	9	9986	105.8	1.7	0	2	6	0	1	0	3	6	0	0
BMIX+STING+UPBT+SLCT+OIL	8	8775	93.0	1.8	0	0	6	1	1	0	3	5	0	0
BETX+STING+UPBT+SLCT+OIL	7	5221	55.3	2.0	0	0	5	1	1	0	4	3	0	0
UPBEET	1	2348	24.9	4.0	0	0	1	0	0	0	0	1	0	0
STINGER	1	2348	24.9	4.0	0	0	1	0	0	0	0	1	0	0
SELECT/PRISM	1	2348	24.9	4.0	0	0	1	0	0	0	0	1	0	0
BETX+STNG+UPBT+POAST+OIL	1	2100	22.3	3.0	0	0	1	0	0	0	0	1	0	0
BMIX+STNG+UPBT+POAST+OIL	2	1528	16.2	2.0	0	0	2	0	0	0	0	2	0	0
BETX+STING+UPBEET+OIL	2	1327	14.1	1.5	0	0	1	1	0	0	0	2	0	0
BETAMIX	1	1174	12.4	2.0	0	0	1	0	0	0	1	0	0	0
PROG+STNG+UPBT+POAST+OIL	1	620	6.6	2.0	0	0	1	0	0	0	0	1	0	0
BMIX+STING+UPBT+NORT+OIL	1	470	5.0	1.0	0	0	0	0	1	0	0	1	0	0
BETX+UPBEET+SELECT+OIL	1	299	3.2	1.0	0	0	1	0	0	0	0	1	0	0
PROG+STING+UPBT+NORT+OIL	1	288	3.1	2.0	0	0	0	1	0	0	0	0	1	0
BMIX+STING+UPBT+ASR+OIL	1	276	2.9	1.0	0	0	1	0	0	0	0	1	0	0
OTHER COMBINATIONS	1	150	1.6	1.0	0	0	1	0	0	0	0	1	0	0
PROG+UPBEET+SELECT+OIL	1	142	1.5	1.0	0	1	0	0	0	0	1	0	0	0
BMIX+STING+UPBEET+OIL	1	139	1.5	1.0	0	0	1	0	0	0	0	1	0	0
TOTAL-POST	41	39539	419.1	1.9	0	3	30	4	4	0	12	28	1	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	2	1026	10.9	1.0	0	1	0	1	0	0	2	0	0	0
ROUNDUP (PRE)	3	699	7.4	1.0	0	3	0	0	0	0	3	0	0	0
DUAL (LAY-BY)	2	150	1.6	1.0	0	0	1	1	0	0	0	2	0	0
TOTAL-PRE&LAY-BY	7	1875	19.9	1.0	0	4	1	2	0	0	5	2	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	10	5166	54.8	1.4	1	1	3	4	1	2	5	3	0	0
SWATH/FLAIL/MOW	2	392	4.2	1.0	1	0	0	0	1	2	0	0	0	0
HARROW	1	150	1.6	1.0	0	0	1	0	0	0	0	1	0	0
TOTAL-OTHER	13	5708	60.5	1.3	2	1	4	4	2	4	5	4	0	0
TOTAL TREATMENTS	70	49767	527.5	1.6	2	9	43	10	6	4	26	35	2	3

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 9. **PEMBINA COUNTY**: 21 GROWERS REPORTED ON 12,249 ACRES.

TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NO. OF GROWERS REPORTING: WEED CONTROL NR*	EXC*	GD*	FR*	PR*	NR	CROP INJURY None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
NORTRON(PRE/PPI)	6	1190	9.7	1.0	0	1	5	0	0	1	3	1	1	0
DUAL(PRE/PPI)	2	620	5.1	1.0	0	1	1	0	0	0	1	0	1	0
EPTAM+RO-NEET	1	300	2.4	1.0	0	1	0	0	0	0	1	0	0	0
TOTAL-PPI&PRE	9	2110	17.2	1.0	0	3	6	0	0	1	5	1	2	0
B. POSTEMERGENCE HERBICIDES:														
BETX+STING+UPBT+SLCT+OIL	4	7461	60.9	2.3	0	1	3	0	0	0	1	1	2	0
PROGRESS+UPBEET	9	7232	59.0	1.7	0	0	2	6	1	0	5	3	1	0
PROG+STING+UPBEET+OIL	4	7173	58.6	2.5	0	1	3	0	0	1	1	2	0	0
SELECT/PRISM	11	6898	56.3	1.4	1	9	1	0	0	2	9	0	0	0
BMIX+STING+UPBEET+OIL	5	5449	44.5	2.0	0	1	3	1	0	1	2	2	0	0
PROG+STING+UPBT+SLCT+OIL	4	5012	40.9	2.5	0	0	3	1	0	0	3	1	0	0
BMIX+STING+UPBT+SLCT+OIL	5	3701	30.2	2.0	0	1	4	0	0	0	3	2	0	0
PROG+STING+UPBT+NORT+OIL	3	2758	22.5	2.0	1	1	1	0	0	1	1	1	0	0
BETX+STING+UPBEET+OIL	3	2055	16.8	1.0	0	1	2	0	0	0	2	1	0	0
PROG+UPBEET+SELECT+OIL	1	2000	16.3	2.0	0	0	1	0	0	0	1	0	0	0
BETAMIX	2	1892	15.4	2.5	0	0	1	1	0	0	1	1	0	0
BETANEX+UPBEET	1	1600	13.1	1.0	0	0	1	0	0	0	1	0	0	0
BETX+STNG+UPBT+POAST+OIL	1	1600	13.1	1.0	0	1	0	0	0	0	1	0	0	0
BETX+STING+UPBT+NORT+OIL	1	1000	8.2	2.0	0	0	1	0	0	0	0	1	0	0
BMIX+STING+UPBT+NORT+OIL	2	867	7.1	1.0	0	0	2	0	0	0	1	1	0	0
BETAMIX+UPBEET	1	730	6.0	2.0	0	0	1	0	0	1	0	0	0	0
PROG+STINGER+UPBEET	2	515	4.2	1.5	1	0	0	1	0	2	0	0	0	0
BMIX+STINGER+UPBEET	1	460	3.8	1.0	0	0	1	0	0	1	0	0	0	0
BETX+STING+UPBT+ASR+OIL	1	420	3.4	2.0	0	0	1	0	0	0	0	1	0	0
BMIX+STING+UPBT+ASR+OIL	1	420	3.4	2.0	0	0	1	0	0	0	0	1	0	0
POAST	1	400	3.3	1.0	0	1	0	0	0	0	1	0	0	0
BMIX+UPBEET+SELECT+OIL	1	365	3.0	1.0	0	1	0	0	0	1	0	0	0	0
BETANEX	2	140	1.1	1.0	0	0	1	1	0	0	2	0	0	0
ASSURE II	2	130	1.1	1.5	0	1	0	1	0	0	2	0	0	0
BETX+UPBEET+SELECT+OIL	1	80	0.7	1.0	0	0	1	0	0	0	1	0	0	0
STINGER	2	65	0.5	1.0	0	1	1	0	0	0	1	1	0	0
UPBEET	1	40	0.3	1.0	0	1	0	0	0	0	1	0	0	0
TOTAL-POST	72	60463	493.6	1.7	3	21	35	12	1	10	40	19	3	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	5	921	7.5	1.0	0	2	3	0	0	0	3	2	0	0
TOTAL-PRE&LAY-BY	5	921	7.5	1.0	0	2	3	0	0	0	3	2	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	9	8942	73.0	1.6	1	0	5	3	0	1	2	5	0	1
TOTAL-OTHER	9	8942	73.0	1.6	1	0	5	3	0	1	2	5	0	1
TOTAL TREATMENTS	95	72436	591.4	1.6	4	26	49	15	1	12	50	27	5	1

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 10. **POLK COUNTY**: 51 GROWERS REPORTED ON 29,445 ACRES.

TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NO. OF GROWERS REPORTING: WEED CONTROL NR*	EXC*	GD*	FR*	PR*	NR	CROP INJURY None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
DUAL(PRE/PPI)	8	3199	10.9	1.0	0	1	5	2	0	0	1	1	5	1
NORTRON(PRE/PPI)	8	2478	8.4	1.0	0	1	4	3	0	0	6	2	0	0
TOTAL-PPI&PRE	16	5677	19.3	1.0	0	2	9	5	0	0	7	3	5	1
B. POSTEMERGENCE HERBICIDES:														
BMIX+STNG+UPBT+SLCT+OIL	16	19085	64.8	2.2	1	4	9	1	1	1	5	10	0	0
PROG+STNG+UPBT+SLCT+OIL	18	18465	62.7	1.8	2	1	14	1	0	2	5	10	1	0
BETX+STNG+UPBT+SLCT+OIL	12	7302	24.8	1.4	1	3	7	1	0	3	5	4	0	0
BMIX+STING+UPBEET+OIL	5	6828	23.2	2.0	0	2	3	0	0	0	3	2	0	0
BETX+STING+UPBT+ASR+OIL	2	4612	15.7	2.5	0	0	2	0	0	0	0	2	0	0
PROG+STING+UPBEET+OIL	6	4180	14.2	1.5	0	2	4	0	0	0	0	4	2	0
BETX+STING+UPBT+NORT+OIL	5	3874	13.2	1.6	1	0	4	0	0	1	1	3	0	0
BMIX+STING+UPBT+NORT+OIL	5	3767	12.8	1.8	0	1	2	2	0	0	1	3	1	0
BMIX+STNG+UPBT+POAST+OIL	2	3640	12.4	2.0	0	0	2	0	0	0	1	1	0	0
BETX+STING+UPBEET+OIL	5	3424	11.6	1.8	0	2	3	0	0	0	2	3	0	0
PROG+UPBEET+SELECT+OIL	4	3112	10.6	1.5	1	0	3	0	0	1	3	0	0	0
PROGRESS	1	2920	9.9	2.0	0	0	1	0	0	1	0	0	0	0
PROG+STING+UPBT+NORT+OIL	6	2899	9.8	1.3	1	2	3	0	0	1	2	1	1	1
SELECT/PRISM	7	2760	9.4	1.1	2	1	4	0	0	2	5	0	0	0
PROG+STINGER+UPBEET	4	2738	9.3	1.3	0	0	4	0	0	1	1	2	0	0
OTHER COMBINATIONS	3	2502	8.5	1.7	0	1	2	0	0	0	1	2	0	0
BMIX+STING+UPBT+ASR+OIL	1	2044	6.9	4.0	0	0	1	0	0	0	0	1	0	0
PROG+STNG+UPBT+POAST+OIL	2	1641	5.6	1.5	1	1	0	0	0	1	1	0	0	0
POAST	2	1600	5.4	2.0	1	0	1	0	0	1	1	0	0	0
BETX+UPBEET+SELECT+OIL	4	1483	5.0	1.0	0	0	4	0	0	0	3	1	0	0
PROG+STING+UPBT+ASR+OIL	2	1020	3.5	2.0	0	0	1	1	0	0	0	1	1	0
BETANEX+UPBEET	3	875	3.0	1.0	1	0	1	1	0	1	0	2	0	0
BETX+STINGER+UPBEET	3	630	2.1	1.3	1	0	2	0	0	1	0	2	0	0
BMIX+STINGER+UPBEET	1	580	2.0	2.0	1	0	0	0	0	1	0	0	0	0
PROGRESS+UPBEET	3	543	1.8	1.0	1	0	2	0	0	1	2	0	0	0
BETAMIX+UPBEET	2	330	1.1	1.0	0	0	2	0	0	0	2	0	0	0
TOTAL-POST	124	102854	349.3	1.7	15	20	81	7	1	19	44	54	6	1
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	19	6121	20.8	1.0	2	6	9	1	1	4	8	6	1	0
ROUNDUP (PRE)	12	4513	15.3	1.0	1	4	6	1	0	1	8	3	0	0
DUAL (LAY-BY)	3	1018	3.5	1.0	0	0	2	1	0	1	0	1	0	1
TREFLAN (LAY-BY)	4	847	2.9	1.0	0	1	2	1	0	1	1	2	0	0
TOTAL-PRE&LAY-BY	38	12499	42.4	1.0	3	11	19	4	1	7	17	12	1	1
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	28	23257	79.0	1.6	3	2	10	12	1	4	8	16	0	0
HARROW	6	1133	3.8	1.0	1	1	3	1	0	1	2	2	1	0
SWATH/FLAIL/MOW	1	150	0.5	1.0	0	0	0	1	0	0	0	1	0	0
WEED PULLER	2	130	0.4	1.0	0	0	1	1	0	1	0	1	0	0
TOTAL-OTHER	37	24670	83.8	1.4	4	3	14	15	1	6	10	20	1	0
TOTAL TREATMENTS	215	145700	494.8	1.5	22	36	123	31	3	32	78	89	13	3

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 11. **RENVILLE, FARIBAULT, LAC QUI PARLE, REDWOOD, SIBLEY AND YELLOW MEDICINE COUNTY:** 49 GROWERS REPORTED ON 14,055 ACRES.

