Registered sugarbeet herbicides, Breckenridge, 2002. (Dexter) 'Hilleshog Resist' sugarbeet was seeded 1.25 inches deep in 22 inch rows April 30. Counter 15G insecticide at 12 lb product/A was applied modified in-furrow at planting. Preemergence ethofumesate treatments were soil applied April 30 after planting. Postemergence treatments were applied May 23, May 30, June 6 and June 17. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center four rows of six row plots. Maple-leaved goosefoot, common lambsquarters and redroot pigweed control and sugarbeet injury were evaluated June 25.

Date of Application	3		There evaluated bulle 25.					
	April 30	May 23	May 30	June 6	June 17			
Time of Day	5:00 pm	11:00 am	1:30 pm	12:00 pm				
Air Temp. (°F)	55	42			9:30 am			
Relative Humidity (%)			88	83	72			
	29	43	14	32	51			
Soil Temp. (°F at 6")	47	52	66	68				
Wind Velocity (mph)	17	16	21		68			
Cloud Cover (%)	20			19	6			
Soil Moisture		100	0	80	50			
	good	good	good	good	good			
Sugarbeet Stage		cotyledon	2 leaf					
Redroot pigweed				4-6 leaf	4-8 leaf			
Common lambsquarters		cotyledon	cot-3 lf	1-2" tall	2 leaf-3"			
W 3		cotyledon	cot-6 lf	1-4" tall	2-8" tall			
Maple-leaved goosefoot		cotyledon	cot-6 lf	1-4" tall				
		11100011	COC 0 11	1-4 tall	2-8" tall			

Summary

Weed control was excellent with all treatments. Weed populations were sparse. Sugarbeet injury was summarized over locations and this data is in a table following the "Registered sugarbeet herbicides, St. Thomas" data.

Registered sugarbeet herbicides, Breckenridge, 2002. (continued)

	Sgbt	Mlgf	Colq	Rrpw
Treatment	inj	cntl	cntl	cntl
1b/A	િ	ક	%	%
	4.4	100	100	100
Desm+Tfsu+Clpy+Clet+MSO ¹ (4X) 0.08+0.004+0.03+0.03+1.5%	11	100	100	100
Desm&Phen+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	16	100	100	98
De&Ph&Et+Tfsu+Clpy+Clet+MSO (4X) 0.08+0.004+0.03+0.03+1.5%	6	100	100	90
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5%	18	100	100	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.12+0.004+0.03+0.03+1.5%	10	100	100	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N ² (2X) 0.08+0.004+0.03+0.03+1.5%+0.125				
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5%	14	100	100	99
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-WC ³ (2X)				
0.08+0.004+0.03+0.03+1.5*+0.125				
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5%	14	100	100	99
Desm&Phen+Etho-N+Tfsu+Clpv+Clet+MSO (4X)			4.00	100
0.053+0.027+0.004+0.03+0.03+1.5%	6	100	100	100
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X)				
0.053+0.152+0.004+0.03+0.03+1.5%				
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X) 0.053+0.027+0.004+0.03+0.03+1.5%	8	100	100	100
Desmedipham+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desmedipham+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042				
Desmedipham+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	16	100	100	100
Desm&Phen+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042				
Desm&Phen+Tfsu+Clpv+Clet 0.33+0.008+0.047+0.042				100
Desm&Phen+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	11	100	100	100
De&Ph&Et+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042				
De&Ph&Et+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042	10	100	100	99
De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	10	100	100	
De&Ph&Et+Tfsu+Clpy+Clet+Etho-N 0.25+0.008+0.047+0.042+0.125 D&P&E+Tfsu+Clpy+Clet+Etho-N 0.33+0.008+0.047+0.042+0.125				
D&P&E+Tfsu+Clpy+Clet+Etho-N 0.33+0.008+0.047+0.042+0.125 De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	19	100	100	100
De&Ph&Et+Tfsu+Clpy+Clet+Eth-WC 0.25+0.008+0.047+0.042+0.125	Fall Ba			
D&P&E+Tfsu+Clpy+Clet+Etho-WC 0.33+0.008+0.047+0.042+0.125				
DesPhsEt+Tfsu+Clpv+Clet 0.5+0.008+0.047+0.042	16	100	100	96
Dosms Phen+Ftho-N+Tfsu+Clov+Clet 0.17+0.08+0.008+0.047+0.042				
Des&Phen+Eth-N+Tfsu+Clpv+Clet 0.22+0.11+0.008+0.047+0.042	15	100	100	100
Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042	13	100	100	100
Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042				
Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042	9	100	100	100
Ethofumesate-N (PRE)				
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	13	100	100	100
Ethofumesate-WC (PRE)				
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	20	100	100	100
Ethofumesate-N (PRE) 2	10	100	1.00	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	13	100	100	100
Ethofumesate-N (PRE) 3				
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042				
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	13	100	100	100
Ethofumesate-N (PRE)				
Desm&Phen&Etho+Tfsu+Clpy+Clet (3X) 0.25+0.008+0.047+0.042	11	100	100	100
Debitur Herrario 1222 1-P4				

Registered sugarbeet herbicides, Breckenridge, 2002. (continued)

