SURVEY OF WEED CONTROL AND PRODUCTION PRACTICES ON SUGARBEET IN MINNESOTA AND EASTERN NORTH DAKOTA - 2007

Aaron L. Carlson, John L. Luecke, Mohamed F.R. Khan, and Alan G. Dexter

Sugarbeet Research Technician, Sugarbeet Research Specialist, Extension Sugarbeet Specialist, and Extension Sugarbeet Specialist

North Dakota State University and the University of Minnesota
Fargo, ND

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

The thirty-ninth annual weed control and production practices questionnaire was mailed in September, 2007 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 and 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 723,659 acres of sugarbeet in the Red River Valley and West Central Minnesota in 2007. Two hundred ten growers representing 16 percent of the total acres responded to the survey. The responses to the questionnaire are reported in Tables 1 to 28.

Table 1 gives a summary of herbicide use and performance averaged over all counties. The number of growers reporting the use of an 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 grower, thus the number of growers reporting in Table 1 exceeds the total number of survey 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 16.

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 Select Max, Prism, and Arrow.

Total sugarbeet acreage treated with herbicides in 2007 was 383%, which compares to 386% in 2006, 378% in 2005, 427% in 2004, 437% in 2003, 428% in 2002 and 368% in 2001. The acres treated do not include “other weed control methods” which were non-herbicidal methods. Ro-Neet, Dual, Far-Go, Eptam and Nortron were the soil applied herbicides reported in 2007. Soil applied herbicide use was 47% in 1989, 32% in 1993, 11% in 1998, 4% in 2002, 29% in 2003, 31% in 2004, 24% in 2005, 23% in 2006, and 25% in 2007. Postemergence herbicide use was 340% in 2007 compared to 335% in 2006, 336% in 2005, 379% in 2004, 380% in 2003, 388% in 2002 and 342% in 2001. Sugarbeet injury from PRE or PPI Dual Magnum declined from 53% of the survey respondents indicating moderate or severe sugarbeet injury in 2003 to 22% indicating moderate or severe injury in 2004, 19% in 2005 and back up to 22% in 2006, and 38% in 2007.

The usage of postemergence grass control herbicides was 189% of the acreage in 2007 as compared to 215% in 2006, 203% in 2005, 226% in 2004, 214% in 2003, 209% in 2002 and 214% in 2001. Assure II was used on 13% of the acreage in 2002, 15% in 2003, 9% in 2004, 12% in 2005, 6% in 2006, and 13% in 2007. Prism/Select was used on 190% of the acreage in 2002, 180% in 2003, 198% in 2004, 165% in 2005, 199% in 2006, and 167% in 2007. Poast was used on 17% of the acreage in 2002, 19% in 2003, 20% in 2004, 25% in 2005, 11% in 2006, and 9% in 2007. Most of the grass herbicides were applied in combination with the micro-rate or mid-rate which included an oil adjuvant. About 18% of the acres reported were treated with a grass herbicide used alone.

Betanex use was 107% of the acreage in 2001, 112% in 2002, 100% in 2003, 71% in 2004, 51% in 2005, 62% in 2006, and 67% in 2007. Betamix use was 116% of the acreage in 2001, 139% in 2002, 115% in 2003, 125% in 2004, 95% in 2005, 93% in 2006, and 122% in 2007. Progress use was 81% of the acreage in 2001, 97% in 2002, 122% in 2003, 137% in 2004, 149% in 2005, 157% in 2006, and 131% in 2007. Progress use has increased from 21% of the acreage in 1999 due to the problem with kochia in sugarbeet. UpBeet use was 278% of the acreage in 2001, 332% in 2002, 324% in 2003, 306% in 2004, 276% in 2005, 280% in 2006, and 285% in 2007. Stinger use was 138% of the acreage in 1997, 291% in 1999, 298% in 2000, 274% in 2001, 304% in 2002, 305% in 2003, 310% in 2004, 275% in 2005, 273% in 2006, and 284% in 2007. The most common herbicide treatment in 2007 was Progress + Stinger + UpBeet + Select + Oil adjuvant on 41% of the acreage. Combination treatments that included oil generally would be micro-rate or mid-rate treatments. Treatments including oil were applied to 250% of the acreage in 2007, 258% in 2006, 241% in 2005, 273% in 2004, 297% in 2003, 301% in 2002 and 265% in 2001.

The rotary hoe or harrow were used on 25% of the acres in 2007 compared to 41% in 2006, 56% in 2005, 64% in 2004, 65% in 2003, 42% in 2002, 63% in 2001 and 62% in 2000. The percentage of reported acres treated with a rotary hoe or harrow dropped dramatically in 2007 compared to past years. This most likely was due to an unusually wet spring which prevented the use of these implements by growers. The electrical discharge system, weed pullers, mowing or swathing were used on 7.6% of the acreage in 1995, 1.6% in 1997, 2.4% in 2001, 3.1% in 2002, 2% in 2003, 0.5% in 2004, 1.9% in 2005, 1.7% in 2006, and 2.6% in 2007.

Kochia was named most often as "worst weed" in sugarbeet in 2007 (Table 18). Kochia was named the worst weed problem by 41% of the survey respondents in 2007 and 2006 compared to 29% in 2005, 41% in 2004, 46% in 2003, 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 helps explain the prevalence of kochia being named as worst weed. Pigweed species was the most common "worst weed" choice in 2005, 2002 and 2001. The percentage of respondents indicating pigweed species as their worst weed was 43% in 2001, 44% in 2002, 25% in 2003, 21% in 2004, 42% in 2005, 35% in 2006, and 34% in 2007. Common lambsquarters was named most important weed problem in sugarbeet by 16% of respondents in 2007, 18% in 2006, 15% in 2005, 25% in 2004 and 18% in 2003.

Weeds were named as the most serious production problem by 46% of the survey respondents in 2007 compared to 57% in 2006, 36% in 2005, 47% in 2004, 61% in 2003, 53% in 2002 and 52% in 2001 (Table 19). The percentage of respondents who named emergence and stand as their worst problem was 5% in 2001, 19% in 2002, 1% in 2003, 21% in 2004, 3% in 2005, 9% in 2006, and 18% in 2007. The percentage of respondents who named Cercospora leaf spot (CLS) as their worst problem was 36% in 1998, 6% in 1999, 3% in 2000, 1% in 2001, 1% in 2002, 1% in 2003, 0% in 2004, 0% in 2005, and less than 1% in 2006 and 2007. The Section 18 labels for Eminent in 1999 through 2004, the full label for Eminent in 2005 and the new label for Headline in 2002 probably explain the reduction in Cercospora being identified as the worst production problem by respondents. Rhizoctonia/aphanomyces was named as worst problem by 18% of the respondents in 2000, 16% in 2001, 9% in 2002, 11% in 2003, 8% in 2004, 22% in 2005, 13% in 2006, and 18% in 2007. 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, 2% in 1999 and 2000, by 3% in 2001 and 2002, 2% in 2003, 1% in 2004, 11% in 2005, 3% in 2006, and 2% in 2007.

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, 30% in 2003, 28% in 2004, 23% in 2005 and 28% in 2006 and 2007 (Table 22).

Averaged over all herbicides, herbicides were band applied to 35%, broadcast applied with a ground sprayer to 56% and broadcast applied by air to 9% of the sugarbeet acreage in 2007 (Table 23). 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 17% of the acreage in 1998, 9% in 2000, and 14% in 2002.

The cost of hand weeding and hand thinning varied from zero to greater than $80/Acre in 2007 (Table 24). The most common cost was zero dollars for 48% of the respondents. Zero cost responses were 56% in 2000, 57% in 2001, 48% in 2002, 41% in 2003, 47% in 2004, 57% in 2005, and 45% in 2006. When averaged over all survey respondents, the average cost of hand weeding as calculated from Table 24 was $15.50/A in 2007 as compared to $14.37/A in 2006, $10.78/A in 2005, $12.61/A in 2004, $13.75/A in 2003, $15.95/A in 2002, $11.15/A in 2001 and $34/A in 1995. When averaged over growers who reported hand-weeded acres, the average cost of hand weeding in 2007 was $29.40/A. The percentage of respondents who paid nothing for hand labor varied by county from 11% in Cass County to 78% in Norman and Mahnomen Counties.

Sugarbeet acreage operated by respondents to the survey in 2007 varied from less than 50 acres to over 2,000 acres (Table 25) with the median sugarbeet acreage being 442 acres and the average being 550 acres. The most common acreage range was 300 to 399 acres for 21% of the respondents. Other common acreage ranges were 100 to 199 acres at 10%, 200 to 299 acres at 10%, 400 to 599 acres at 18%, and 600 to 799 acres at 17%. Twelve percent of the respondents reported over 1,000 acres and 20% had over 800 acres. In 1998, 5% reported over 1,000 acres and 11% had over 800 acres.

Row crop cultivation for weed control was used by 99% of the respondents to the question (Table 26). One or two cultivations were used by 93% of the respondents. The average number of cultivations per field was 1.7 times in 2007 and in 2006 while the average was 1.9 in 2005, 2.0 in 2000, 2.4 in 1998, 3.2 in 1992 and 3.4 in 1987. Row crop cultivation has been reduced by half since 1987.