					NO. OF GROWERS REPORTING									
					WEED CONTROL						CROP INJURY			
TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NR*	EXC*	GD*	FR*	PR*	NR	None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
DUAL(PRE/PPI)	30	6887	49.0	1.0	0	6	16	7	1	2	2	14	9	3
NORTRON(PRE/PPI)	9	2254	16.0	1.0	0	1	7	1	0	0	9	0	0	0
TOTAL-PPI&PRE	39	9141	65.0	1.0	0	7	23	8	1	2	11	14	9	3
B. POSTEMERGENCE HERBICIDES:														
SELECT/PRISM	27	6946	49.4	1.0	1	23	3	0	0	2	24	1	0	0
BMIX+STING+UPBEET+OIL	15	5338	38.0	1.5	0	1	9	5	0	1	2	11	1	0
BETX+STING+UPBEET+OIL	7	4743	33.7	1.7	1	0	4	2	0	1	0	4	2	0
PROG+STING+UPBEET+OIL	8	3591	25.5	1.6	0	2	2	4	0	1	1	4	2	0
PROGRESS	12	3191	22.7	1.4	0	1	7	4	0	0	2	8	2	0
BETX+STING+UPBT+NORT+OIL	2	2928	20.8	1.5	0	1	0	1	0	2	0	0	0	0
BETAMIX	11	2111	15.0	1.4	0	0	6	4	1	0	2	8	1	0
PROGRESS+STINGER	10	1774	12.6	1.4	0	1	7	1	1	0	3	7	0	0
BETX+STINGER+UPBEET	5	1670	11.9	1.2	0	1	3	1	0	1	1	3	0	0
BMIX+STINGER+UPBEET	6	1451	10.3	1.0	0	0	1	5	0	0	3	3	0	0
BETANEX	3	1308	9.3	1.0	0	0	1	2	0	1	1	1	0	0
BMIX+STING+UPBT+SLCT+OIL	4	1154	8.2	1.0	0	0	3	1	0	0	2	2	0	0
BETAMIX+STINGER	5	1110	7.9	1.4	0	0	2	3	0	0	0	4	1	0
PROG+STNG+UPBT+POAST+OIL	2	963	6.9	1.0	0	0	1	1	0	0	1	1	0	0
PROG+STINGER+UPBEET	4	920	6.5	1.3	0	1	3	0	0	0	0	4	0	0
BMIX+STNG+UPBT+POAST+OIL	4	716	5.1	1.3	1	0	2	1	0	1	0	3	0	0
BETX+STING+UPBT+SLCT+OIL	4	657	4.7	1.0	1	0	1	2	0	1	1	1	1	0
STINGER	1	642	4.6	2.0	0	0	1	0	0	0	0	1	0	0
BMIX+UPBEET+SELECT+OIL	1	616	4.4	2.0	0	0	1	0	0	0	0	1	0	0
BETX+STNG+UPBT+POAST+OIL	1	600	4.3	1.0	0	0	1	0	0	1	0	0	0	0
BMIX+STING+UPBT+NORT+OIL	1	600	4.3	1.0	0	1	0	0	0	1	0	0	0	0
BETANEX+STINGER	4	433	3.1	1.0	0	0	3	1	0	0	1	2	1	0
ASSURE II	3	430	3.1	1.0	1	2	0	0	0	1	2	0	0	0
BETANEX+UPBEET	2	303	2.2	1.0	1	0	1	0	0	1	0	1	0	0
BETAMIX+UPBEET	1	230	1.6	1.0	0	0	1	0	0	0	0	1	0	0
POAST	2	210	1.5	1.0	0	2	0	0	0	0	2	0	0	0
PROG+STING+UPBT+NORT+OIL	2	170	1.2	1.0	0	2	0	0	0	0	2	0	0	0
PROG+STING+UPBT+SLCT+OIL	1	150	1.1	1.0	0	0	1	0	0	0	1	0	0	0
PROGRESS+UPBEET	1	75	0.5	1.0	0	0	1	0	0	0	1	0	0	0
UPBEET	2	37	0.3	1.0	0	0	1	1	0	0	0	1	1	0
TOTAL-POST	151	45067	320.6	1.3	6	38	66	39	2	15	52	72	12	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	25	6816	48.5	1.0	1	3	15	4	2	4	8	12	1	0
DUAL (LAY-BY)	5	1424	10.1	1.0	0	0	3	2	0	0	0	4	0	1
TOTAL-PRE&LAY-BY	30	8240	58.6	1.0	1	3	18	6	2	4	8	16	1	1
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	12	8912	63.4	1.6	4	2	2	4	0	4	4	4	0	0
HARROW	1	40	0.3	1.0	0	1	0	0	0	0	1	0	0	0
TOTAL-OTHER	13	8952	63.7	1.5	4	3	2	4	0	4	5	4	0	0
TOTAL TREATMENTS	233	71400	508.0	1.2	11	51	109	57	5	25	76	106	22	4

TABLE 12. **RICHLAND COUNTY**: 19 GROWERS REPORTED ON 11,223 ACRES.

TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NO. OF GROWERS REPORTING: WEED CONTROL NR*	EXC*	GD*	FR*	PR*	NR	CROP INJURY None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
DUAL(PRE/PPI)	11	4562	40.6	1.0	0	0	8	3	0	0	0	3	5	3
NORTRON(PRE/PPI)	4	698	6.2	1.0	0	3	1	0	0	0	4	0	0	0
TOTAL-PPI&PRE	15	5260	46.9	1.0	0	3	9	3	0	0	4	3	5	3
B. POSTEMERGENCE HERBICIDES:														
BMIX+STING+UPBT+SLCT+OIL	7	10788	96.1	2.3	1	1	4	1	0	1	2	4	0	0
BMIX+STING+UPBEET+OIL	5	7950	70.8	2.8	1	2	1	1	0	1	3	1	0	0
BETX+STING+UPBT+SLCT+OIL	7	6724	59.9	1.7	1	0	6	0	0	1	1	5	0	0
BMIX+STING+UPBT+NORT+OIL	5	4975	44.3	2.0	0	2	3	0	0	0	0	5	0	0
SELECT/PRISM	6	4304	38.3	1.3	1	5	0	0	0	2	4	0	0	0
PROG+STING+UPBEET+OIL	3	2375	21.2	1.3	1	0	1	1	0	1	0	1	1	0
BETX+STINGER+UPBEET	1	2100	18.7	3.0	1	0	0	0	0	1	0	0	0	0
PROG+STING+UPBT+NORT+OIL	3	2013	17.9	1.7	1	1	1	0	0	1	1	1	0	0
PROG+STING+UPBT+SLCT+OIL	3	1900	16.9	1.0	1	0	2	0	0	1	0	2	0	0
BMIX+STINGER+UPBEET	2	1250	11.1	1.0	1	0	1	0	0	1	0	1	0	0
BETX+STING+UPBEET+OIL	2	994	8.9	1.0	0	0	2	0	0	1	1	0	0	0
PROGRESS	2	930	8.3	1.5	0	0	2	0	0	0	2	0	0	0
ASSURE II	1	400	3.6	1.0	0	1	0	0	0	0	1	0	0	0
BETX+STING+UPBT+NORT+OIL	1	314	2.8	1.0	1	0	0	0	0	1	0	0	0	0
BETX+STNG+UPBT+POAST+OIL	1	300	2.7	1.0	0	0	1	0	0	0	0	1	0	0
TOTAL-POST	49	47317	421.6	1.7	10	12	24	3	0	12	15	21	1	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	6	1642	14.6	1.0	1	0	2	2	1	1	3	1	1	0
ROUNDUP (PRE)	2	450	4.0	1.0	0	2	0	0	0	0	2	0	0	0
DUAL (LAY-BY)	1	100	0.9	1.0	0	0	0	1	0	0	0	1	0	0
TOTAL-PRE&LAY-BY	9	2192	19.5	1.0	1	2	2	3	1	1	5	2	1	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	1	300	2.7	1.0	0	0	0	1	0	0	0	1	0	0
TOTAL-OTHER	1	300	2.7	1.0	0	0	0	1	0	0	0	1	0	0
TOTAL TREATMENTS	74	55069	490.7	1.5	11	17	35	10	1	13	24	27	7	3

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 13. **TRAILL COUNTY**: 13 GROWERS REPORTED ON 6,488 ACRES.

TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NO. OF GROWERS REPORTING: WEED CONTROL NR*	EXC*	GD*	FR*	PR*	NR	CROP INJURY None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
DUAL(PRE/PPI)	3	535	8.2	1.0	1	0	0	2	0	1	0	0	1	1
NORTRON(PRE/PPI)	2	380	5.9	1.0	0	1	0	0	1	0	0	2	0	0
TOTAL-PPI&PRE	5	915	14.1	1.0	1	1	0	2	1	1	0	2	1	1
B. POSTEMERGENCE HERBICIDES:														
PROG+STING+UPBT+NORT+OIL	3	4184	64.5	2.0	0	0	3	0	0	0	1	2	0	0
PROG+STING+UPBT+SLCT+OIL	6	3480	53.6	2.0	0	0	4	0	2	1	2	3	0	0
BMIX+STING+UPBT+NORT+OIL	1	3280	50.6	4.0	0	0	1	0	0	0	0	1	0	0
POAST	1	2300	35.5	2.0	0	1	0	0	0	0	1	0	0	0
SELECT/PRISM	5	2234	34.4	1.8	1	3	0	1	0	1	3	1	0	0
BETX+STING+UPBT+SLCT+OIL	3	1817	28.0	1.3	0	1	1	0	1	0	1	2	0	0
BMIX+STING+UPBT+SLCT+OIL	3	1620	25.0	1.3	1	1	1	0	0	1	0	2	0	0
PROG+UPBEET+SELECT+OIL	3	1600	24.7	1.3	0	0	3	0	0	1	0	2	0	0
BETX+STING+UPBT+NORT+OIL	1	1218	18.8	3.0	0	0	1	0	0	0	1	0	0	0
BMIX+STINGER+UPBEET	1	978	15.1	3.0	0	0	0	1	0	0	0	1	0	0
BETX+STING+UPBEET+OIL	2	735	11.3	1.0	0	1	0	1	0	0	0	1	1	0
BMIX+STING+UPBEET+OIL	2	670	10.3	1.5	0	0	1	1	0	0	0	2	0	0
PROG+STING+UPBT+ASR+OIL	1	600	9.2	1.0	0	0	1	0	0	1	0	0	0	0
PROG+STINGER+UPBEET	1	500	7.7	1.0	0	0	1	0	0	0	0	1	0	0
BETANEX+UPBEET	2	290	4.5	1.0	0	0	0	2	0	0	2	0	0	0
PROG+STING+UPBEET+OIL	1	210	3.2	1.0	0	0	0	1	0	0	0	1	0	0
BETX+STINGER+UPBEET	1	160	2.5	1.0	0	0	1	0	0	0	0	1	0	0
BETX+UPBEET+SELECT+OIL	1	109	1.7	1.0	0	0	0	1	0	0	1	0	0	0
TOTAL-POST	38	25985	400.5	1.7	2	7	18	8	3	5	12	20	1	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	4	569	8.8	1.0	0	1	3	0	0	0	2	2	0	0
ROUNDUP (PRE)	2	460	7.1	1.0	0	1	0	0	1	0	2	0	0	0
TREFLAN (LAY-BY)	1	150	2.3	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-PRE&LAY-BY	7	1179	18.2	1.0	0	2	4	0	1	0	5	2	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	4	2036	31.4	1.3	0	0	2	1	1	1	3	0	0	0
TOTAL-OTHER	4	2036	31.4	1.3	0	0	2	1	1	1	3	0	0	0
TOTAL TREATMENTS	54	30115	464.2	1.5	3	10	24	11	6	7	20	24	2	1