Treatment	Sgbt inj	Mlgf cntl	Colq	Rrpw
lb/A	%	& CHET	cntl %	cntl
	0	•	8	8
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.004+0.03+0.03+1.5%				
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.004+0.03+0.03+1.5%				
D&P&E+Tfsu+Clpy+Clet+MSO+Dime 0.12+0.004+0.03+0.03+1.5%+1				
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.004+0.03+0.03+1.5%	23	100	100	99
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N				
0.08+0.004+0.03+0.03+1.5%+0.125				
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N				
0.08+0.004+0.03+0.03+1.5%+0.125				
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Dime				
0.12+0.004+0.03+0.03+1.5%+1				
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.004+0.03+0.03+1.5%	20	100	100	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO (2X) 0.08+0.005+0.03+0.03+1.5%				
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.12+0.005+0.03+0.03+1.5%	10	100	100	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N				
0.08+.005+.03+.03+1.5%+0.063				
De&Pn&Et+Tfsu+Clpy+Clet+MSO+Etho-N				
0.08+0.005+0.03+0.03+1.5%+0.063				
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N				
0.12+0.005+0.03+0.03+1.5%+0.094				
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.005+0.03+1.5%	10	100	100	99
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.005+0.03+0.03+1.5%				
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.005+0.03+0.03+1.5%				
D&P&E+Tfsu+Clpy+Clet+MSO+Dime 0.12+0.005+0.03+0.03+1.5%+1				
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.005+0.03+1.5%	24	100	100	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N (2X)				100
0.08+0.005+0.03+0.03+1.5%+0.063				
De&Pn&Et+Tisu+Clpy+Clet+MSO+Dime (2X)				
0.08+0.005+0.03+0.03+1.5%+0.5	15	100	100	100
Desm&Phen&Etho+Triflusulfuron 0.14+0.0156				100
Desm&Phen&Etho+Tfsu+Clpv 0.33+0.0156+0.11				
Desm&Phen&Etho+Tfsu+Clpy 0.42+0.0156+0.11	4	100	100	98
Desm&Phen&Etho+Triflusulfuron 0 14+0 0156		100	100	90
Desm&Phen&Etho+Tfsu+Clpy 0 33+0 0156+0 11				
Desm&Phen&Etho+Tfsu+Clpy+Dime $0.42+0.0156+0.11+1$	18	100	100	100
Desm&Phen&Etho+Tfsu+Etho-N 0.14+0.0156+0.10		100	100	100
Desm&Phen&Etho+Tfsu+Etho-N+Clpv 0 33+0 0156+0 10+0 11				
Desm&Phen&Etho+Tfsu+Clpy+Dime 0.42+0.0156+0.11+1	18	100	100	100
De&Ph&Et+Tfsu+Clet+MSO+Etho-N 0.08+0 004+0 03+1 58+0 135	10	100	100	100
De&Ph&Et+Tfsu+Clet+MSO+Etho-N 0.08+0.004+0.03+1.58+0.125				
De&Ph&Et+Tfsu+Clet+MSO+Clpy 0.12+0.004+0.03+1.58+0.03				
De&Ph&Et+Tfsu+Clet+MSO+Clpy 0.12+0.004+0.03+1.5%+0.03	15	100	100	100
EXP MEAN	1.4	100		
C.V. %	14	100	100	100
LSD 5%	43	0	0	2
LSD 1%	8	0	0	NS
# OF REPS	11 4	0	0	NS
MSO=methylated seed oil from Loveland.	4	4	4	4

from Loveland.

²Etho-N=Nortron formulation of ethofumesate from Aventis.
³Etho-WC=Ethofumesate formulation from West Central Chemical.

Registered sugarbeet herbicides, Christine, 2002. (Dexter) 'Crystal 999' sugarbeet was seeded 1.25 inches deep in 22 inch rows May 6. Preemergence ethofumesate treatments were soil applied May 6 after planting. Postemergence treatments were applied May 24, May 30, June 7 and June 13. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center four rows of six row plots. Sugarbeet injury and yellow foxtail control were evaluated June 25. Redroot pigweed and common lambsquarters control were evaluated June 25 and July 8. Green and yellow foxtail control was evaluated July 8.

Date of Application May 6 May 24 May 30 June 7 Jun						
Date of Application	May 6	May 24	May 30		June 13	
Time of Day	5:00 pm	10:00 am	11:30 am	9:00 am	12:30 pm	
Air Temp. (°F)	48	52	87	66	60	
Relative Humidity (%)	42	31	21	45	56	
Soil Temp. (°F at 6")	44	46	63	65	60	
Wind Velocity (mph)	12	2	13	4	7	
Cloud Cover (%)	100	20	0	80	100	
Soil Moisture	good	good	fair	fair	fair	
Sugarbeet Stage		cotyledon	cot-2 lf	2-4 leaf	4-6 leaf	
20302000			cot-2	cot-	2 leaf -	
Redroot pigweed		cotyledon	leaf	6leaf(1")	1.5" tall	
reares provide		cot-2	cot-4	61f(2")-		
Common Lambsquarters		leaf	leaf	3" tall	2-4" tall	
Green and Yellow		emerging	0.5-1.5"	1-2.5"		
Foxtail		- 1" tall	tall	tall	1-4" tall	

Summary

Sugarbeet injury and redroot pigweed control were summarized over locations and this data is in a table following the "Registered sugarbeet herbicides, St. Thomas" data. Desmedipham in the micro-rate gave less common lambsquarters control than desmedipham&phenmedipham or desm&phenðofumesate in the micro-rate on July 18. Treatments that did not include clethodim gave less grass control than treatments with clethodim.