TABLE 1. SUMMARY OF ALL HERBICIDES USED IN SUGARBEET REPORTED IN 2007. **210** GROWERS REPORTED ON **115,397** ACRES: OF THIS TOTAL, **1** GROWER WITH **435** 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:													
NORTRON(PRE/PPI)	69	22.2	1.0	3	26	58	13	0	7	75	16	0	1
DUAL(PRE/PPI)	8	2.2	1.0	0	0	88	13	0	0	50	13	25	13
EPTAM+RO-NEET	1	0.3	1.0	0	0	100	0	0	0	100	0	0	0
FARGO	1	0.2	1.0	0	100	0	0	0	0	100	0	0	0
TOTAL-PPI&PRE	79	25.0	1.0	3	24	61	13	0	6	73	15	3	3
B. POSTEMERGENCE HERBICIDES:													
PROG+STNG+UPB+SELECT+OIL	43	40.5	2.1	7	12	56	23	2	9	30	58	2	0
BMIX+STNG+UPB+SELECT+OIL	43	34.6	1.8	9	12	53	26	0	9	35	51	5	0
BMX+STG+UPB+SLCT+NRT+OIL	24	23.8	2.0	8	4	25	54	8	8	21	71	0	0
PROG+STINGER+UPBEET+OIL	23	21.7	2.0	9	4	61	26	0	17	17	61	4	0
BMIX+STINGER+UPBEET+OIL	27	18.9	2.0	4	11	44	37	4	4	15	78	4	0
BNEX+STNG+UPB+SELECT+OIL	31	18.0	1.6	3	10	48	32	6	6	29	61	3	0
SELECT	41	15.9	1.1	2	54	32	10	2	5	90	5	0	0
BNX+STG+UPB+SLCT+NRT+OIL	17	15.6	1.6	0	12	53	29	6	0	41	53	6	0
BMIX+STNG+UPB+NORT+OIL	18	15.4	1.9	6	6	72	17	0	6	22	56	17	0
BNEX+STNGER+UPBEET+OIL	18	14.7	1.8	6	17	44	33	0	11	17	72	0	0
PROGRESS	23	13.9	1.4	0	13	57	26	4	4	26	65	4	0
PROGRESS+STINGER+UPBEET	17	11.6	1.7	0	12	59	29	0	0	35	65	0	0
PROGRESS+STINGER	19	10.5	1.8	11	5	58	21	5	16	37	42	5	0
PRG+STG+UPB+SLCT+NRT+OIL	21	10.4	1.7	5	24	48	14	10	5	67	29	0	0
BETAMIX+STINGER+UPBEET	13	9.3	1.5	0	8	85	8	0	8	8	77	8	0
PROG+STNG+UPB+NORT+OIL	14	7.5	1.4	0	29	36	29	7	0	29	71	0	0
BETANEX+STINGER+UPBEET	12	5.7	1.5	17	0	50	25	8	33	17	50	0	0
PROG+STNG+UPB+ASSURE+OIL	4	5.6	2.0	25	25	0	0	50	25	75	0	0	0
BMIX+STNG+UPB+ASSURE+OIL	3	3.9	2.3	33	0	67	0	0	33	0	67	0	0
BMIX+UPBEET+SELECT+OIL	6	3.8	2.0	17	17	67	0	0	17	67	17	0	0
BETAMIX+UPBEET	7	3.8	1.4	14	0	57	29	0	14	43	43	0	0
BETAMIX+STINGER	3	3.5	1.7	0	33	33	33	0	0	67	33	0	0
PROG+STNG+UPB+POAST+OIL	3	3.3	2.0	0	0	100	0	0	0	33	67	0	0
PROG+UPBEET+SELECT+OIL	5	3.2	1.2	0	0	100	0	0	0	20	80	0	0
BETANEX	6	3.0	1.2	0	17	33	50	0	17	33	33	17	0
BETAMIX	5	2.9	1.4	0	0	60	40	0	0	60	40	0	0
BNEX+STNG+UPB+POAST+OIL	4	2.5	1.0	50	0	50	0	0	50	0	50	0	0
BMIX+STNG+UPB+POAST+OIL	1	2.4	2.0	100	0	0	0	0	100	0	0	0	0
PROGRESS+UPBEET	7	2.4	1.0	14	0	86	0	0	14	57	29	0	0
OTHER COMBINATIONS	6	2.3	1.2	17	0	50	33	0	17	50	33	0	0
BNEX+STNG+UPB+ASSURE+OIL	3	1.8	2.3	0	0	0	100	0	0	67	33	0	0
ASSURE II	8	1.8	1.1	13	50	38	0	0	25	75	0	0	0
BETANEX+STINGER	3	1.6	1.0	0	0	67	33	0	33	33	33	0	0
BETANEX+UPBEET	6	1.6	1.2	0	33	33	33	0	33	33	33	0	0
BNEX+STNG+UPB+NORT+OIL	2	1.4	1.5	0	0	100	0	0	0	50	50	0	0
BETANEX+UPBEET+SLCT+OIL	5	1.2	1.0	0	60	20	20	0	0	80	20	0	0
POAST	3	0.3	1.0	0	67	33	0	0	0	100	0	0	0
TOTAL-POST	494	340.1	1.7	6	16	50	24	3	10	38	50	3	0
C. PREEMERGE & LAY-BY HERBICIDES:													
OUTLOOK (LAY-BY)	41	10.1	1.0	5	10	49	32	5	12	49	34	5	0
ROUNDUP (PRE)	17	5.5	1.0	0	76	24	0	0	0	88	12	0	0
TREFLAN (LAY-BY)	4	1.9	1.0	25	50	25	0	0	0	50	50	0	0
DUAL (LAY-BY)	3	0.8	1.0	0	0	67	33	0	0	67	0	33	0
TOTAL-PRE&LAY-BY	65	18.2	1.0	5	29	42	22	3	8	60	28	5	0
D. OTHER WEED CONTROL METHODS:													
ROTARY HOE	48	24.3	1.2	33	13	23	27	4	40	27	33	0	0
SWATH/FLAIL/MOW	10	1.8	1.0	30	0	60	0	10	40	10	40	10	0
ELECTRICAL (EDS)	4	0.8	1.3	25	0	50	25	0	25	75	0	0	0
HARROW	2	0.3	1.0	0	50	50	0	0	0	0	100	0	0
WEED PULLER	2	0.0	1.0	0	50	50	0	0	50	50	0	0	0
TOTAL-OTHER	66	27.3	1.2	30	12	32	21	5	38	27	33	2	0
TOTAL TREATMTS	704	410.7	1.5	8	17	49	23	3	5	4	5	0	0

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

TABLE 2. **CASS COUNTY: 9** GROWERS REPORTED ON **5,392** 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:														
FARGO	1	250	4.6	1.0	0	1	0	0	0	0	1	0	0	0
TOTAL-PPI&PRE	1	250	4.6	1.0	0	1	0	0	0	0	1	0	0	0
B. POSTEMERGENCE HERBICIDES:														
BETAMIX+STINGER+UPBEET	1	5340	99.0	4.0	0	0	1	0	0	0	0	1	0	0
BMIX+STNG+UPB+SELECT+OIL	4	3556	65.9	2.0	2	0	2	0	0	2	1	1	0	0
BMX+STG+UPB+SLCT+NRT+OIL	1	1900	35.2	2.0	0	0	0	1	0	0	0	1	0	0
BMIX+STINGER+UPBEET+OIL	1	1680	31.2	3.0	0	0	0	1	0	0	0	0	1	0
BNX+STG+UPB+SLCT+NRT+OIL	1	1096	20.3	2.0	0	0	1	0	0	0	0	1	0	0
PROG+STNG+UPB+SELECT+OIL	1	888	16.5	2.0	1	0	0	0	0	1	0	0	0	0
BNEX+STNG+UPB+SELECT+OIL	2	796	14.8	1.0	0	0	2	0	0	0	0	2	0	0
BMIX+UPBEET+SELECT+OIL	1	770	14.3	2.0	0	0	1	0	0	0	1	0	0	0
BETAMIX	1	744	13.8	2.0	0	0	1	0	0	0	1	0	0	0
TOTAL-POST	13	16770	311.0	2.1	3	0	8	2	0	3	3	6	1	0
C. PREEMERGE & LAY-BY HERBICIDES:														
DUAL (LAY-BY)	1	385	7.1	1.0	0	0	1	0	0	0	1	0	0	0
OUTLOOK (LAY-BY)	1	248	4.6	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-PRE&LAY-BY	2	633	11.7	1.0	0	0	2	0	0	0	2	0	0	0
D. OTHER WEED CONTROL METHODS:														
SWATH/FLAIL/MOW	1	100	1.9	1.0	0	0	1	0	0	0	0	1	0	0
TOTAL-OTHER	1	100	1.9	1.0	0	0	1	0	0	0	0	1	0	0
TOTAL TREATMENTS	**17**	**17753**	**329.2**	**1.8**	**3**	**1**	**11**	**2**	**0**	**3**	**6**	**7**	**1**	**0**