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 14. **TRAVERSE, BIG STONE, GRANT AND STEVENS COUNTY**: 17 GROWERS REPORTED ON 10,351 ACRES.

TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NO. OF GROWERS REPORTING: WEED CONTROL NR*	EXC*	GD*	FR*	PR*	NR	CROP INJURY None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
DUAL(PRE/PPI)	9	2671	25.8	1.0	1	3	4	1	0	1	0	2	2	4
NORTRON(PRE/PPI)	4	1890	18.3	1.0	0	1	2	1	0	0	4	0	0	0
TOTAL-PPI&PRE	13	4561	44.1	1.0	1	4	6	2	0	1	4	2	2	4
B. POSTEMERGENCE HERBICIDES:														
BETX+STING+UPBT+NORT+OIL	5	7948	76.8	1.8	2	0	1	2	0	1	0	3	1	0
BMIX+STING+UPBT+SLCT+OIL	2	5621	54.3	2.0	0	0	2	0	0	0	1	1	0	0
PROG+STING+UPBEET+OIL	3	5590	54.0	2.0	0	0	2	1	0	0	1	2	0	0
PROG+STNG+UPBT+POAST+OIL	6	4694	45.3	2.7	0	2	3	1	0	0	2	4	0	0
BETX+STING+UPBEET+OIL	3	3562	34.4	3.0	0	0	3	0	0	0	1	2	0	0
PROG+STING+UPBT+SLCT+OIL	1	1750	16.9	5.0	0	0	1	0	0	0	0	1	0	0
BETANEX	2	1650	15.9	1.0	0	0	1	1	0	0	2	0	0	0
BETX+STNG+UPBT+POAST+OIL	1	1476	14.3	2.0	0	0	1	0	0	0	0	1	0	0
PROGRESS	1	1244	12.0	2.0	0	0	1	0	0	0	1	0	0	0
BMIX+STING+UPBT+NORT+OIL	2	1090	10.5	1.5	0	0	1	0	1	0	0	2	0	0
PROG+STING+UPBT+NORT+OIL	2	1030	10.0	2.5	0	0	1	0	1	0	0	2	0	0
BMIX+STINGER+UPBEET	1	1000	9.7	4.0	1	0	0	0	0	1	0	0	0	0
SELECT/PRISM	2	963	9.3	1.0	0	1	0	1	0	0	2	0	0	0
PROG+STINGER+UPBEET	1	780	7.5	3.0	0	0	1	0	0	0	1	0	0	0
STINGER	3	535	5.2	1.0	0	1	2	0	0	0	2	0	1	0
ASSURE II	1	520	5.0	2.0	0	1	0	0	0	0	1	0	0	0
BETX+STING+UPBT+SLCT+OIL	1	400	3.9	1.0	1	0	0	0	0	0	0	1	0	0
TOTAL-POST	37	39853	385.0	2.1	4	5	20	6	2	2	14	19	2	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	6	2205	21.3	1.0	0	1	3	1	1	0	5	1	0	0
TREFLAN (LAY-BY)	1	160	1.5	1.0	1	0	0	0	0	1	0	0	0	0
DUAL (LAY-BY)	1	80	0.8	1.0	0	1	0	0	0	0	0	1	0	0
TOTAL-PRE&LAY-BY	8	2445	23.6	1.0	1	2	3	1	1	1	5	2	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	2	3000	29.0	1.5	0	0	1	1	0	0	1	1	0	0
HARROW	2	450	4.3	1.5	0	0	1	1	0	0	0	1	1	0
TOTAL-OTHER	4	3450	33.3	1.5	0	0	2	2	0	0	1	2	1	0
TOTAL TREATMENTS	62	50309	486.0	1.7	6	11	31	11	3	4	24	25	5	4

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 15. **WALSH COUNTY**: 22 GROWERS REPORTED ON 7,200 ACRES.

TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NO. OF GROWERS REPORTING: WEED CONTROL NR*	EXC*	GD*	FR*	PR*	NR	CROP INJURY None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
NORTRON(PRE/PPI)	6	771	10.7	1.2	0	1	3	2	0	0	6	0	0	0
DUAL(PRE/PPI)	4	494	6.9	1.0	0	1	2	1	0	0	1	1	2	0
TOTAL-PPI&PRE	10	1265	17.6	1.1	0	2	5	3	0	0	7	1	2	0
B. POSTEMERGENCE HERBICIDES:														
BETX+STING+UPBT+SLCT+OIL	5	4095	56.9	1.6	0	1	2	2	0	1	3	1	0	0
BETX+STINGER+UPBEET	3	4066	56.5	3.0	0	0	3	0	0	0	2	1	0	0
BETX+STING+UPBT+NORT+OIL	2	2790	38.8	2.5	0	1	1	0	0	0	1	1	0	0
PROG+STINGER+UPBEET	4	2423	33.7	2.5	0	1	1	2	0	0	1	1	2	0
SELECT/PRISM	7	2421	33.6	1.1	1	1	5	0	0	1	6	0	0	0
BETX+STING+UPBEET+OIL	3	2260	31.4	2.0	1	2	0	0	0	1	2	0	0	0
PROG+STING+UPBT+SLCT+OIL	4	2210	30.7	2.0	0	1	2	1	0	0	3	1	0	0
BETX+UPBEET+SELECT+OIL	3	1910	26.5	2.0	0	0	2	1	0	0	2	1	0	0
PROGRESS+UPBEET	2	1576	21.9	3.0	1	0	0	1	0	1	0	0	1	0
PROG+STING+UPBEET+OIL	3	720	10.0	1.0	1	0	1	1	0	2	1	0	0	0
BMIX+STING+UPBT+NORT+OIL	1	690	9.6	1.0	0	1	0	0	0	0	1	0	0	0
PROG+STING+UPBT+ASR+OIL	1	680	9.4	2.0	0	0	1	0	0	0	0	1	0	0
BETX+STING+UPBT+ASR+OIL	2	572	7.9	1.0	0	0	2	0	0	0	0	2	0	0
BMIX+STING+UPBEET+OIL	2	480	6.7	1.0	0	0	1	1	0	1	1	0	0	0
UPBEET	2	327	4.5	2.0	0	0	0	2	0	0	1	1	0	0
BMIX+STING+UPBT+SLCT+OIL	2	310	4.3	1.0	0	0	2	0	0	0	2	0	0	0
BMIX+UPBEET+SELECT+OIL	2	250	3.5	1.0	1	0	1	0	0	1	0	1	0	0
PROGRESS	1	200	2.8	1.0	0	0	0	1	0	0	0	1	0	0
PROG+UPBEET+SELECT+OIL	2	190	2.6	1.0	0	0	0	2	0	0	0	2	0	0
PROG+STING+UPBT+NORT+OIL	1	150	2.1	1.0	0	0	1	0	0	0	1	0	0	0
BETANEX+STINGER	1	50	0.7	1.0	0	0	0	1	0	0	0	1	0	0
POAST	1	44	0.6	1.0	0	0	1	0	0	0	1	0	0	0
PROG+STNG+UPBT+POAST+OIL	1	30	0.4	2.0	0	0	0	1	0	0	1	0	0	0
TOTAL-POST	55	28444	395.1	1.7	5	8	26	16	0	8	29	15	3	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	3	875	12.2	1.0	1	2	0	0	0	2	1	0	0	0
ROUNDUP (PRE)	3	772	10.7	1.0	1	0	2	0	0	1	2	0	0	0
TOTAL-PRE&LAY-BY	6	1647	22.9	1.0	2	2	2	0	0	3	3	0	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	11	5141	71.4	1.4	3	0	1	6	1	3	3	5	0	0
HARROW	4	575	8.0	1.0	0	0	0	3	1	0	2	1	1	0
TOTAL-OTHER	15	5716	79.4	1.3	3	0	1	9	2	3	5	6	1	0
TOTAL TREATMENTS	86	37072	514.9	1.5	10	12	34	28	2	14	44	22	6	0