Registered sugarbeet herbicides, Christine, 2002. (continued)

		Jun	e 25			Tulsz	1.0	
Trootwent.	Sgbt	Sgbt Rrpw Colq Yeft			July 18 eft Rrpw Cola Fx			
<u>Treatment</u> Rate	inj	cntl	cntl	cntl	cnt.l	cntl	cntl	
lb/A	ક	용	용	ું જ	9	8	8	
Desm+Tfsu+Clpy+Clet+MSO ¹ (4X) 0.08+0.004+0.03+0.03+1.5%	-	0.2	0.0					
Desm&Phen+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	5	83	99	100	61	89	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO (4X) 0.08+0.004+0.03+0.03+1.5%	3	86	99	100	71	99	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5%	3	80	94	100	60	99	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.12+0.004+0.03+0.03+1.5%	_	0.5	222					
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N ² (2X)	3	86	100	100	75	100	100	
0.08+0.004+0.03+0.03+1.5%+0.125								
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5%	3	0.4	0.0	0.0			WALLEY.	
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-WC ³ (2X)	3	84	98	99	68	95	100	
0.08+0.004+0.03+0.03+1.5%+0.125								
- De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5%	3	79	0.7	100	F 0	0.5	400	
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (4X)		19	97	100	59	95	100	
0.053+0.027+0.004+0.03+0.03+1.58	0	74	97	100		100	100	
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X)	0	/4	91	100	55	100	100	
0.053+0.152+0.004+0.03+0.03+1.50								
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X)								
0.053+0.027+0.004+0.03+0.03+1.58	0	79	99	100	65	99	100	
Desmedipham+Tfsu+Clpv+Clet $0.25+0.008+0.047+0.043$		- , ,	33	100	03	99	100	
Desmedipham+Tfsu+Clpy+Clet $0.33+0.008+0.047+0.042$								
Desmedipham+Tfsu+Clpy+Clet $0.5+0.008+0.047+0.042$	5	86	96	94	65	95	0.0	
Desm&Phen+Tfsu+Clpy+Clet 0 25+0 008+0 047+0 043		- 0 0	30	34	03	93	90	
Desm&Phen+Tisu+Clpy+Clet $0.33+0.008+0.047+0.042$								
Desm&Phen+Tisu+Clpy+Clet $0.5+0.008+0.047+0.042$	0	84	100	95	66	98	97	
De&Ph&Et+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042			100		00	96	91	
De&Ph&Et+Tfsu+Clpy+Clet								
De&Pn&Et+Tfsu+Clpy+Clet	0	86	100	100	65	100	100	
De&Ph&Et+Tfsu+Clpy+Clet+Etho-N 0.25+0.008+0.047+0.042+0.125						100	100	
D&P&E+Tisu+Clpy+Clet+Etho-N 0.33+0.008+0.047+0.042+0.125								
De&Ph&Et+Tisu+Clpy+Clet	5	86	100	98	58	100	97	
De&Ph&Et+Tfsu+Clpy+Clet+Eth-WC 0.25+0 008+0 047+0 042+0 125					30	100		
$D^{\alpha P \alpha E + TISU + CIpy + Clet + Etho - WC}$ 0.33+0.008+0.047+0.042+0.125								
De&Ph&Et+Tisu+Clpy+Clet 0.5+0.008+0.047+0.042	4	87	100	97	69	100	99	
Desm&Phen+Etho-N+Tfsu+Clpv+Clet 0.17+0 08+0 008+0 047+0 042						100		
Desaphen+Eth-N+Tisu+Clpv+Clet $0.22+0.11+0.008+0.047+0.043$								
$\frac{1}{1000}$ Desagnent-Eth-N+Tisu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042	5	86	100	93	61	100	94	
Desm&Phen+Etho-N+Tfsu+Clpv+Clet 0.17+0 21+0 008+0 047+0 042						100		
Desm&Ph+Etno-N+Tisu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042								
DesimaPn+Etho-N+Tisu+Clpy+Clet $0.33+0.29+0.008+0.047+0.042$	0	79	100	95	73	98	93	
Ethorumesate-N (PRE)						30	- 33	
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0 03+1 52	3	88	100	100	82	100	100	
Ethoiumesate-WC (PRE)				100	02	100	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1 58	0	94	97	100	86	99	100	
Ethoiumesate-N (PRE)					0.0	22	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	0	80	95	100	70	95	100	
Ethoiumesate-N (PRE)				200	70	95	100	
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042								
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042								
Desm&Phen&Etho+Tfsu+Clpy+Clet $0.5+0.008+0.047+0.042$	3	94	100	100	83	100	100	
Ethofumesate-N (PRE)						100	100	
Desm&Phen&Etho+Tfsu+Clpy+Clet (3X) 0.25+0.008+0.047+0.042	3	89	100	94	71	100	98	
				-		100	20	