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

TABLE 3. **CHIPPEWA, KANDIYOHI, AND SWIFT COUNTIES: 21** GROWERS REPORTED ON **8,860** 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)	10	2306	26.0	1.0	0	1	9	0	0	1	8	1	0	0
DUAL(PRE/PPI)	4	1737	19.6	1.0	0	0	4	0	0	0	1	0	2	1
TOTAL-PPI&PRE	14	4043	45.6	1.0	0	1	13	0	0	1	9	1	2	1
B. POSTEMERGENCE HERBICIDES:														
PROGRESS+STINGER	8	4456	50.3	1.6	0	0	5	2	1	0	4	4	0	0
BMIX+STINGER+UPBEET+OIL	5	3782	42.7	1.6	0	1	3	1	0	0	0	5	0	0
BMIX+STNG+UPB+NORT+OIL	4	2838	32.0	2.0	0	0	2	2	0	0	1	2	1	0
SELECT	9	2815	31.8	1.0	0	6	3	0	0	0	8	1	0	0
BETAMIX+STINGER	1	2600	29.3	2.0	0	0	1	0	0	0	1	0	0	0
PROGRESS	5	2589	29.2	1.6	0	0	3	1	1	0	1	3	1	0
PROG+STNG+UPB+NORT+OIL	2	1580	17.8	2.5	0	1	0	0	1	0	1	1	0	0
PROG+STINGER+UPBEET+OIL	2	1378	15.6	2.5	0	0	2	0	0	0	1	1	0	0
BNEX+STNG+UPB+SELECT+OIL	3	1151	13.0	1.0	0	0	1	2	0	0	1	2	0	0
BMIX+STNG+UPB+SELECT+OIL	1	1100	12.4	1.0	0	0	1	0	0	0	0	1	0	0
BETAMIX+STINGER+UPBEET	1	1050	11.9	1.0	0	0	0	1	0	0	0	1	0	0
BNEX+STNGER+UPBEET+OIL	3	914	10.3	2.0	0	1	2	0	0	0	1	2	0	0
BETANEX+STINGER	1	850	9.6	1.0	0	0	1	0	0	0	1	0	0	0
PROGRESS+STINGER+UPBEET	3	558	6.3	2.0	0	0	2	1	0	0	1	2	0	0
ASSURE II	2	484	5.5	1.0	0	1	1	0	0	1	1	0	0	0
BMX+STG+UPB+SLCT+NRT+OIL	1	405	4.6	3.0	0	0	0	0	1	0	0	1	0	0
OTHER COMBINATIONS	1	400	4.5	1.0	0	0	1	0	0	0	1	0	0	0
BNEX+STNG+UPB+NORT+OIL	1	195	2.2	1.0	0	0	1	0	0	0	1	0	0	0
BETAMIX	1	160	1.8	1.0	0	0	1	0	0	0	1	0	0	0
PRG+STG+UPB+SLCT+NRT+OIL	1	155	1.7	1.0	1	0	0	0	0	1	0	0	0	0
BETANEX+STINGER+UPBEET	2	150	1.7	1.0	0	0	2	0	0	0	0	2	0	0
PROGRESS+UPBEET	2	142	1.6	1.0	0	0	2	0	0	0	1	1	0	0
TOTAL-POST	59	29752	335.8	1.5	1	10	34	10	4	2	26	29	2	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	6	1315	14.8	1.0	0	1	2	3	0	0	5	1	0	0
TREFLAN (LAY-BY)	1	387	4.4	1.0	0	1	0	0	0	0	1	0	0	0
TOTAL-PRE&LAY-BY	7	1702	19.2	1.0	0	2	2	3	0	0	6	1	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	12	5137	58.0	1.3	3	2	2	4	1	4	3	5	0	0
HARROW	1	300	3.4	1.0	0	0	1	0	0	0	0	1	0	0
ELECTRICAL (EDS)	1	200	2.3	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-OTHER	14	5637	63.6	1.3	3	2	4	4	1	4	4	6	0	0
TOTAL TREATMENTS	**94**	**41134**	**464.3**	**1.4**	**4**	**15**	**53**	**17**	**5**	**7**	**45**	**37**	**4**	**1**

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

TABLE 4. **CLAY AND BECKER COUNTIES: 17** GROWERS REPORTED ON **9,007** 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)	1	322	3.6	1.0	0	1	0	0	0	0	1	0	0	0
TOTAL-PPI&PRE	1	322	3.6	1.0	0	1	0	0	0	0	1	0	0	0
B. POSTEMERGENCE HERBICIDES:														
BMIX+STNG+UPB+SELECT+OIL	7	11848	131.5	2.4	0	1	5	1	0	0	2	4	1	0
BNEX+STNGER+UPBEET+OIL	2	3346	37.1	2.5	0	0	1	1	0	0	0	2	0	0
BNEX+STNG+UPB+SELECT+OIL	3	2591	28.8	2.7	0	0	2	0	1	0	0	3	0	0
BMIX+STINGER+UPBEET+OIL	4	2377	26.4	2.3	0	1	2	1	0	0	1	3	0	0
PROG+STINGER+UPBEET+OIL	3	2085	23.1	1.3	0	0	1	2	0	0	0	3	0	0
BNEX+STNG+UPB+ASSURE+OIL	2	1950	21.6	3.0	0	0	0	2	0	0	1	1	0	0
OTHER COMBINATIONS	2	1735	19.3	1.5	1	0	1	0	0	1	0	1	0	0
BNX+STG+UPB+SLCT+NRT+OIL	4	1391	15.4	1.3	0	0	3	1	0	0	0	3	1	0
PRG+STG+UPB+SLCT+NRT+OIL	1	1200	13.3	2.0	0	0	0	1	0	0	0	1	0	0
PROG+STNG+UPB+SELECT+OIL	2	1095	12.2	1.0	0	0	2	0	0	0	0	1	1	0
BMIX+STNG+UPB+NORT+OIL	1	620	6.9	2.0	0	0	1	0	0	0	0	0	1	0
BNEX+STNG+UPB+POAST+OIL	1	500	5.6	1.0	0	0	1	0	0	0	0	1	0	0
SELECT	3	395	4.4	1.0	0	2	1	0	0	1	2	0	0	0
PROG+STNG+UPB+NORT+OIL	1	310	3.4	1.0	0	0	1	0	0	0	0	1	0	0
BETAMIX+STINGER+UPBEET	1	215	2.4	1.0	0	0	1	0	0	0	0	1	0	0
BMX+STG+UPB+SLCT+NRT+OIL	1	200	2.2	1.0	0	0	0	1	0	0	0	1	0	0
TOTAL-POST	38	31858	353.7	1.8	1	4	22	10	1	2	6	26	4	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	3	1070	11.9	1.0	0	0	1	2	0	0	1	2	0	0
TOTAL-PRE&LAY-BY	3	1070	11.9	1.0	0	0	1	2	0	0	1	2	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	5	4204	46.7	1.2	3	0	1	0	1	3	0	2	0	0
SWATH/FLAIL/MOW	1	30	0.3	1.0	0	0	1	0	0	1	0	0	0	0
TOTAL-OTHER	6	4234	47.0	1.2	3	0	2	0	1	4	0	2	0	0
TOTAL TREATMENTS	**48**	**37484**	**416.2**	**1.7**	**4**	**5**	**25**	**12**	**2**	**6**	**8**	**30**	**4**	**0**

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

TABLE 5. **GRAND FORKS COUNTY: 5** GROWERS REPORTED ON **2,667** 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)	1	90	3.4	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-PPI&PRE	1	90	3.4	1.0	0	0	1	0	0	0	1	0	0	0
B. POSTEMERGENCE HERBICIDES:														
BMIX+STNG+UPB+NORT+OIL	2	2030	76.1	1.5	0	0	2	0	0	0	1	1	0	0
PROG+STNG+UPB+SELECT+OIL	1	2010	75.4	3.0	0	0	1	0	0	0	1	0	0	0
PROG+STNG+UPB+NORT+OIL	2	1505	56.4	1.0	0	0	2	0	0	0	1	1	0	0
BMIX+UPBEET+SELECT+OIL	2	1425	53.4	2.0	0	0	2	0	0	0	2	0	0	0
BMIX+STNG+UPB+SELECT+OIL	1	870	32.6	3.0	0	0	1	0	0	0	0	1	0	0
PRG+STG+UPB+SLCT+NRT+OIL	2	426	16.0	1.5	0	0	0	0	2	0	2	0	0	0
BETANEX+UPBEET+SLCT+OIL	1	126	4.7	1.0	0	1	0	0	0	0	1	0	0	0
BETAMIX+STINGER+UPBEET	1	120	4.5	2.0	0	0	1	0	0	0	0	1	0	0
TOTAL-POST	12	8512	319.2	1.8	0	1	9	0	2	0	8	4	0	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	2	390	14.6	1.0	0	0	0	2	0	0	1	1	0	0
TOTAL-PRE&LAY-BY	2	390	14.6	1.0	0	0	0	2	0	0	1	1	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	2	1195	44.8	1.0	0	0	1	1	0	0	1	1	0	0
ELECTRICAL (EDS)	1	222	8.3	2.0	0	0	0	1	0	0	1	0	0	0
TOTAL-OTHER	3	1417	53.1	1.3	0	0	1	2	0	0	2	1	0	0
TOTAL TREATMENTS	**18**	**10409**	**390.3**	**1.6**	**0**	**1**	**11**	**4**	**2**	**0**	**12**	**6**	**0**	**0**