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 16. **WILKIN AND OTTERTAIL COUNTY**: 26 GROWERS REPORTED ON 13,254 ACRES; 1 GROWER REPORTED NO HERBICIDE USED ON 300 ACRES.

					NO. OF GROWERS REPORTING									
					WEED CONTROL						CROP INJURY			
TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NR*	EXC*	GD*	FR*	PR*	NR	None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
DUAL(PRE/PPI)	6	1313	9.9	1.0	0	3	2	0	1	0	2	2	1	1
NORTRON(PRE/PPI)	5	1145	8.6	1.0	0	3	2	0	0	1	4	0	0	0
RO-NEET	1	240	1.8	1.0	0	1	0	0	0	0	1	0	0	0
TOTAL-PPI&PRE	12	2698	20.4	1.0	0	7	4	0	1	1	7	2	1	1
B. POSTEMERGENCE HERBICIDES:														
BMIX+STING+UPBT+NORT+OIL	6	13630	102.8	2.3	0	2	4	0	0	0	3	2	1	0
SELECT/PRISM	10	10801	81.5	1.6	3	5	2	0	0	4	6	0	0	0
BETX+STING+UPBT+SLCT+OIL	8	9637	72.7	2.6	0	1	7	0	0	1	4	2	1	0
PROG+STING+UPBT+SLCT+OIL	4	8160	61.6	2.8	0	0	4	0	0	1	1	2	0	0
PROG+STING+UPBT+NORT+OIL	4	3978	30.0	1.5	0	0	4	0	0	0	3	1	0	0
BETX+STING+UPBT+NORT+OIL	4	3710	28.0	2.3	0	2	2	0	0	0	2	1	1	0
BMIX+STING+UPBT+SLCT+OIL	5	2445	18.4	1.8	1	1	3	0	0	2	1	1	1	0
PROG+STING+UPBEET+OIL	1	1600	12.1	2.0	0	0	1	0	0	0	1	0	0	0
BETX+STINGER+UPBEET	1	924	7.0	2.0	0	0	1	0	0	0	0	1	0	0
BMIX+STING+UPBEET+OIL	2	788	5.9	2.5	0	1	1	0	0	1	0	1	0	0
BETX+STING+UPBEET+OIL	3	688	5.2	2.0	0	1	2	0	0	0	1	2	0	0
BETAMIX+STINGER	1	620	4.7	2.0	0	1	0	0	0	0	1	0	0	0
BETANEX+STINGER	1	480	3.6	2.0	0	0	1	0	0	0	0	1	0	0
BETANEX+UPBEET	3	281	2.1	1.0	0	1	1	1	0	0	1	2	0	0
STINGER	1	240	1.8	1.0	0	1	0	0	0	0	1	0	0	0
OTHER COMBINATIONS	1	212	1.6	1.0	1	0	0	0	0	1	0	0	0	0
PROG+STINGER+UPBEET	1	150	1.1	3.0	0	0	1	0	0	0	0	1	0	0
BETX+UPBEET+SELECT+OIL	1	110	0.8	1.0	0	0	0	1	0	0	0	1	0	0
TOTAL-POST	57	58454	441.0	2.0	5	16	34	2	0	10	25	18	4	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	7	3640	27.5	1.3	2	1	3	1	0	4	2	1	0	0
ROUNDUP (PRE)	2	123	0.9	1.0	0	1	1	0	0	0	2	0	0	0
TOTAL-PRE&LAY-BY	9	3763	28.4	1.2	2	2	4	1	0	4	4	1	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	5	3230	24.4	1.6	0	1	1	3	0	1	2	2	0	0
SWATH/FLAIL/MOW	1	100	0.8	1.0	0	0	0	1	0	0	1	0	0	0
HARROW	1	50	0.4	1.0	0	1	0	0	0	0	1	0	0	0
TOTAL-OTHER	7	3380	25.5	1.4	0	2	1	4	0	1	4	2	0	0
TOTAL TREATMENTS	85	68295	515.3	1.7	7	27	43	7	1	16	40	23	5	1

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

TABLE 16. **OTHER COUNTY**: 6 GROWERS REPORTED ON 3,220 ACRES.

TREATMENT	NO. RPTG.	ACRES TRTED	% OF TOTAL	Ave # App	NO. OF GROWERS REPORTING: WEED CONTROL NR	EXC	GD	FR	PR	NR	CROP INJURY None	Slt	Mod	Sev
A. SOIL APPLIED HERBICIDES:														
DUAL(PRE/PPI)	4	955	29.7	1.0	2	0	2	0	0	2	2	0	0	0
NORTRON(PRE/PPI)	1	40	1.2	1.0	1	0	0	0	0	1	0	0	0	0
TOTAL-PPI&PRE	5	995	30.9	1.0	3	0	2	0	0	3	2	0	0	0
B. POSTEMERGENCE HERBICIDES:														
BMIX+STING+UPBT+SLCT+OIL	1	6000	186.3	4.0	1	0	0	0	0	1	0	0	0	0
BETX+STING+UPBEET+OIL	1	1710	53.1	3.0	0	1	0	0	0	0	1	0	0	0
BMIX+STING+UPBEET+OIL	1	1710	53.1	3.0	0	1	0	0	0	0	1	0	0	0
BETX+STING+UPBT+ASR+OIL	1	1400	43.5	4.0	1	0	0	0	0	1	0	0	0	0
BETX+STINGER+UPBEET	2	950	29.5	2.0	1	1	0	0	0	1	1	0	0	0
BMIX+STINGER+UPBEET	1	880	27.3	2.0	0	1	0	0	0	0	1	0	0	0
PROG+STING+UPBEET+OIL	1	675	21.0	3.0	0	0	0	1	0	0	0	1	0	0
PROGRESS	2	640	19.9	1.0	0	2	0	0	0	0	2	0	0	0
SELECT/PRISM	3	435	13.5	1.0	1	1	1	0	0	1	2	0	0	0
PROG+UPBEET+SELECT+OIL	1	225	7.0	1.0	0	0	0	1	0	0	0	1	0	0
PROGRESS+STINGER	1	200	6.2	1.0	0	1	0	0	0	0	1	0	0	0
BETANEX+STINGER	1	70	2.2	1.0	0	0	1	0	0	0	1	0	0	0
PROG+STINGER+UPBEET	1	70	2.2	2.0	1	0	0	0	0	1	0	0	0	0
TOTAL-POST	17	14965	464.8	1.9	5	8	2	2	0	5	10	2	0	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	1	270	8.4	1.0	0	1	0	0	0	0	1	0	0	0
DUAL (LAY-BY)	1	70	2.2	1.0	0	1	0	0	0	0	1	0	0	0
ROUNDUP (PRE)	1	35	1.1	1.0	1	0	0	0	0	1	0	0	0	0
TOTAL-PRE&LAY-BY	3	375	11.6	1.0	1	2	0	0	0	1	2	0	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	1	2000	62.1	2.0	1	0	0	0	0	1	0	0	0	0
HARROW	1	675	21.0	3.0	1	0	0	0	0	1	0	0	0	0
TOTAL-OTHER	2	2675	83.1	2.5	2	0	0	0	0	2	0	0	0	0
TOTAL TREATMENTS	27	19010	590.4	1.7	11	10	4	2	0	11	14	2	0	0