		June 25					July 18		
		Sabt	Rrpw		Yeft				
	Rate	ini	cntl	cntl	cntl	cntl	cntl	cnt.l	
Treatment	lb/A	%	%	%	%	8	8	8	
	ID/A	0	**	0	Ů	0	Ü		
	0.08+0.004+0.03+0.03+1.5%								
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.08+0.004+0.03+0.03+1.5%								
De&Ph&Et+Tfsu+Clpy+Clet+MSO									
D&P&E+Tfsu+Clpy+Clet+MSO+Dime 0	0.12+0.004+0.03+0.03+1.5%	0	90	100	100	71	100	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO		0		100					
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-	N 004.0 02.0 02.1 59.10 125								
	0.004+0.03+0.03+1.5%+0.125								
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Eth	O-N								
	0.004+0.03+0.03+1.5%+0.125								
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Dim	e .12+0.004+0.03+0.03+1.5%+1								
	0.12+0.004+0.03+0.03+1.5%	3	94	99	100	86	100	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO			71	23	100		100		
De&Ph&Et+Tfsu+Clpy+Clet+MSO (2X)	0.08+0.005+0.03+0.03+1.5%	2	0.5	100	100	70	100	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X)	0.12+0.005+0.03+0.03+1.5%	3	85	100	100	70	100	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-	N								
	08+.005+.03+.03+1.5%+0.063								
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Eth	0-N								
	0.005+0.03+0.03+1.5%+0.063								
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Eth	0-N								
0.12+	0.005+0.03+0.03+1.5%+0.094				4.00	60	100	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.12+0.005+0.03+0.03+1.5%	0	83	99	100	60	100	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.08+0.005+0.03+0.03+1.5%								
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.08+0.005+0.03+0.03+1.5%								
D&P&E+Tfsu+Clpy+Clet+MSO+Dime C	1.12+0.005+0.03+0.03+1.5%+1								
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.12+0.005+0.03+0.03+1.5%	5	94	100	100	84	100	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-	N (2X)		Alexander of the second						
0.08+	0.005+0.03+0.03+1.5%+0.063								
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Dim									
Dearname in the process of the proce	08+0.005+0.03+0.03+1.5%+0.5	5	96	98	100	93	98	10	
Desm&Phen&Etho+Triflusulfuron	0.14+0.0156								
	0.33+0.0156+0.11								
Desm&Phen&Etho+Tfsu+Clpy Desm&Phen&Etho+Tfsu+Clpy	0.42+0.0156+0.11	3	86	100	76	65	100	5	
	0.14+0.0156								
Desm&Phen&Etho+Triflusulfuron	0.33+0.0156+0.11								
Desm&Phen&Etho+Tfsu+Clpy Desm&Phen&Etho+Tfsu+Clpy+Dime	0.42+0.0156+0.11+1	10	98	100	87	93	100	8	
	0.14+0.0156+0.19								
Desm&Phen&Etho+Tfsu+Etho-N									
Desm&Phen&Etho+Tfsu+Etho-N+Clpy		15	99	100	80	92	100) 6	
Desm&Phen&Etho+Tfsu+Clpy+Dime	0.42+0.0156+0.11+1	13	99	100	- 00	, 52	100	, ,	
De&Ph&Et+Tfsu+Clet+MSO+Etho-N	0.08+0.004+0.03+1.5%+0.125								
De&Ph&Et+Tfsu+Clet+MSO+Etho-N	0.08+0.004+0.03+1.5%+0.125								
De&Ph&Et+Tfsu+Clet+MSO+Clpy	0.12+0.004+0.03+1.5%+0.03		7.0	95	99	59	95	5 10	
De&Ph&Et+Tfsu+Clet+MSO+Clpy	0.12+0.004+0.03+1.5%+0.03	0	79	95	95	, 33	9 90	, 10	
		3	86	99	97	7 71	L 98	3 9	
EXP MEAN				3					
C.V. %		143		NS NS					
LSD 5%		6		NS NS					
LSD 1%		8		N5				1	
# OF REPS		4	4	4	4	1 4			

¹MSO=methylated seed oil from Loveland. ²Etho-N=Nortron formulation of ethofumesate from Aventis. ³Etho-WC=Ethofumesate formulation from West Central Chemical.

Registered sugarbeet herbicides, Crookston, 2002. (Dexter) 'Crystal 999' sugarbeet was seeded 1.25 inches deep in 22 inch rows May 14. Counter 15G insecticide at 12 lb product/A was applied modified in-furrow at planting. Preemergence ethofumesate treatments were soil applied May 14 after planting. Postemergence treatments were applied June 3, June 12, June 18 and June 24. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center four rows of six row plots. Sugarbeet injury and yellow foxtail control were evaluated July 4. Redroot pigweed control was evaluated July 4 and July 19.

l8 June 24
am 3:00 pm
86
40
80
4
100
good
af 6-8 leaf
5" 2-5" tall
11 1-3" tall

Summary

Sugarbeet injury and redroot pigweed control were summarized over locations and this data is in a table following the "Registered sugarbeet herbicides, St. Thomas" data.

All treatments gave total control of yellow foxtail. Weed populations were sparse.

Registered sugarbeet herbicides, Crookston, 2002. (continued)