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

TABLE 6. **KITTSON COUNTY: 7** GROWERS REPORTED ON **4,661** 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)	3	793	17.0	1.0	0	1	0	2	0	0	2	1	0	0
TOTAL-PPI&PRE	3	793	17.0	1.0	0	1	0	2	0	0	2	1	0	0
B. POSTEMERGENCE HERBICIDES:														
PROG+STNG+UPB+SELECT+OIL	7	7204	154.6	1.7	0	1	6	0	0	0	2	5	0	0
PRG+STG+UPB+SLCT+NRT+OIL	4	1998	42.9	1.3	0	2	1	1	0	0	3	1	0	0
BMIX+STNG+UPB+SELECT+OIL	1	1752	37.6	3.0	1	0	0	0	0	1	0	0	0	0
BNEX+STNG+UPB+SELECT+OIL	1	1450	31.1	1.0	0	1	0	0	0	0	1	0	0	0
BNEX+STNGER+UPBEET+OIL	2	1388	29.8	1.0	0	1	1	0	0	0	2	0	0	0
BMIX+STNG+UPB+ASSURE+OIL	1	674	14.5	2.0	0	0	1	0	0	0	0	1	0	0
PROG+STNG+UPB+NORT+OIL	1	148	3.2	1.0	0	0	1	0	0	0	1	0	0	0
POAST	1	120	2.6	1.0	0	1	0	0	0	0	1	0	0	0
TOTAL-POST	18	14734	316.1	1.5	1	6	10	1	0	1	10	7	0	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	1	150	3.2	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-PRE&LAY-BY	1	150	3.2	1.0	0	0	1	0	0	0	1	0	0	0
D. OTHER WEED CONTROL METHODS:														
ELECTRICAL (EDS)	1	300	6.4	1.0	1	0	0	0	0	1	0	0	0	0
TOTAL-OTHER	1	300	6.4	1.0	1	0	0	0	0	1	0	0	0	0
TOTAL TREATMENTS	**23**	**15977**	**342.8**	**1.4**	**2**	**7**	**11**	**3**	**0**	**2**	**13**	**8**	**0**	**0**

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

TABLE 7. **MARSHALL COUNTY: 12** GROWERS REPORTED ON **7,444** 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	231	3.1	1.0	0	0	1	1	0	0	2	0	0	0
TOTAL-PPI&PRE	2	231	3.1	1.0	0	0	1	1	0	0	2	0	0	0
B. POSTEMERGENCE HERBICIDES:														
PROG+STNG+UPB+SELECT+OIL	6	6324	85.0	2.5	0	1	3	2	0	0	2	4	0	0
PROG+STNG+UPB+ASSURE+OIL	3	5097	68.5	2.0	0	1	0	0	2	0	3	0	0	0
BMIX+STNG+UPB+POAST+OIL	1	2800	37.6	2.0	1	0	0	0	0	1	0	0	0	0
PRG+STG+UPB+SLCT+NRT+OIL	1	2100	28.2	3.0	0	0	1	0	0	0	0	1	0	0
PROGRESS	1	1800	24.2	3.0	0	1	0	0	0	0	1	0	0	0
BNEX+STNG+UPB+POAST+OIL	1	1400	18.8	1.0	1	0	0	0	0	1	0	0	0	0
PROG+UPBEET+SELECT+OIL	1	1270	17.1	2.0	0	0	1	0	0	0	0	1	0	0
PROG+STINGER+UPBEET+OIL	3	970	13.0	1.3	0	0	2	1	0	1	1	1	0	0
SELECT	4	915	12.3	1.0	0	2	2	0	0	0	4	0	0	0
BNEX+STNG+UPB+SELECT+OIL	1	708	9.5	1.0	0	0	1	0	0	0	1	0	0	0
BETANEX	1	600	8.1	1.0	0	1	0	0	0	0	1	0	0	0
PROGRESS+STINGER+UPBEET	1	600	8.1	1.0	0	1	0	0	0	0	1	0	0	0
BETANEX+UPBEET+SLCT+OIL	1	302	4.1	1.0	0	0	0	1	0	0	0	1	0	0
PROGRESS+UPBEET	1	165	2.2	1.0	0	0	1	0	0	0	1	0	0	0
BETAMIX+STINGER+UPBEET	1	75	1.0	1.0	0	0	1	0	0	1	0	0	0	0
OTHER COMBINATIONS	1	73	1.0	1.0	0	0	0	1	0	0	1	0	0	0
BETANEX+UPBEET	1	20	0.3	1.0	0	0	0	1	0	0	0	1	0	0
TOTAL-POST	29	25219	338.8	1.7	2	7	12	6	2	4	16	9	0	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	1	400	5.4	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-PRE&LAY-BY	1	400	5.4	1.0	0	0	1	0	0	0	1	0	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	7	4765	64.0	1.3	4	0	3	0	0	5	1	1	0	0
SWATH/FLAIL/MOW	2	315	4.2	1.0	1	0	1	0	0	1	0	0	1	0
WEED PULLER	2	48	0.6	1.0	0	1	1	0	0	1	1	0	0	0
TOTAL-OTHER	11	5128	68.9	1.2	5	1	5	0	0	7	2	1	1	0
TOTAL TREATMENTS	**43**	**30978**	**416.1**	**1.5**	**7**	**8**	**19**	**7**	**2**	**11**	**21**	**10**	**1**	**0**

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

TABLE 8. **NORMAN AND MAHNOMEN COUNTIES: 9** GROWERS REPORTED ON **5,997** 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	640	10.7	1.0	0	0	4	0	0	0	4	0	0	0
TOTAL-PPI&PRE	4	640	10.7	1.0	0	0	4	0	0	0	4	0	0	0
B. POSTEMERGENCE HERBICIDES:														
BMX+STG+UPB+SLCT+NRT+OIL	4	7232	120.6	1.8	0	0	2	2	0	0	1	3	0	0
BNX+STG+UPB+SLCT+NRT+OIL	3	6754	112.6	2.0	0	0	0	3	0	0	1	2	0	0
BNEX+STNG+UPB+SELECT+OIL	4	2043	34.1	1.8	0	0	3	1	0	0	1	3	0	0
PROG+STNG+UPB+SELECT+OIL	2	1253	20.9	2.5	0	0	1	1	0	0	0	2	0	0
PROG+STNG+UPB+POAST+OIL	1	1245	20.8	3.0	0	0	1	0	0	0	1	0	0	0
BNEX+STNG+UPB+POAST+OIL	1	800	13.3	1.0	0	0	1	0	0	0	0	1	0	0
BMIX+STNG+UPB+SELECT+OIL	2	744	12.4	2.0	0	0	2	0	0	0	0	2	0	0
BETAMIX+UPBEET	1	690	11.5	1.0	0	0	0	1	0	0	0	1	0	0
PROGRESS+STINGER+UPBEET	1	570	9.5	1.0	0	1	0	0	0	0	1	0	0	0
BMIX+STNG+UPB+NORT+OIL	1	334	5.6	1.0	0	0	1	0	0	0	0	1	0	0
BMIX+STINGER+UPBEET+OIL	1	208	3.5	1.0	0	0	1	0	0	0	0	1	0	0
PROGRESS	1	95	1.6	1.0	0	0	1	0	0	0	0	1	0	0
TOTAL-POST	22	21968	366.3	1.7	0	1	13	8	0	0	5	17	0	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	3	378	6.3	1.0	0	1	2	0	0	0	2	1	0	0
TOTAL-PRE&LAY-BY	3	378	6.3	1.0	0	1	2	0	0	0	2	1	0	0
D. OTHER WEED CONTROL METHODS:														
SWATH/FLAIL/MOW	1	400	6.7	1.0	0	0	1	0	0	0	0	1	0	0
TOTAL-OTHER	1	400	6.7	1.0	0	0	1	0	0	0	0	1	0	0
TOTAL TREATMENTS	**30**	**23386**	**390.0**	**1.5**	**0**	**2**	**20**	**8**	**0**	**0**	**11**	**19**	**0**	**0**