*NR=NO RESPONSE; EXC=EXCELLENT; GD=GOOD; FR=FAIR; PR=POOR.

A summary of the most important weed problem responses from 1977 to 2003.

Year	Weed indicated as most important weed problem in sugarbeet													
	PIWE[1]	FXTL	COLQ	WIOA	WIBW	WIMU	KOCZ	COCB	SMWE	EBNS	COMA	LASA	VELE	WAHE
	Percent of responses													
1977	51	20	3	8	5	1								
1978	55	19	3	8	6	1								
1978	53	22	5	5	7	1								
1980	43	23	10	10	8	1								
1981	46	20	8	6	9	3	5							
1982	44	8	7	9	11	7	14							
1983	50	8	11	6	5	4	12							
1984	54	5	6	6	5	4	10							
1985	43	2	11	9	6	5	12							
1986	71	5	4	3	2	1	5	4						
1987	61	7	6	3	6	2	6	2						
1988	75	2	5	1	2	<1	9	1						
1989	54	5	4	1	5	<1	21	1						
1990	51	2	8	1	5	0	23	1	3					
1991	59	3	4	0	2	0	18	2	3					
1992	47	4	8	3	4	<1	16	3	8					
1993	38	3	6	6	8	1	13	3	9	3	2			
1994	61	2	6	2	8	1	8	2	6	2	1			
1995	71	2	4	1	2	1	4	1	8	4	1			
1996	72	4	4	2	1	1	3	2	6	2	1			
1997	53	7	4	2	6	1	3	2	5	4	1			
1998	51	9	7	2	4	1	13	1	4	1	<1			
1999	40	2	10	2	1	<1	33	1	3	1	<1	2		
2000	18	2	19	<1	2	<1	43	2	3	<1	<1	2		1
2001	43	1	10	<1	1	0	32	1	4	4	<1	1		2
2002	44	<1	14	<1	<1	0	26	1	4	<1	<1	<1	2	5
2003	25	<1	18	<1	<1	0	46	<1	4	<1	<1	1	1	2

[1]PIWE = Pigweed species, FXTL = Green & Yellow foxtail, COLQ = Common lambsquarters, WIOA = Wild oats, WIBW = Wild buckwheat, WIMU = Wild mustard, KOCZ = Kochia, COCB = Common cocklebur, SMWE = Smartweed, EBNS = Eastern black nightshade, COMA = Common mallow, LASA = Lanceleaf sage, VELE = Velvetleaf and WAHE = Waterhemp.

A summary of the worst production problem responses from 1977 to 2003.

Year	Production problem indicated as worst in sugarbeet									
	No Problem	Weeds	Weather	Emergence/ stand	Labor mgmt.	Root Maggot	Cercospora leaf spot	Herbicide injury	Rhizomania	Rhizoctonia/ Aphanomyces
	percent of responses									
1977	10	13	42	29	4	1	0			
1978	21	47	16	7	6	2	0			
1978	19	41	28	6	4	1	0			
1980	5	23	42	28	2	0	0			
1981	4	35	38	16	1	0	6			
1982	10	39	35	9	3	4	0			
1983	3	37	37	13	2	1	5			
1984	5	26	49	8	2	1	2			
1985	4	20	45	17	1	1	1			
1986	4	39	31	18	1	1	1			
1987	5	42	23	22	2	0	2			
1988	1	37	12	40	1	1	1			
1989	5	38	19	16	3	8	2			
1990	5	42	20	10	2	8	4			
1991	3	26	4	18	1	26	7			8
1992	11	45	9	15	5	9	1			3
1993	3	40	21	16	4	1	2			12
1994	3	56	12	13	4	1	3			8
1995	2	51	6	2	3	<1	24			11
1996	6	53	12	11	6	2	3			6
1997	15	34	13	12	3	1	5		2	14
1998	3	25	9	4	1	1	36		3	17
1999	14	39	14	12	2	1	6		2	9
2000	8	48	9	10	1	<1	3		2	18
2001	6	52	13	5	2	1	1		3	16
2002	4	53	11	19	1	<1	<1		3	9
2003	7	61	9	4	1	<1	1	4	2	11

TABLE 18. Worst weed problem in sugarbeet, 2003.

County	Responsess	No Problem	CATH[1]	COCB	COLQ	COMA	VELE	EBNS	FXTL
		% of respondents							
Cass	15	0	0	0	7	0	0	0	0
Chippewa[2]	39	0	0	0	44	3	3	0	0
Clay[3]	28	4	0	4	7	0	0	0	0
Grand Forks	19	0	0	0	5	0	0	0	0
Kittson	19	0	0	0	0	0	0	0	0
Marshall	24	0	0	0	4	0	0	0	0
Norman[4]	20	0	0	0	10	0	0	0	5
Pembina	22	4	0	0	0	0	0	0	0
Polk	52	0	0	0	4	0	0	0	0
Renville[5]	54	0	0	0	57	0	4	4	0
Richland	19	0	0	0	16	0	0	0	0
Traill	13	0	0	0	8	0	0	0	0
Traverse[6]	19	0	0	0	5	0	5	0	0
Walsh	24	4	0	0	8	0	0	0	4
Wilkin[7]	24	0	0	4	17	0	0	0	0
Other[8]	7	14	0	0	29	0	0	0	0
Total	398	1	0	<1	18	<1	1	<1	<1

Table continued

TABLE 18 (con't). Worst weed problem in sugarbeet, 2003.

County	KOCZ	LASA	PIWE	SMWE	WAHE	WIBW	WIMU	WIOA	Other[9]
	% of respondents								
Cass	40	7	47	0	0	0	0	0	0
Chippewa[2]	8	0	26	10	8	0	0	0	0
Clay[3]	61	0	25	0	0	0	0	0	0
Grand Forks	63	0	26	5	0	0	0	0	0
Kittson	74	0	16	0	0	5	0	5	0
Marshall	67	0	29	0	0	0	0	0	0
Norman[4]	60	0	25	0	0	0	0	0	0
Pembina	73	0	23	0	0	0	0	0	0
Polk	75	0	17	2	0	0	0	0	2
Renville[5]	4	0	17	11	4	0	0	0	0
Richland	32	0	53	0	0	0	0	0	0
Traill	54	0	38	0	0	0	0	0	0
Traverse[6]	37	5	42	0	5	0	0	0	0
Walsh	67	0	8	4	0	0	0	4	0
Wilkin[7]	42	4	25	4	0	4	0	0	0
Other[8]	0	0	29	0	29	0	0	0	0
Total	46	1	25	4	2	<1	0	<1	<1

[1]CATH = Canada thistle; COCB = Common cocklebur; COLQ = Common lambsquarters; COMA = Common mallow; VELE = velvetleaf; EBNS = eastern black nightshade; FXTL = Green & yellow foxtail; KOCZ = Kochia; LASA = Lanceleaf sage; PIWE = pigweed species; SMWE = Smartweed; WAHE = Waterhemp; WIBW = Wild buckwheat; WIOA = Wild oats.
[2]Includes Swift and Kandiyohi Counties.
[3]Includes Becker County.
[4]Includes Mahnomen County.
[5]Includes Redwood, Faribault, Yellow Medicine, Lac Qui Parle and Sibley Counties.
[6]Includes Grant, Stevens and Big Stone Counties.
[7]Includes Ottertail County.
[8]Other counties = Stearns, Meeker, Nicollet and Brown.
[9]Other weeds = biennial wormwood.