		July 4	.T.	uly 19
	Sgbt	Rrpw	Yeft	Rrpw
Rate	inj	cntl	cntl	cntl
Treatment lb/A	ુ	ુ	%	ક
Desm+Tfsu+Clpy+Clet+MSO ¹ (4X) 0.08+0.004+0.03+0.03+1.5%	12	100	100	99
Desm&Phen+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	15	100	100	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO (4X) 0.08+0.004+0.03+0.03+1.5%	7	100	100	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5%				
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.12+0.004+0.03+0.03+1.5%	8	100	100	100
DesPhsEt+Tfsu+Clov+Clet+MSO+Etho-N ² (2X)				
0.08+0.004+0.03+0.03+1.58+0.125			100	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5%	2	100	100	100
DesPhsEt+Tfsu+Clpy+Clet+MSO+Etho- WC^3 (2X)				
0.08+0.004+0.03+0.03+1.58+0.125	0	100	100	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5%	8	100	100	100
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (4X)	8	100	100	99
0.053+0.027+0.004+0.03+0.03+1.5%	0	100	100	- 33
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X)				
0.053+0.152+0.004+0.03+0.03+1.5%				
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X) 0.053+0.027+0.004+0.03+0.03+1.5%	7	100	100	100
				BASSA E
DCDMCGIP:Idm: 1204				
Desmedipham+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desmedipham+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	20	100	100	99
Desm&Phen+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042				
Desm&Phen+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042				
Desm&Phen+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	18	100	100	96
De&Ph&Et+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042				
De&Ph&Et+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042				
De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	25	100	100	100
DesPh&Et+Tfsu+Clpv+Clet+Etho-N 0.25+0.008+0.047+0.042+0.125				
D&P&E+Tfsu+Clpv+Clet+Etho-N 0.33+0.008+0.047+0.042+0.125			1.00	100
De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	23	100	100	100
DesPhsEt+Tfsu+Clpv+Clet+Eth-WC 0.25+0.008+0.047+0.042+0.125				
D&P&E+Tfsu+Clpy+Clet+Etho-WC 0.33+0.008+0.047+0.042+0.125	0.0	100	100	100
De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	22	100	100	100
Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.08+0.008+0.047+0.042				
Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.22+0.11+0.008+0.047+0.042	10	100	100	99
Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042				
Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042				
Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042	23	100	100	100
Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	15	100	100	100
Ethofumesate-WC (PRE)				
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	10	100	100	100
Ethofumesate-N (PRE) 2				
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	12	100	100	100
Ethofumesate-N (PRE) 3				Harris P
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042				
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042			4.00	100
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	22	100	100	100
Ethofumesate-N (PRE)	4.5	100	100	100
Desm&Phen&Etho+Tfsu+Clpy+Clet (3X) 0.25+0.008+0.047+0.042	17	100	100	100

Registered sugarbeet herbicides, Crookston, 2002. (continued)

		July 4		July 19
Treatment	Sgbt	Rrpw	Yeft	Rrpw
	inj	cntl	cntl	cntl
lb/A	્રે	9	%	ક
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.004+0.03+0.03+1.5%				
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.004+0.03+0.03+1.5%				
D&P&E+Tfsu+Clpy+Clet+MSO+Dime 0.12+0.004+0.03+0.03+1.5%+1				
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.004+0.03+0.03+1.5%	23	100	100	4.00
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N	23	100	100	100
0.08+0.004+0.03+0.03+1.58+0.125				
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N				
0.08+0.004+0.03+0.03+1.59+0.125				
De&Pn&Et+Tisu+Clpy+Clet+MSO+Dime				
0.12+0.004+0.03+0.03+1.5%+1				
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.004+0.03+0.03+1.5%	23	100	100	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO (2X) 0.08+0.005+0.03+0.03+1.5%				
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.12+0.005+0.03+0.03+1.5%	10	100	100	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N				
0.08+.005+.03+.03+1.5%+0.063				
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N				
0.08+0.005+0.03+0.03+1.5%+0.063				
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N				
0.12+0.005+0.03+0.03+1.5%+0.094 				
	7	100	100	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.005+0.03+0.03+1.5% D&P&E+Tfsu+Clpy+Clet+MSO+Dime 0.12+0.005+0.03+0.03+1.5%+1				
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.005+0.03+0.03+1.5%	0.0		-	
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N (2X)	20	100	100	100
$0.08 \pm 0.005 \pm 0.03 \pm 0.03 \pm 0.062$				
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Dime (2X)			· ·	
0.08+0.005+0.03+0.03+1.58+0.5	8	100	100	100
Desm&Phen&Etho+Triflusulfuron 0 14+0 0156		100	100	100
Desm&Phen&Etho+Tfsu+Clpy 0.33+0.0156+0.11				
Desm&Phen&Etho+Tfsu+Clpy 0.42+0.0156+0.11	25	100	100	99
Desm&Phen&Etho+Triflusulfuron 0.14+0.0156			100	99
Desm&Phen&Etho+Tfsu+Clpy 0.33+0.0156+0.11				
Desm&Phen&Etho+Tfsu+Clpy+Dime 0.42+0.0156+0.11+1	30	100	100	100
Desm&Phen&Etho+Tfsu+Etho-N 0.14+0.0156+0.19				
Desm&Phen&Etho+Tfsu+Etho-N+Clpy 0.33+0.0156+0.19+0.11				
Desm&Phen&Etho+Tfsu+Clpy+Dime 0.42+0.0156+0.11+1	30	100	100	100
De&Ph&Et+Tfsu+Clet+MSO+Etho-N 0.08+0.004+0.03+1.5%+0.125				
De&Ph&Et+Tfsu+Clet+MSO+Etho-N 0.08+0.004+0.03+1.5%+0.125 De&Ph&Et+Tfsu+Clet+MSO+Clpy 0.12+0.004+0.03+1.5%+0.03				
De&Ph&Et+Tfsu+Clet+MSO+Clpy 0.12+0.004+0.03+1.5%+0.03	12	100	100	100
EXP MEAN				
C.V. %	16	100	100	100
LSD 5%	35	0	0	1
LSD 1%	9	0	0	1
# OF REPS	12 3	0 3	0	2
MSO=methylated seed oil from Loveland.	3	3	3	3
Etho-N=Nortron formulation of ethofumesato from Arrontic				
³ Etho-WC=Ethofumesate formulation from West Central Chemical.				

Registered sugarbeet herbicides, Fargo, 2002. (Dexter) 'Beta 2088' sugarbeet was seeded 1.25 inches deep in 22 inch rows April 26. Preemergence ethofumesate treatments were soil applied April 26 after planting. Postemergence treatments were applied May 21, May 28, June 4 and June 12. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center four rows of six row plots. Sugarbeet injury was evaluated June 28. Pennsylvania smartweed and redroot pigweed control were evaluated June 28 and July 18.