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

TABLE 9. **PEMBINA COUNTY: 12** GROWERS REPORTED ON **8,603** 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	2580	30.0	1.0	0	2	3	0	0	0	3	2	0	0
TOTAL-PPI&PRE	5	2580	30.0	1.0	0	2	3	0	0	0	3	2	0	0
B. POSTEMERGENCE HERBICIDES:														
SELECT	2	6235	72.5	2.0	0	1	0	1	0	0	2	0	0	0
PROG+STNG+UPB+SELECT+OIL	4	5100	59.3	2.5	0	0	1	3	0	1	0	3	0	0
PROGRESS	5	4996	58.1	1.4	0	1	2	2	0	0	1	4	0	0
PROG+STINGER+UPBEET+OIL	4	3850	44.8	2.0	1	0	2	1	0	1	0	3	0	0
PROG+STNG+UPB+NORT+OIL	2	2200	25.6	1.5	0	0	1	1	0	0	0	2	0	0
PROG+UPBEET+SELECT+OIL	2	1900	22.1	1.0	0	0	2	0	0	0	0	2	0	0
PROG+STNG+UPB+POAST+OIL	1	1570	18.2	2.0	0	0	1	0	0	0	0	1	0	0
BETAMIX	1	1200	13.9	2.0	0	0	1	0	0	0	1	0	0	0
BMIX+STINGER+UPBEET+OIL	1	964	11.2	1.0	0	0	0	1	0	0	0	1	0	0
BNEX+STNG+UPB+SELECT+OIL	1	785	9.1	1.0	0	0	1	0	0	0	0	1	0	0
PROGRESS+STINGER	1	480	5.6	3.0	1	0	0	0	0	1	0	0	0	0
PRG+STG+UPB+SLCT+NRT+OIL	1	450	5.2	1.0	0	0	1	0	0	0	0	1	0	0
BETANEX+UPBEET+SLCT+OIL	1	70	0.8	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-POST	26	29800	346.4	1.7	2	2	13	9	0	3	5	18	0	0
C. PREEMERGE & LAY-BY HERBICIDES:														
ROUNDUP (PRE)	2	950	11.0	1.0	0	1	1	0	0	0	1	1	0	0
OUTLOOK (LAY-BY)	1	650	7.6	1.0	0	0	1	0	0	0	0	1	0	0
TOTAL-PRE&LAY-BY	3	1600	18.6	1.0	0	1	2	0	0	0	1	2	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	6	4070	47.3	1.2	2	1	0	3	0	3	2	1	0	0
ELECTRICAL (EDS)	1	200	2.3	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-OTHER	7	4270	49.6	1.1	2	1	1	3	0	3	3	1	0	0
TOTAL TREATMENTS	**41**	**38250**	**444.6**	**1.5**	**4**	**6**	**19**	**12**	**0**	**6**	**12**	**23**	**0**	**0**

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

TABLE 10. **POLK COUNTY: 42** GROWERS REPORTED ON **26,572** 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)	12	7349	27.7	1.0	0	2	7	3	0	1	7	4	0	0
TOTAL-PPI&PRE	12	7349	27.7	1.0	0	2	7	3	0	1	7	4	0	0
B. POSTEMERGENCE HERBICIDES:														
PROG+STNG+UPB+SLCT+OIL	13	15453	58.2	1.9	0	3	9	0	1	0	5	8	0	0
BMIX+STNG+UPB+SLCT+OIL	15	12085	45.5	1.6	1	4	9	1	0	1	7	7	0	0
BMX+STG+UPB+SLCT+NRT+OIL	8	11132	41.9	2.1	1	1	0	6	0	1	0	7	0	0
BNEX+STNG+UPB+SELECT+OIL	9	9219	34.7	1.8	1	2	3	2	1	2	2	4	1	0
PROGRESS	7	5047	19.0	1.3	0	1	4	2	0	1	2	4	0	0
PROG+STINGER+UPBEET+OIL	2	3734	14.1	2.0	0	0	1	1	0	0	1	1	0	0
BMIX+STINGER+UPBEET+OIL	5	3337	12.6	1.6	0	1	3	1	0	0	2	3	0	0
BMIX+STNG+UPB+ASSURE+OIL	1	3200	12.0	2.0	0	0	1	0	0	0	0	1	0	0
BNEX+STNGER+UPBEET+OIL	3	2624	9.9	1.3	0	1	1	1	0	1	0	2	0	0
BETAMIX+UPBEET	4	2612	9.8	1.3	0	0	4	0	0	0	3	1	0	0
PRG+STG+UPB+SLCT+NRT+OIL	4	2308	8.7	2.0	0	2	2	0	0	0	2	2	0	0
BETANEX+UPBEET	4	1738	6.5	1.3	0	2	1	1	0	2	1	1	0	0
PROGRESS+UPBEET	2	1735	6.5	1.0	1	0	1	0	0	1	1	0	0	0
BETANEX+STINGER+UPBEET	2	1680	6.3	1.0	0	0	0	2	0	2	0	0	0	0
BMIX+STNG+UPB+NORT+OIL	3	1570	5.9	1.3	0	1	1	1	0	0	1	2	0	0
PROGRESS+STINGER+UPBEET	3	1505	5.7	1.0	0	0	3	0	0	0	1	2	0	0
PROG+STNG+UPB+NORT+OIL	3	1458	5.5	1.0	0	2	0	1	0	0	0	3	0	0
PROG+STNG+UPB+ASSURE+OIL	1	1400	5.3	2.0	1	0	0	0	0	1	0	0	0	0
BETAMIX+STINGER+UPBEET	3	1160	4.4	1.0	0	0	3	0	0	0	0	3	0	0
PROG+STNG+UPB+POAST+OIL	1	999	3.8	1.0	0	0	1	0	0	0	0	1	0	0
PROGRESS+STINGER	2	960	3.6	1.0	0	0	2	0	0	1	1	0	0	0
BETANEX+UPBEET+SLCT+OIL	2	870	3.3	1.0	0	2	0	0	0	0	2	0	0	0
SELECT	4	760	2.9	1.0	0	2	2	0	0	0	4	0	0	0
BETANEX	1	500	1.9	1.0	0	0	1	0	0	1	0	0	0	0
BETANEX+STINGER	1	500	1.9	1.0	0	0	1	0	0	1	0	0	0	0
ASSURE II	1	350	1.3	1.0	0	0	1	0	0	0	1	0	0	0
PROG+UPBEET+SELECT+OIL	1	271	1.0	1.0	0	0	1	0	0	0	1	0	0	0
BMIX+UPBEET+SELECT+OIL	1	211	0.8	1.0	0	1	0	0	0	0	1	0	0	0
OTHER COMBINATIONS	1	86	0.3	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-POST	107	88504	333.1	1.5	5	25	56	19	2	15	39	52	1	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	12	4706	17.7	1.0	2	2	6	2	0	3	3	4	2	0
ROUNDUP (PRE)	8	3902	14.7	1.0	0	5	3	0	0	0	7	1	0	0
TREFLAN (LAY-BY)	3	1750	6.6	1.0	1	1	1	0	0	0	1	2	0	0
TOTAL-PRE&LAY-BY	23	10358	39.0	1.0	3	8	10	2	0	3	11	7	2	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	10	5243	19.7	1.1	3	2	2	3	0	3	4	3	0	0
SWATH/FLAIL/MOW	1	200	0.8	1.0	0	0	1	0	0	0	0	1	0	0
TOTAL-OTHER	11	5443	20.5	1.1	3	2	3	3	0	3	4	4	0	0
TOTAL TREATMENTS	**153**	**112E3**	**420.2**	**1.4**	**11**	**37**	**76**	**27**	**2**	**22**	**61**	**67**	**3**	**0**

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

TABLE 11. **RENVILLE, FAIRBAULT, LAC QUI PARLE, REDWOOD, SIBLEY, AND YELLOW MEDICINE COUNTIES: 18** GROWERS REPORTED ON **5,708** 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)	13	4164	73.0	1.0	1	3	7	2	0	1	9	2	0	1
DUAL(PRE/PPI)	3	395	6.9	1.0	0	0	2	1	0	0	2	1	0	0
EPTAM+RO-NEET	1	385	6.7	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-PPI&PRE	17	4944	86.6	1.0	1	3	10	3	0	1	12	3	0	1
B. POSTEMERGENCE HERBICIDES:														
SELECT	9	3080	54.0	1.0	0	5	2	2	0	0	8	1	0	0
PROGRESS+STINGER	5	2569	45.0	2.4	1	0	2	2	0	1	0	3	1	0
PROGRESS+STINGER+UPBEET	2	2136	37.4	2.0	0	0	1	1	0	0	0	2	0	0
BETAMIX+STINGER	2	1415	24.8	1.5	0	1	0	1	0	0	1	1	0	0
BMIX+STINGER+UPBEET+OIL	2	1290	22.6	2.5	0	0	1	0	1	0	0	2	0	0
PROG+STINGER+UPBEET+OIL	2	1174	20.6	2.5	0	0	2	0	0	0	0	1	1	0
PROGRESS	3	1054	18.5	1.3	0	0	2	1	0	0	1	2	0	0
BMIX+STNG+UPB+NORT+OIL	1	976	17.1	4.0	0	0	1	0	0	0	0	1	0	0
PROG+STNG+UPB+NORT+OIL	1	670	11.7	2.0	0	0	0	1	0	0	0	1	0	0
BMIX+STNG+UPB+SELECT+OIL	1	640	11.2	1.0	0	0	1	0	0	0	1	0	0	0
ASSURE II	2	393	6.9	1.5	1	1	0	0	0	1	1	0	0	0
BETANEX+STINGER+UPBEET	1	270	4.7	2.0	1	0	0	0	0	1	0	0	0	0
BNEX+STNG+UPB+POAST+OIL	1	135	2.4	1.0	1	0	0	0	0	1	0	0	0	0
POAST	1	120	2.1	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-POST	33	15922	278.9	1.7	4	7	13	8	1	4	13	14	2	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	2	472	8.3	1.0	0	0	1	1	0	0	1	1	0	0
DUAL (LAY-BY)	1	92	1.6	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-PRE&LAY-BY	3	564	9.9	1.0	0	0	2	1	0	0	2	1	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	2	526	9.2	1.5	1	0	1	0	0	1	0	1	0	0
TOTAL-OTHER	2	526	9.2	1.5	1	0	1	0	0	1	0	1	0	0
TOTAL TREATMENTS	**55**	**21956**	**384.7**	**1.4**	**6**	**10**	**26**	**12**	**1**	**6**	**27**	**19**	**2**	**1**