TABLE 19. Most serious production problem in sugarbeet, 2003.

County	Responses	No Prob	Weeds	Emerg/ Stand	Labor Mangmt	Root Maggot	CLS[1]	Rhizo- mania	Rhizoctonia/ Aphanomyces	Weather	Herb injury	Other[9]
		% of respondents										
Cass	13	15	54	8	0	0	0	0	8	15	0	0
Chippewa[2]	37	8	57	16	0	0	0	3	8	3	5	0
Clay[3]	29	7	41	3	3	0	3	7	21	10	3	0
Grand Forks	17	0	88	0	0	0	0	0	0	12	0	0
Kittson	17	6	71	0	0	0	0	0	0	12	6	6
Marshall	23	4	74	0	4	0	0	0	4	4	4	4
Norman[4]	16	6	75	6	0	0	0	0	6	6	0	0
Pembina	23	9	70	4	4	4	0	0	0	4	0	4
Polk	44	11	66	5	0	0	2	2	2	9	2	0
Renville[5]	49	6	57	6	0	0	0	4	18	4	4	0
Richland	19	5	47	5	0	0	0	0	26	0	16	0
Traill	15	0	33	0	0	0	0	0	40	27	0	0
Traverse[6]	16	0	75	0	0	0	6	0	6	0	12	0
Walsh	20	0	85	0	0	0	0	0	0	15	0	0
Wilkin[7]	26	12	42	0	0	0	0	0	19	23	0	4
Other[8]	3	0	67	0	0	0	0	0	33	0	0	0
Total	367	7	61	4	1	<1	1	2	11	9	4	1

[1]CLS = Cercospora leaf spot.
[2]Includes Swift and Kandiyohi Counties.
[3]Includes Becker County.
[4]Includes Mahnomen County.
[5]Includes Redwood, Faribault, Yellow Medicine, Lac Qui Parle and Sibley Counties.
[6]Includes Grant, Stevens and Big Stone Counties.
[7]Includes Ottertail County.
[8]Other counties = Stearns, Meeker, Brown and Nicolett.
[9]Other =springtail, herbicide drift, lack of N, cover crop.

TABLE 20. Sugarbeet acreage that was hand weeded, 2003.

County	Acres planted by respondents	Hand weeded
		% of acres
Cass	6,470	39
Chippewa[2]	13,769	42
Clay[3]	20,122	30
Grand Forks	7,137	47
Kittson	9,344	11
Marshall	14,563	19
Norman[4]	9,435	9
Pembina	12,249	34
Polk	29,445	11
Renville[5]	14,055	85
Richland	11,223	38
Traill	6,488	16
Traverse[6]	10,351	18
Walsh	7,200	30
Wilkin[7]	13,254	35
Other[8]	3,220	23
Total	188,325	30

[2]Includes Swift and Kandiyohi Counties.
[3]Includes Becker County.
[4]Includes Mahnomen County.
[5]Includes Redwood, Faribault, Yellow Medicine, Lac Qui Parle and Sibley Counties.
[6]Includes Grant, Stevens and Big Stone Counties.
[7]Includes Ottertail County.
[8]Includes Stearns, Meeker, Brown and Nicollet.

TABLE 21. Method of herbicide application, 2003.

Herbicide	Band	Method of application	
		Broadcast ground	Broadcast air
	----------% of acres----------		
Eptam + Ro-Neet, Eptam, Ro-Neet	51	49	0
Dual (PRE/PPI/Lay-By)	12	86	2
Nortron (PRE/PPI)	90	9	1
Betamix/Betanex/Progress	25	56	19
Poast, Select, Assure II	20	70	9
Bnex/Bmix/Progress+UpBeet	74	21	5
Bnex/Bmix/Progress+Stinger	12	79	9
Bnex/Bmix/Progress+UpB+Stinger	29	61	10
Bnex/Bmix/Prog+UpB+Sting+Grass	40	54	6
Bnex/Bmix/Prog + UpB + Sting + Nortron	56	41	3
All herbicides	37	56	7

TABLE 22. Cost of hand weeding and hand thinning sugarbeet, 2002.

County	Respondents	Dollars per acre					
		0	1-10	11-15	16-20	21-25	26-30
		% of respondents					
Cass	14	36	0	14	0	21	29
Chippewa[2]	37	22	19	16	14	8	11
Clay[3]	29	48	10	7	10	7	3
Grand Forks	17	47	6	12	6	6	12
Kittson	19	58	0	0	0	11	5
Marshall	25	56	0	0	8	20	4
Norman[4]	17	71	0	0	12	18	0
Pembina	21	33	0	5	14	14	5
Polk	51	61	0	6	14	14	4
Renville[5]	49	8	16	20	16	10	4
Richland	19	32	0	11	21	21	5
Traill	13	78	0	0	8	8	8
Traverse[6]	17	65	0	0	0	12	12
Walsh	22	23	5	5	5	36	14
Wilkin[7]	26	35	0	8	12	15	19
Other[8]	6	50	0	17	0	17	0
Total	382	41	5	8	10	14	8

Table continued.

TABLE 22 (con't) Cost of hand weeding and hand thinning sugarbeet, 2003.

County	Dollars per acre							
	31-35	36-40	41-45	46-50	51-55	56-60	61-70	>80
	% of respondents							
Cass	0	0	0	0	0	0	0	0
Chippewa[2]	3	3	0	3	3	0	0	0
Clay[3]	3	7	0	0	0	0	0	3
Grand Forks	6	6	0	0	0	0	0	0
Kittson	16	0	5	0	0	5	0	0
Marshall	4	4	4	0	0	0	0	0
Norman[4]	0	0	0	0	0	0	0	0
Pembina	19	5	0	5	0	0	0	0
Polk	2	0	0	0	0	0	0	0
Renville[5]	6	6	8	2	0	0	2	0
Richland	0	5	0	5	0	0	0	0
Traill	0	0	0	0	0	0	0	0
Traverse[6]	6	0	6	0	0	0	0	0
Walsh	5	5	0	0	5	0	0	0
Wilkin[7]	4	0	4	0	0	0	4	0
Other[8]	0	17	0	0	0	0	0	0
Total	5	3	2	1	0.5	0.3	0.5	0.3

[2]Includes Swift and Kandiyohi Counties.
[3]Includes Becker County.
[4]Includes Mahnomen County.
[5]Includes Redwood, Faribault, Yellow Medicine, Lac Qui Parle and Sibley Counties.
[6]Includes Grant, Stevens and Big Stone Counties.
[7]Includes Ottertail County.
[8]Includes Stearns, Meeker, Brown and Nicollet.

TABLE 23. Total sugarbeet acreage operated by respondents to the survey, 2003.