Date of Application	April 26	May 21	May 28	June 4	June 12
Time of Day	1:00 pm	10:30 am	11:30 am	9:30 am	5:00 pm
Air Temp. (°F)	44	66	76	63	70
Relative Humidity (%)	9	19	44	37	35
Soil Temp. (°F at 6")	33	48	60	57	67
Wind Velocity (mph)	7	16	11	4	14
Cloud Cover (%)	10	0	0	30	100
Soil Moisture	good	good	good	good	good
Sugarbeet Stage		cotyledon	cot-2 lf	2-4 leaf	4-6 leaf
Redroot pigweed		cotyledon	cot-1 lf	cot-2 lf	2 leaf-1"
Pennsylvania Smartweed		cot-1 lf	cot-2 lf	2-4 leaf	2-3" tall

Summary

Sugarbeet injury and redroot pigweed control were summarized over locations and this data is in a table following the "Registered sugarbeet herbicides, St. Thomas" data.

Desmedipham in the micro-rate gave less control of Pennsylvania smartweed than desmedipham&phenmedipham or desm&phenðofumesate in the micro-rate. Treatments at the conventional rates gave less control of Pennsylvania smartweed than the micro-rate, probably because oil adjuvant was not used with conventional rates.

Registered sugarbeet herbicides, Fargo, 2002. (continued)