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

TABLE 12. **RICHLAND COUNTY: 15** GROWERS REPORTED ON **9,057** 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	2892	31.9	1.0	0	3	2	1	0	0	6	0	0	0
DUAL(PRE/PPI)	1	440	4.9	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-PPI&PRE	7	3332	36.8	1.0	0	3	3	1	0	0	7	0	0	0
B. POSTEMERGENCE HERBICIDES:														
BMIX+STINGER+UPBEET+OIL	5	6820	75.3	2.6	1	0	2	2	0	1	1	3	0	0
BMX+STG+UPB+SLCT+NRT+OIL	5	4680	51.7	2.0	1	0	2	2	0	1	1	3	0	0
PROG+STNG+UPB+SELECT+OIL	1	3600	39.7	2.0	0	0	1	0	0	0	1	0	0	0
BMIX+STNG+UPB+NORT+OIL	3	2251	24.9	2.0	1	0	2	0	0	1	1	0	1	0
PROG+STINGER+UPBEET+OIL	2	2190	24.2	1.0	0	0	2	0	0	0	0	2	0	0
PROGRESS+STINGER	1	2160	23.8	2.0	0	1	0	0	0	0	0	1	0	0
BMIX+UPBEET+SELECT+OIL	1	1860	20.5	3.0	1	0	0	0	0	1	0	0	0	0
BNX+STG+UPB+SLCT+NRT+OIL	3	1330	14.7	1.0	0	2	0	0	1	0	2	1	0	0
BNEX+STNG+UPB+SELECT+OIL	2	1090	12.0	2.0	0	0	2	0	0	0	1	1	0	0
BMIX+STNG+UPB+SELECT+OIL	2	950	10.5	1.0	0	0	1	1	0	0	1	1	0	0
SELECT	3	940	10.4	1.0	0	1	2	0	0	0	3	0	0	0
BETAMIX+UPBEET	1	900	9.9	3.0	1	0	0	0	0	1	0	0	0	0
PROG+STNG+UPB+NORT+OIL	1	724	8.0	2.0	0	0	0	1	0	0	1	0	0	0
BMIX+STNG+UPB+ASSURE+OIL	1	570	6.3	3.0	1	0	0	0	0	1	0	0	0	0
BETANEX+STINGER+UPBEET	1	500	5.5	2.0	0	0	0	0	1	0	1	0	0	0
BETAMIX+STINGER+UPBEET	1	80	0.9	2.0	0	0	1	0	0	0	1	0	0	0
PRG+STG+UPB+SLCT+NRT+OIL	1	70	0.8	1.0	0	0	0	1	0	0	1	0	0	0
PROGRESS+STINGER+UPBEET	1	20	0.2	1.0	0	0	0	1	0	0	0	1	0	0
TOTAL-POST	35	30735	339.4	1.8	6	4	15	8	2	6	15	13	1	0
C. PREEMERGE & LAY-BY HERBICIDES:														
ROUNDUP (PRE)	2	600	6.6	1.0	0	2	0	0	0	0	2	0	0	0
TOTAL-PRE&LAY-BY	2	600	6.6	1.0	0	2	0	0	0	0	2	0	0	0
D. OTHER WEED CONTROL METHODS:														
SWATH/FLAIL/MOW	1	560	6.2	1.0	0	0	0	0	1	0	0	1	0	0
TOTAL-OTHER	1	560	6.2	1.0	0	0	0	0	1	0	0	1	0	0
TOTAL TREATMENTS	**45**	**35227**	**388.9**	**1.6**	**6**	**9**	**18**	**9**	**3**	**6**	**24**	**14**	**1**	**0**

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

TABLE 13. **TRAILL COUNTY: 11** GROWERS REPORTED ON **4,941** ACRES; OF THIS **1** GROWER REPORTED NO HERBICIDE USED ON **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:														
NORTRON(PRE/PPI)	2	670	13.6	1.0	0	0	2	0	0	1	1	0	0	0
TOTAL-PPI&PRE	2	670	13.6	1.0	0	0	2	0	0	1	1	0	0	0
B. POSTEMERGENCE HERBICIDES:														
PROG+STINGER+UPBEET+OIL	1	5600	113.3	4.0	0	1	0	0	0	1	0	0	0	0
SELECT	3	2650	53.6	1.3	0	2	0	0	1	0	3	0	0	0
BMIX+STNG+UPB+SELECT+OIL	2	1426	28.9	2.5	0	0	0	2	0	0	0	1	1	0
PROGRESS+STINGER+UPBEET	2	1255	25.4	1.5	0	0	2	0	0	0	0	2	0	0
BNEX+STNGER+UPBEET+OIL	2	1110	22.5	1.0	0	0	2	0	0	0	0	2	0	0
BETANEX+STINGER+UPBEET	2	1070	21.7	1.0	0	0	2	0	0	0	0	2	0	0
BMIX+STINGER+UPBEET+OIL	1	975	19.7	3.0	0	0	0	1	0	0	0	1	0	0
BMX+STG+UPB+SLCT+NRT+OIL	2	836	16.9	1.5	0	0	2	0	0	0	2	0	0	0
BNX+STG+UPB+SLCT+NRT+OIL	2	812	16.4	1.0	0	0	2	0	0	0	2	0	0	0
BETANEX	1	720	14.6	2.0	0	0	0	1	0	0	1	0	0	0
BNEX+STNG+UPB+SELECT+OIL	3	650	13.2	1.3	0	0	0	3	0	0	2	1	0	0
PROG+STNG+UPB+SELECT+OIL	1	600	12.1	2.0	0	0	0	1	0	0	0	1	0	0
PRG+STG+UPB+SLCT+NRT+OIL	2	474	9.6	1.5	0	1	1	0	0	0	2	0	0	0
PROGRESS+UPBEET	1	360	7.3	1.0	0	0	1	0	0	0	1	0	0	0
BETAMIX+UPBEET	1	150	3.0	1.0	0	0	0	1	0	0	0	1	0	0
BMIX+UPBEET+SELECT+OIL	1	148	3.0	2.0	0	0	1	0	0	0	0	1	0	0
PROG+STNG+UPB+NORT+OIL	1	74	1.5	1.0	0	1	0	0	0	0	0	1	0	0
TOTAL-POST	28	18910	382.7	1.6	0	5	13	9	1	1	13	13	1	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	4	771	15.6	1.0	0	0	1	2	1	2	1	1	0	0
ROUNDUP (PRE)	3	410	8.3	1.0	0	3	0	0	0	0	3	0	0	0
TOTAL-PRE&LAY-BY	7	1181	23.9	1.0	0	3	1	2	1	2	4	1	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	1	555	11.2	1.0	0	0	1	0	0	0	1	0	0	0
HARROW	1	98	2.0	1.0	0	1	0	0	0	0	0	1	0	0
TOTAL-OTHER	2	653	13.2	1.0	0	1	1	0	0	0	1	1	0	0
TOTAL TREATMENTS	**39**	**21414**	**433.4**	**1.4**	**0**	**9**	**17**	**11**	**2**	**4**	**19**	**15**	**1**	**0**

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

TABLE 14. **TRAVERSE, BIG STONE, AND GRANT COUNTIES: 7** GROWERS REPORTED ON **3,966** 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	250	6.3	1.0	1	1	0	0	0	1	1	0	0	0
TOTAL-PPI&PRE	2	250	6.3	1.0	1	1	0	0	0	1	1	0	0	0
B. POSTEMERGENCE HERBICIDES:														
PROGRESS+STINGER+UPBEET	2	5400	136.2	3.0	0	0	1	1	0	0	1	1	0	0
BNEX+STNGER+UPBEET+OIL	2	5000	126.1	3.5	0	0	0	2	0	0	0	2	0	0
PROG+STNG+UPB+SELECT+OIL	1	2104	53.1	4.0	1	0	0	0	0	1	0	0	0	0
BETANEX	3	1684	42.5	1.0	0	0	1	2	0	0	0	2	1	0
BNEX+STNG+UPB+NORT+OIL	1	1400	35.3	2.0	0	0	1	0	0	0	0	1	0	0
BMIX+STNG+UPB+NORT+OIL	1	1400	35.3	2.0	0	0	1	0	0	0	0	1	0	0
BETAMIX	2	1200	30.3	1.0	0	0	0	2	0	0	0	2	0	0
PROG+STINGER+UPBEET+OIL	1	530	13.4	5.0	0	0	0	1	0	0	0	1	0	0
PROGRESS	1	484	12.2	1.0	0	0	1	0	0	0	0	1	0	0
BETANEX+STINGER	1	484	12.2	1.0	0	0	0	1	0	0	0	1	0	0
BETAMIX+STINGER+UPBEET	1	484	12.2	1.0	0	1	0	0	0	0	0	0	1	0
ASSURE II	1	120	3.0	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-POST	17	20290	511.6	2.1	1	1	6	9	0	1	2	12	2	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	3	680	17.1	1.0	0	0	1	1	1	0	1	2	0	0
DUAL (LAY-BY)	1	484	12.2	1.0	0	0	0	1	0	0	0	0	1	0
TOTAL-PRE&LAY-BY	4	1164	29.3	1.0	0	0	1	2	1	0	1	2	1	0
TOTAL TREATMENTS	**23**	**21704**	**547.3**	**1.8**	**2**	**2**	**7**	**11**	**1**	**2**	**4**	**14**	**3**	**0**