County	Respondents	Acres of sugarbeet					
		<50	50-99	100-199	200-299	300-399	400-599
		% of respondents					
Cass	14	0	0	21	0	21	29
Chippewa[1]	37	3	8	32	14	11	8
Clay[2]	29	3	0	7	28	3	14
Grand Forks	17	0	6	12	29	12	18
Kittson	19	0	5	11	21	21	11
Marshall	25	0	4	16	4	12	28
Norman[3]	17	0	0	12	12	18	18
Pembina	21	5	0	5	10	5	38
Polk	51	0	2	8	14	6	29
Renville[4]	49	4	12	35	16	14	6
Richland	19	0	0	0	5	11	32
Traill	13	0	0	8	8	15	38
Traverse[5]	17	6	0	0	24	12	29
Walsh	22	9	9	5	27	18	18
Wilkin[6]	26	4	12	12	8	19	15
Other[7]	6	17	0	0	33	0	33
Total	382	3	5	14	15	12	20

Table continued.

TABLE 23 (cont.). Total sugarbeet acreage operated by respondents to the survey, 2003.

County	600-799	Acres of sugarbeet			
		800-999	1000-1499	1500-1999	>2000
	% of respondents				
Cass	21	7	0	0	0
Chippewa[1]	8	11	5	0	0
Clay[2]	7	17	17	0	3
Grand Forks	6	18	0	0	0
Kittson	11	5	16	0	0
Marshall	12	8	12	4	0
Norman[3]	6	24	12	0	0
Pembina	19	5	10	5	0
Polk	20	8	10	4	0
Renville[4]	4	2	6	0	0
Richland	37	0	16	0	0
Traill	15	8	8	0	0
Traverse[5]	12	0	12	6	0
Walsh	9	5	0	0	0
Wilkin[6]	4	15	4	8	0
Other[7]	0	0	0	17	0
Total	12	8	8	2	<1

[1]Includes Swift and Kandiyohi Counties.
[2]Includes Becker County.
[3]Includes Mahnomen County.
[4]Includes Redwood, Faribault, Yellow Medicine, Lac Qui Parle and Sibley Counties.
[5]Includes Grant, Stevens and Big Stone Counties.
[6]Includes Ottertail County.
[7]Included Stearns, Meeker, Brown and Nicollet.

TABLE 24. Sugarbeet acres that were seeded into cover crop, 2003.

County	Cover Crop							
	Spring wheat	Fall rye	Spring oat	Fall oat	Spring barley	Fall barley	Unspecified	Total
	% of acres							
Cass	0	0	0	0	0	0	0	0
Chippewa[1]	0	0	20.7	0	0	0	0	20.7
Clay[2]	0	0	0	0	2.4	0	0	2.4
Grand Forks	0	0	0	0	0	0	0	0
Kittson	0	0	0	0	0	2.9	0	2.9
Marshall	0	0	0	0	2.1	0	0	2.1
Norman[3]	0	0	0	0	3.7	0	5.4	9.1
Pembina	1.1	0	14.2	0	6.2	0	3.7	25.2
Polk	0	0	0	0	6.0	0	0.4	6.4
Renville[4]	5.1	0	49.7	0.6	2.7	0	0	58.1
Richland	10.9	8.8	0	0	3.6	0	10.0	33.2
Traill	0	0	0	0	17.7	0	0	17.7
Traverse[5]	15.6	0	18.9	0	17.8	0	5.8	58.0
Walsh	0	0	0	0	4.8	0	0	4.8
Wilkin[6]	7.0	0	0	0	38.3	0	0	45.3
Other[7]	0	0	12.9	0	0	0	0	12.9
Total	2.3	0.5	7.4	<0.1	6.3	0.1	1.5	18.3

[1]Includes Swift and Kandiyohi Counties.
[2]Includes Becker County.
[3]Includes Mahnomen County.
[4]Includes Redwood, Faribault, Yellow Medicine, Lac Qui Parle and Sibley Counties.
[5]Includes Grant, Stevens and Big Stone Counties.
[6]Includes Ottertail County.
[7]Includes Stearns,Meeker, Brown and Nicollet.

TABLE 25. Frequency of use of the NDWAN internet web page for cercospora and sugarbeet growth stage information, 2003.

County	Frequency of use					
	Respondents	Daily	Weekly	Monthly	Yearly	Never
	% of respondents					
Cass	13	8	0	8	0	85
Chippewa[1]	36	3	0	0	3	94
Clay[2]	27	11	11	0	11	67
Grand Forks	15	7	20	27	0	47
Kittson	17	12	24	24	18	23
Marshall	22	23	0	14	9	55
Norman[3]	13	0	8	15	15	62
Pembina	20	15	30	10	15	30
Polk	43	5	26	19	5	47
Renville[4]	48	4	6	4	6	79
Richland	17	6	18	6	6	65
Traill	11	0	36	0	0	64
Traverse[5]	17	0	0	18	12	71
Walsh	20	5	15	5	5	70
Wilkin[6]	26	0	8	8	4	81
Other[7]	6	0	17	0	0	83
Total		5	14	9	7	65

[1]Includes Swift and Kandiyohi Counties.
[2]Includes Becker County.
[3]Includes Mahnomen County.
[4]Includes Redwood, Faribault, Yellow Medicine, Lac Qui Parle and Sibley Counties.
[5]Includes Grant, Stevens and Big Stone Counties.
[6]Includes Ottertail County.
[7]Includes Stearns, Meeker, Brown and Nicollet.

Table 26. Frequency of access of sugarbeet information on the internet, 2003.

County	Respondents	Frequency of access				
		Daily	Weekly	Monthly	Yearly	Never
		----------% of respondents----------				
Cass	13	0	31	23	23	23
Chippewa[1]	35	24	31	14	11	20
Clay[2]	27	0	22	22	22	33
Grand Forks	16	6	44	19	19	12
Kittson	18	17	39	22	17	6
Marshall	22	0	36	41	5	18
Norman[3]	15	0	20	47	27	7
Pembina	20	15	25	40	10	10
Polk	44	0	34	48	11	7
Renville[4]	49	31	20	24	10	14
Richland	19	5	21	26	21	26
Traill	11	0	27	18	36	18
Traverse[5]	17	6	12	24	29	29
Walsh	20	0	30	40	20	10
Wilkin[6]	26	8	23	27	15	27
Other[7]	6	17	67	0	17	0
Total	358	10	28	29	16	17

[1]Includes Swift and Kandiyohi Counties.
[2]Includes Becker County.
[3]Includes Mahnomen County.
[4]Includes Redwood, Faribault, Yellow Medicine, Lac Qui Parle and Sibley Counties.
[5]Includes Grant, Stevens and Big Stone Counties.
[6]Includes Ottertail County.
[7]Included Stearns, Meeker, Brown and Nicollet.

Table 27. Frequency of listening to the "Sugarbeet Growing Tips" radio spots, 2003.

County	Respondents	Often	Sometimes	Never	Do not know
	----------% of respondents----------				
Cass	13	23	61	8	8
Chippewa[1]	35	6	34	51	9
Clay[2]	27	0	19	67	15
Grand Forks	16	25	25	19	31
Kittson	18	6	33	28	33
Marshall	22	5	50	32	14
Norman[3]	14	7	43	36	14
Pembina	20	10	45	30	15
Polk	43	9	47	35	9
Renville[4]	49	4	29	55	12
Richland	17	12	41	24	24
Traill	11	0	55	36	9
Traverse[5]	17	0	23	53	24
Walsh	19	5	32	42	21
Wilkin[6]	26	0	23	58	19
Other[7]	6	0	17	67	17
Total	353	7	35	42	16

[1]Includes Swift and Kandiyohi Counties.
[2]Includes Becker County.
[3]Includes Mahnomen County.
[4]Includes Redwood, Faribault, Yellow Medicine, Lac Qui Parle and Sibley Counties.
[5]Includes Grant, Stevens and Big Stone Counties.
[6]Includes Ottertail County.
[7]Includes Stearns, Meeker, Brown and Nicollet.