Rate			June 28			July 18		
Rate Inj	Treatment					The second secon		
Desm#TfSuHClpy+CletHMSO(4X)	rreacment		inj	cntl	cntl	cntl	cntl	
DesmaPhen+Tfsu+Clpy+Clet+MSO(4X)		lb/A	્રે	્રે	9	8	9	
DesmaPhentTisu+Clpy+Clet+MSO(4X)	Desm+Tfsu+Clpy+Clet+MSO 1 (4X) 0.08+0.004+0.03+0	.03+1.5%	0	92	0.1	62	22	
DeaPhaEttfSurclpy+Clet+MSO(2X)	Desm&Phen+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0	-03+1 5%						
DeePhaEt+Tfsu+Clpy+Clet+MSO(2X)								
DesPhaEtHTfsu+Clpy+Clet+MSO(2X) 0.12+0.004+0.03+0.03+1.58			0	90	09	91	13	
DesPhaEt+Tfsu+Clpy+Clet+MSO(2X)	그리고 말이 맛있는데 맛 모시 아이들은데 그 아이들이 아이들이 아이들이 아이들이 아이들이 아이들이 아이들이 아이		0	aa	97	0.4	12	
DesPhaEt+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5% 0 99 87 96 18	De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N ² (2X)	***************************************			07	34		
DesPhaEt+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5% 0 99 87 96 18	0.08+0.004+0.03+0.03+1.	5%+0.125						
Description	De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0	.03+1.5%	0	98	87	93	15	
DesPhaEtHTfsu+Clpy+Clet + MSO (2X)	De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-WC3 (2X)							
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X)	0.08+0.004+0.03+0.03+1.	5%+0.125						
DesmaPhen+Etho-N+Tfsu+Clpy+Clet+MSO (4X)	De&Ph&Et+Tisu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0	.03+1.5%	. 0	99	89	96	18	
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X)								
0.053+0.152+0.004+0.03+0.03+1.58	0.053+0.027+0.004+0.03+0	.03+1.5%	0	99	90	92	25	
Desm&Phen+Etho-N+Tfsu+Clpy+Clet	Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X)							
0.053+0.027+0.004+0.03+0.03+1.58	0.053+0.152+0.004+0.03+0	.03+1.5%						
Desmedipham+ffsu+Clpy+Clet 0.25+0.008+0.047+0.042	Desmarhen+Etho-N+TISU+Clpy+Clet+MSO (2X)							
Desmedipham+Tfsu+Clpy+Clet			0	98	94	96	48	
Desmedipham+Tfsu+Clpy+Clet	D							
Desm&Phen+TfSu+Clpy+Clet	December 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
Desm&Phen+Tfsu+Clpy+Clet			0	78	94	43	46	
Desm&Phen+Tfsu+Clpy+Clet		47+0.042						
De&Ph&Et+Tfsu+Clpy+Clet		47+0.042	0	0.1	0.2	62	-	
De&Ph&Et+Tfsu+Clpy+Clet			0	9.1	93	61	47	
De&Ph&Et+Tfsu+Clpy+Clet	De&Ph&Et+Tfsu+Clpy+Clet 0.33+0.008+0.00							
De&Ph&Et+Tfsu+Clpy+Clet+Etho-N 0.25+0.008+0.047+0.042+0.125 D&P&E+Tfsu+Clpy+Clet+Etho-N 0.33+0.008+0.047+0.042+0.125 De&Ph&Et+Tfsu+Clpy+Clet	De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.0	47+0.042	0	94	8.8	95	20	
De&Ph&Et+Tfsu+Clpy+Clet	De&Ph&Et+Tfsu+Clpy+Clet+Etho-N 0.25+0.008+0.047+0.04	42+0.125		J 1	- 00	0.5	30	
De&Ph&Et+Tfsu+Clpy+Clet	D&P&E+Tfsu+Clpy+Clet+Etho-N 0.33+0.008+0.047+0.0	42+0.125						
De&Ph&Et+Tfsu+Clpy+Clet+Etho-WC 0.25+0.008+0.047+0.042+0.125 D&P&E+Tfsu+Clpy+Clet+Etho-WC 0.33+0.008+0.047+0.042+0.125 De&Ph&Et+Tfsu+Clpy+Clet	De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.00	47+0.042	0	90	94	67	47	
De&P&E+Tfsu+Clpy+Clet+Etho-WC 0.33+0.008+0.047+0.042+0.125 De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 0 96 95 95 45 DesM&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.08+0.008+0.0047+0.042 Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.22+0.11+0.008+0.047+0.042 Des&Phen+Etho-N+Tfsu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042 DesM&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 DesM&Phen+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 DesM&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 DesM&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 DesM&Ph-&Ethfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 96 94 84 30 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 92 91 15 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 93 88 25 Ethofumesate-N (PRE) DesM&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Desm&Phen&Eth	De&Ph&Et+Tfsu+Clpy+Clet+Eth-WC $0.25+0.008+0.047+0.06$	12+0 125						
Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.08+0.008+0.047+0.042 Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.22+0.11+0.008+0.047+0.042 Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&PhenEthTsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 96 94 84 30 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 92 91 15 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 93 88 25 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	D&P&E+Tfsu+Clpy+Clet+Etho-WC 0.33+0.008+0.047+0.04	42+0.125						
Des&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.08+0.008+0.047+0.042 Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.22+0.11+0.008+0.047+0.042 Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 Desm&Phetho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.32+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Phexet+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 100 94 97 25 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 92 91 15 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 93 88 25 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042		47+0.042	0	96	95	95	45	
Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042 0 86 88 60 30 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph&Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 100 94 97 25 Ethofumesate-WC (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 92 91 15 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.08+0.008+0.00	17+0.042						
Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph-Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 De&Ph&Eth-Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 100 94 97 25 Ethofumesate-WC (PRE) 3 De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 92 91 15 Ethofumesate-N (PRE) 2 De&Ph&Eth-Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 93 88 25 Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.22+0.11+0.008+0.04	17+0.042						
Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 100 94 97 25 Ethofumesate-WC (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 92 91 15 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 93 88 25 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	Desmi Phon+Etho NIMford Clay 102 1 2 15 2 15 2 1	17+0.042	0	86	88	60	30	
Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 0 96 94 84 30 Ethofumesate-N (PRE) 3 0 100 94 97 25 Ethofumesate-WC (PRE) 3 0 100 94 97 25 Ethofumesate-WC (PRE) 3 0 99 92 91 15 Ethofumesate-N (PRE) 2 0 96 93 88 25 Ethofumesate-N (PRE) 2 0.25+0.008+0.004+0.03+1.5% 0 99 93 88 25 Ethofumesate-N (PRE) 3 0 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	Desmarhent-Etho-N+Tisu+Cipy+Ciet 0.17+0.21+0.008+0.04	17+0.042						
Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 100 94 97 25 Ethofumesate-WC (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 92 91 15 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 93 88 25 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet (3Y) 0.35+0.008+0.047+0.042	Desm&Ph+Etho-N+Tfsu+Clpy+Clot 0.22+0.24+0.008+0.04	17+0.042						
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 100 94 97 25 Ethofumesate-WC (PRE) 3 De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 92 91 15 Ethofumesate-N (PRE) 2 De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 93 88 25 Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet (3Y) 0.35+0.008+0.047+0.042	Ethofumesate-N (PRF)		0	96	94	84	30	
Ethofumesate-WC (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 92 91 15 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 93 88 25 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet (3Y) 0.35+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet (3Y) 0.35+0.008+0.047+0.042	De&Ph&Et+Tfsu+Clpv+Clet+MSO(4X) 0 08+0 004+0 03+0	02.1 50	0	100	2.2			
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 92 91 15 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 93 88 25 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet (3Y) 0.35+0.008+0.047+0.042	Ethofumesate-WC (PRE)		0	100	94	97	25	
Ethofumesate-N (PRE) 2 De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 93 88 25 Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clpy+Clet (3Y) 0.35+0.008+0.047+0.042			0	0.0	0.0	The State of the S		
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 93 88 25 Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 0 96 93 89 38 Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clpy+Clet (3Y) 0.35+0.008+0.047+0.042	Ethofumesate-N (PRE)		U	99	92	91	15	
Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 0 96 93 89 38 Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clpy+Clet (3Y) 0.35+0.008+0.047+0.042			0	0.0	0.2	0.0	0.5	
Desm&Phen&Etho+Tfsu+Clpy+Clet	Ethofumesate-N (PRE)		U	99	93	88	25	
Desm&Phen&Etho+Tfsu+Clpy+Clet	Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.04							
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 0 96 93 89 38 Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clpy+Clet (3V) 0.35+0.008+0.047+0.042	Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.04							
Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clov+Clot (3V) 0 2510 00010 04710 040	Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.04		0	96	93	89	38	
Desm&Phen&Etho+Tfsu+Clov+Clo+ (3V) 0 2510 00010 04710 040	Ethofumesate-N (PRE)	3						
	Desm&Phen&Etho+Tfsu+Clpy+Clet (3X) 0.25+0.008+0.04	7+0.042	0	92	94	81	53	

Registered sugarbeet herbicides, Fargo, 2002. (continued)