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

TABLE 15. **WALSH COUNTY: 10** GROWERS REPORTED ON **4,034** 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)	1	60	1.5	1.0	0	1	0	0	0	0	1	0	0	0
TOTAL-PPI&PRE	1	60	1.5	1.0	0	1	0	0	0	0	1	0	0	0
B. POSTEMERGENCE HERBICIDES:														
BNX+STG+UPB+SLCT+NRT+OIL	3	4785	118.6	2.0	0	0	2	1	0	0	1	2	0	0
BETANEX+STINGER+UPBEET	3	2253	55.9	2.0	0	0	2	1	0	0	1	2	0	0
BNEX+STNGER+UPBEET+OIL	2	2080	51.6	2.5	0	0	0	2	0	0	0	2	0	0
PROG+STINGER+UPBEET+OIL	1	1659	41.1	3.0	1	0	0	0	0	1	0	0	0	0
PROGRESS+STINGER+UPBEET	2	1350	33.5	2.0	0	0	1	1	0	0	1	1	0	0
ASSURE II	2	678	16.8	1.0	0	2	0	0	0	0	2	0	0	0
PROG+STNG+UPB+SELECT+OIL	3	574	14.2	1.7	1	0	0	2	0	1	1	1	0	0
PROGRESS+UPBEET	1	338	8.4	1.0	0	0	1	0	0	0	0	1	0	0
OTHER COMBINATIONS	1	338	8.4	1.0	0	0	0	1	0	0	0	1	0	0
BMIX+STINGER+UPBEET+OIL	1	250	6.2	1.0	0	0	0	1	0	0	0	1	0	0
POAST	1	105	2.6	1.0	0	1	0	0	0	0	1	0	0	0
SELECT	1	100	2.5	1.0	0	0	0	1	0	0	1	0	0	0
BNEX+STNG+UPB+ASSURE+OIL	1	77	1.9	1.0	0	0	0	1	0	0	1	0	0	0
BETANEX+UPBEET	1	70	1.7	1.0	0	0	1	0	0	0	1	0	0	0
BNEX+STNG+UPB+SELECT+OIL	1	45	1.1	1.0	0	0	0	1	0	0	0	1	0	0
TOTAL-POST	24	14702	364.5	1.6	2	3	7	12	0	2	10	12	0	0
C. PREEMERGE & LAY-BY HERBICIDES:														
ROUNDUP (PRE)	2	445	11.0	1.0	0	2	0	0	0	0	2	0	0	0
OUTLOOK (LAY-BY)	1	248	6.1	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-PRE&LAY-BY	3	693	17.2	1.0	0	2	1	0	0	0	3	0	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	2	741	18.4	1.0	0	0	0	2	0	0	1	1	0	0
TOTAL-OTHER	2	741	18.4	1.0	0	0	0	2	0	0	1	1	0	0
TOTAL TREATMENTS	**30**	**16196**	**401.5**	**1.5**	**2**	**6**	**8**	**14**	**0**	**2**	**15**	**13**	**0**	**0**

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

TABLE 16. **WILKIN AND OTTERTAIL COUNTIES: 15** GROWERS REPORTED ON **8,488** 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:														
NORTRON(PRE/PPI)	7	3304	38.9	1.0	0	3	4	0	0	0	6	1	0	0
TOTAL-PPI&PRE	7	3304	38.9	1.0	0	3	4	0	0	0	6	1	0	0
B. POSTEMERGENCE HERBICIDES:														
BMIX+STNG+UPB+NORT+OIL	2	5700	67.2	2.0	0	0	2	0	0	0	0	2	0	0
BMIX+STNG+UPB+SELECT+OIL	7	4900	57.7	1.3	0	0	1	6	0	0	3	4	0	0
PRG+STG+UPB+SLCT+NRT+OIL	4	2868	33.8	2.3	0	0	4	0	0	0	4	0	0	0
BETAMIX+STINGER+UPBEET	3	2240	26.4	1.3	0	0	3	0	0	0	0	3	0	0
PROG+STINGER+UPBEET+OIL	2	1920	22.6	1.5	0	0	2	0	0	0	1	1	0	0
BNX+STG+UPB+SLCT+NRT+OIL	1	1800	21.2	3.0	0	0	1	0	0	0	1	0	0	0
PROGRESS+STINGER	2	1500	17.7	1.0	0	0	2	0	0	0	2	0	0	0
BMX+STG+UPB+SLCT+NRT+OIL	2	1050	12.4	3.0	0	0	0	1	1	0	1	1	0	0
BETANEX+STINGER+UPBEET	1	680	8.0	2.0	1	0	0	0	0	1	0	0	0	0
PROG+STNG+UPB+SELECT+OIL	1	516	6.1	3.0	0	0	0	1	0	0	1	0	0	0
BNEX+STNGER+UPBEET+OIL	2	490	5.8	1.0	1	0	1	0	0	1	0	1	0	0
SELECT	3	482	5.7	1.0	1	1	1	0	0	1	2	0	0	0
BNEX+STNG+UPB+SELECT+OIL	1	300	3.5	1.0	0	0	0	1	0	0	0	1	0	0
PROG+UPBEET+SELECT+OIL	1	210	2.5	1.0	0	0	1	0	0	0	0	1	0	0
BMIX+STINGER+UPBEET+OIL	1	150	1.8	1.0	0	0	0	1	0	0	0	1	0	0
TOTAL-POST	33	24806	292.2	1.6	3	1	18	10	1	3	15	15	0	0
C. PREEMERGE & LAY-BY HERBICIDES:														
OUTLOOK (LAY-BY)	1	170	2.0	1.0	0	0	1	0	0	0	1	0	0	0
TOTAL-PRE&LAY-BY	1	170	2.0	1.0	0	0	1	0	0	0	1	0	0	0
D. OTHER WEED CONTROL METHODS:														
ROTARY HOE	1	1600	18.9	1.0	0	1	0	0	0	0	0	1	0	0
SWATH/FLAIL/MOW	3	490	5.8	1.0	2	0	1	0	0	2	1	0	0	0
TOTAL-OTHER	4	2090	24.6	1.0	2	1	1	0	0	2	1	1	0	0
TOTAL TREATMENTS	**45**	**30370**	**357.8**	**1.4**	**5**	**5**	**24**	**10**	**1**	**5**	**23**	**17**	**0**	**0**

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

Table 18. A summary of the most important weed problem responses for the past 25 years.

	Weed indicated as most important weed problem in sugarbeet												
Year	PIWE[1]	FXTL	COLQ	WIOA	WIBW	WIMU	KOCZ	COCB	SMWE	EBNS	COMA	LASA	VELE	WAHE
	----------% of responses----------													
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
2004	21	<1	25	1	0	0	41	1	4	1	1	1	2	1
2005	42	<1	15	0	<1	0	29	2	4	<1	0	<1	1	1
2006	35	0	18	0	0	0	41	<1	3	0	0	0	1	<1
2007	34	<1	16	0	0	0	41	0	1	<1	<1	0	1	4

[1]PIWE=pigweed species, FXTL=green & yellow foxtail, COLQ=common lambsquarters, WIOA=wild oat, WIBW=wild buckwheat, WIMU=wild mustard, KOCZ=kochia, COCB=common cocklebur, SMWE=smartweed, EBNS=eastern black nightshade, COMA=common mallow, LASA=lanceleaf sage, VELE=velevetleaf, and WAHE=waterhemp

Table 19. A summary of the worst production problem responses for the past 25 years.

	Production problem indicated as worst in sugarbeet									
Year	No Problem	Weeds	Weather	Emergence/ Stand	Labor mgmt.	Root maggot	Cercospora leaf spot	Rhizoctonia/ Aphanomyces	Rhizomania	Herbicide Injury
	----------% of responses----------									
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	14	2	
1998	3	25	9	4	1	1	36	17	3	
1999	14	39	14	12	2	1	6	9	2	
2000	8	48	9	10	1	<1	3	18	2	
2001	6	52	13	5	2	1	1	16	3	
2002	4	53	11	19	1	<1	<1	9	3	
2003	7	61	9	4	1	<1	1	11	2	4
2004	6	47	10	21	2	1	0	8	1	1
2005	3	36	22	3	3	0	0	22	11	0
2006	9	57	5	9	1	0	<1	13	3	1
2007	4	46	7	18	<1	<1	<1	18	2	1

Table 20. Worst weed problem in sugarbeet in 2007.

County	Responses	No Prob.	KOCZ[7]	PIWE	COLQ	WAHE	SMWE	VELE	COMA	FXTL	NISH	BIWO
		% of responses										
Cass	10	-	20	70	10	-	-	-	-	-	-	-
Chippewa[1]	20	-	5	25	40	15	5	10	-	-	-	-
Clay[2]	15	6	27	60	-	7	-	-	-	-	-	-
Grand Forks	5	-	80	-	20	-	-	-	-	-	-	-
Kittson	7	-	86	14	-	-	-	-	-	-	-	-
Marshall	13	-	77	15	8	-	-	-	-	-	-	-
Norman[3]	9	-	33	67	-	-	-	-	-	-	-	-
Pembina	13	-	77	-	15	-	-	-	-	-	-	8
Polk	41	2	68	20	10	-	-	-	-	-	-	-
Renville[4]	18	-	-	28	39	22	6	-	-	-	5	-
Richland	17	-	-	53	41	-	-	-	-	6	-	-
Traill	11	-	55	36	-	-	-	-	9	-	-	-
Traverse[5]	6	-	-	83	17	-	-	-	-	-	-	-
Walsh	9	-	100	-	-	-	-	-	-	-	-	-
Wilkin[6]	14	-	21	72	7	-	-	-	-	-	-	-
Total	208	1	41	34	16	4	1	1	<1	<1	<1	<1

[1]Includes Swift and Kandiyohi Counties
[2]Includes Becker County
[3]Includes Mahnomen County
[4]Includes Redwood, Faribault, Yellow Medicine, Lac Qui Parle, Sibley, and Stearns Counties
[5]Inclueds Grant, Stevens, and Big Stone Counties
[6]Includes Ottertail County
[7]KOCZ=kochia, PIWE=pigweed species, COLQ=common lambsquarters, WAHE=waterhemp, SMWE=smartweed, VELE=velvetleaf, COMA=common mallow, FXTL=green & yellow foxtail, NISH=nightshade species, and BIWO=biennial wormwood.

Table 21. Most serious production problem in sugarbeet in 2007.

County	Responses	No Prob.	Weeds	Rhizoc/ Aphan	Emerg/ Stand	Weather	Rhizo- mania	Herbicide Injury	CLS[7]	Fusarium	Labor Mangmt	Root Maggot	Other[8]
		% of responses											
Cass	10	-	50	30	-	-	-	-	-	-	10	-	10
Chippewa[1]	20	-	50	5	40	-	5	-	-	-	-	-	-
Clay[2]	17	12	47	12	17	12	-	-	-	-	-	-	-
Grand Forks	5	-	80	20	-	-	-	-	-	-	-	-	-
Kittson	7	-	57	29	-	-	14	-	-	-	-	-	-
Marshall	12	-	58	42	-	-	-	-	-	-	-	-	-
Norman[3]	10	10	20	20	50	-	-	-	-	-	-	-	-
Pembina	13	-	46	8	15	15	-	-	-	-	-	8	8
Polk	41	13	37	20	13	2	2	2	2	2	-	-	7
Renville[4]	20	-	50	20	20	-	5	5	-	-	-	-	-
Richland	20	-	25	20	35	20	-	-	-	-	-	-	-
Traill	11	-	46	27	18	-	-	-	-	-	-	-	9
Traverse[5]	6	-	50	17	17	-	-	16	-	-	-	-	-
Walsh	11	-	55	27	-	18	-	-	-	-	-	-	-
Wilkin[6]	18	-	67	-	11	22	-	-	-	-	-	-	-
Total	221	4	46	18	18	7	2	1	<1	<1	<1	<1	3

[1]Includes Swift and Kandiyohi Counties
[2]Includes Becker County
[3]Includes Mahnomen County
[4]Includes Redwood, Faribault, Yellow Medicine, Lac Qui Parle, Sibley, and Stearns Counties
[5]Inclueds Grant, Stevens, and Big Stone Counties
[6]Includes Ottertail County
[7]CLS=Cercospora leaf spot
[8]Other=Springtails(3), American Crystal Management(1)

Table 22. Sugarbeet acreage that was hand weeded in 2007.

County	Respondent acres planted	Hand Weeded
		% of acres planted
Cass	5,392	45
Chippewa[1]	8,860	57
Clay[2]	9,007	34
Grand Forks	2,667	12
Kittson	4,661	6
Marshall	7,444	4
Norman[3]	5,997	3
Pembina	8,603	28
Polk	26,572	9
Renville[4]	5,708	72
Richland	9,057	37
Traill	4,941	31
Traverse[5]	3,966	27
Walsh	4,034	43
Wilkin[6]	8,488	43
Total	115,397	28

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

Table 23. Method of herbicide application in 2007.

Herbicide	Acres treated	Method of application		
		Band	Broadcast Ground	Broadcast Air
		----------% of acres treated----------		
Roundup (PRE)	6,307	31	55	14
Treflan (Lay-By)	2,137	70	30	0
Dual (PRE/PPI/Lay-By)	3,533	11	75	14
Nortron (PRE/PPI)	23,248	82	18	0
Fargo	250	0	100	0
Eptam+Ro-neet	385	100	0	0
Outlook (Lay-By)	10,722	51	43	6
Betanex/Betamix/Progress	22,873	40	49	12
Poast, Select, Assure II	20,159	2	94	4
Bnex/Bmix/Prog+UpBeet	5,790	35	60	5
Bnex/Bmix/Prog+Stinger	17,125	14	74	12
Bnex/Bmix/Prog+UpBeet+Stinger	28,131	43	45	12
Bnex/Bmix/Prog+UpBeet+Stinger+Oil	61,146	20	61	19
Bnex/Bmix/Prog+UpBeet+Grass+Oil	7,573	31	69	0
Bnex/Bmix/Prog+Stinger+Grass+Oil	110,205	38	55	8
Bnex/Bmix/Prog+UpBeet+Stinger+Nortron+Oil	27,182	49	46	5
Bnex/Bmix/Prog+UpBeet+Stinger+Nortron+Grass+Oil	56,727	32	64	4
Other Combinations	2,397	4	82	14
Total	405,890	35	56	9

Table 24. Cost of hand weeding and hand thinning in 2007.

County	Respondents	Dollars per acre														
		0	1-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-70	71-80	80+
		% of respondents														
Cass	9	11	-	-	11	11	45	-	11	-	11	-	-	-	-	-
Chippewa[1]	21	33	-	19	-	4	10	10	-	-	-	4	-	10	5	5
Clay[2]	17	41	-	-	6	29	6	-	6	-	6	-	-	-	-	6
Grand Forks	5	60	-	-	-	-	20	-	-	-	-	-	20	-	-	-
Kittson	7	57	-	-	-	29	14	-	-	-	-	-	-	-	-	-
Marshall	12	75	-	-	-	-	8	8	-	9	-	-	-	-	-	-
Norman[3]	9	78	-	-	11	-	11	-	-	-	-	-	-	-	-	-
Pembina	12	50	-	-	-	8	-	8	25	9	-	-	-	-	-	-
Polk	42	62	-	5	2	17	7	5	-	-	-	-	2	-	-	-
Renville[4]	18	17	6	22	11	6	22	11	-	6	-	-	-	-	-	-
Richland	15	67	-	-	-	6	13	-	-	-	7	-	7	-	-	-
Traill	11	46	-	-	-	9	18	9	9	-	9	-	-	-	-	-
Traverse[5]	7	58	14	-	-	-	-	-	-	-	14	14	-	-	-	-
Walsh	10	20	-	-	10	40	20	-	-	10	-	-	-	-	-	-
Wilkin[6]	15	47	-	-	6	20	7	6	7	7	-	-	-	-	-	-
Total	210	48	1	5	4	13	12	5	3	2	2	1	1	1	<1	1

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

Table 25. Total sugarbeet acreage operated by respondents to the survey in 2007.

County	Respondents	Acres of sugarbeet										
		<50	50-99	100-199	200-299	300-399	400-599	600-799	800-999	1000-1499	1500-1999	2000+
		% of respondents										
Cass	9	-	-	-	11	22	45	-	11	11	-	-
Chippewa[1]	21	-	14	24	5	19	14	5	5	14	-	-
Clay[2]	17	-	-	5	18	29	5	18	12	12	-	-
Grand Forks	5	-	-	20	-	20	20	20	20	-	-	-
Kittson	7	-	-	-	-	29	29	29	-	14	-	-
Marshall	12	-	8	17	-	-	8	50	-	17	-	-
Norman[3]	9	-	-	11	22	22	22	-	11	-	-	11
Pembina	12	-	-	8	8	8	17	25	25	-	8	-
Polk	42	2	-	-	7	21	21	24	10	7	7	-
Renville[4]	18	-	-	39	22	22	6	6	-	6	-	-
Richland	15	7	-	-	13	20	-	40	7	7	7	-
Traill	11	-	9	9	9	18	46	9	-	9	-	-
Traverse[5]	7	-	-	14	-	14	29	29	-	14	-	-
Walsh	10	10	10	-	-	40	30	-	-	10	-	-
Wilkin[6]	15	-	7	13	13	27	7	7	13	-	13	-
Total	210	1	3	10	10	21	18	17	8	8	3	<1

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

Table 26. Number of row crop cultivations per field for weeds in 2007.

County	Number of responses	Number of cultivations				
		Zero	One	Two	Three	Four
		----------% of responses----------				
Cass	9	-	11	78	11	-
Chippewa[1]	21	10	24	57	10	-
Clay[2]	17	-	47	53	-	-
Grand Forks	5	-	60	40	-	-
Kittson	7	-	71	29	-	-
Marshall	12	-	50	33	17	-
Norman[3]	6	17	17	67	-	-
Pembina	10	-	30	60	10	-
Polk	41	-	39	61	-	-
Renville[4]	17	-	41	47	12	-
Richland	14	-	29	57	14	-
Traill	10	-	50	50	-	-
Traverse[5]	7	-	-	86	14	-
Walsh	10	-	20	80	-	-
Wilkin[6]	13	-	23	69	8	-
Total	199	1	35	58	6	0

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