		June 28			July 18		
		Sgbt	Pesw	Rrpw	Pesw	Rrpw	
Treatment	Rate	ĺnj	cntl	cntl	cntl	cntl	
	lb/A	ક	ક	96	ક	્રે	
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.08+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.08+0.004+0.03+0.03+1.5%						
	.12+0.004+0.03+0.03+1.5%+1	0	100	98	91	44	
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.12+0.004+0.03+0.03+1.5%	0	100	90	91	44	
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-l							
	0.004+0.03+0.03+1.5%+0.125						
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Eth							
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Dim	0.004+0.03+0.03+1.5%+0.125						
De&bligsc+llsd+ClbA+Clec+M2O+DTm	: .12+0.004+0.03+0.03+1.5%+1						
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.12+0.004+0.03+0.03+1.5%	0	100	99	91	58	
De&Ph&Et+Tfsu+Clpy+Clet+MSO (2X)	0.08+0.005+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X)		0	99	92	96	18	
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-							
	08+.005+.03+.03+1.5%+0.063						
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Eth							
0.08+	0.005+0.03+0.03+1.5%+0.063						
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Eth							
0.12+	0.005+0.03+0.03+1.5%+0.094						
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.12+0.005+0.03+0.03+1.5%	0	99	92	96	13	
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.08+0.005+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.08+0.005+0.03+0.03+1.5%						
D&P&E+Tfsu+Clpy+Clet+MSO+Dime 0	.12+0.005+0.03+0.03+1.5%+1						
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.12+0.005+0.03+0.03+1.5%	0	100	98	90	43	
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-							
	0.005+0.03+0.03+1.5%+0.063						
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Dim	e (2X)		0.0	0.0	0.1	e e	
	8+0.005+0.03+0.03+1.5%+0.5	0	99	99	91	55	
Desm&Phen&Etho+Triflusulfuron	0.14+0.0156						
Desm&Phen&Etho+Tfsu+Clpy	0.33+0.0156+0.11	0	07	0.3	0.6	4 5	
Desm&Phen&Etho+Tfsu+Clpy	0.42+0.0156+0.11	0	97	93	96	45	
Desm&Phen&Etho+Triflusulfuron	0.14+0.0156						
Desm&Phen&Etho+Tfsu+Clpy	0.33+0.0156+0.11 0.42+0.0156+0.11+1	0	99	100	92	67	
Desm&Phen&Etho+Tfsu+Clpy+Dime	0.14+0.0156+0.11	0	33	100	32	- 07	
Desm&Phen&Etho+Tfsu+Etho-N							
Desm&Phen&Etho+Tfsu+Etho-N+Clpy Desm&Phen&Etho+Tfsu+Clpy+Dime	0.42+0.0156+0.11+1	0	99	100	94	82	
	0.08+0.004+0.03+1.5%+0.125	U	33	100			
De&Ph&Et+Tfsu+Clet+MSO+Etho-N De&Ph&Et+Tfsu+Clet+MSO+Etho-N	0.08+0.004+0.03+1.58+0.125						
De&Ph&Et+Tfsu+Clet+MSO+Clpy	0.12+0.004+0.03+1.5%+0.03						
De&Ph&Et+Tfsu+Clet+MSO+Clpy	0.12+0.004+0.03+1.5%+0.03	0	99	81	96	8	
					THE		
EXP MEAN		0	96	93	86	34	
C.V. %		0	5.	4	16	61	
LSD 5%		NS	7	5	20	29	
LSD 1%		NS	9	7	26 4	39 4	
# OF REPS		4	4	4	4	4	

MSO=methylated seed oil from Loveland.

Etho-N=Nortron formulation of ethofumesate from Aventis.

Etho-WC=Ethofumesate formulation from West Central Chemical.

Registered sugarbeet herbicides, Glasston, 2002. (Dexter) 'Seedex Gladiator' sugarbeet was seeded 1.25 inches deep in 22 inch rows May 2. Counter 15G insecticide at 12 lb product/A was applied modified in-furrow at planting. Preemergence ethofumesate treatments were soil applied May 2 after planting. Postemergence treatments were applied May 29, June 5, June 17 and June 28. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center four rows of six row plots. Sugarbeet injury and kochia, redroot pigweed, green and yellow foxtail and common lambsquarters control were evaluated July 18.

Date of Application	May 2	May 29	June 5	June 17	June 28
Time of Day	2:15 pm	1:15 pm	1:00 pm	3:00 pm	2:00 pm
Air Temp. (°F)	48	83	76	76	81
Relative Humidity (%)	25	34	27	31	53
Soil Temp. (°F at 6")	35	60	60	68	73
Wind Velocity (mph)	14	10	6	10	7
Cloud Cover (%)	0	75	0	20	40
Soil Moisture	good	good	poor	good	good
Sugarbeet Stage		cotyledon	cot-2 lf	4 leaf	6-8 leaf
Redroot pigweed		cotyledon	cot-2 lf	2-8 leaf	1-6" tall
Common Lambsquarters		cot-2 lf	2-4 leaf	1-4" tall	2-7" tall
		cot-0.25"	0.5-1"	I I COII	2 / tall
Kochia		ros.diam.	ros.diam.	1-4" tall	4-9" tall
Green & Yellow Foxtail		emerging	emer-0.5"	1-2" tall	2-4" tall
Wild Oats		11f(1-2")	2-3" tall	2-8" tall	6-12"tall

Summary

Sugarbeet injury and redroot pigweed control were summarized over locations and this data is in a table following the "Registered sugarbeet herbicides, St. Thomas" data.

Treatments that included clethodim gave excellent control of wild oat and foxtail spp. The three treatments without clethodim gave less grass control. The conventional rate treatments generally gave better kochia control than the micro-rate treatments. Preemergence ethofumesate at 3 lb/A followed by the micro-rate gave kochia control similar to conventional rate treatments without ethofumesate. PRE ethofumesate at 2 lb/A followed by the micro-rate gave less kochia control than PRE ethofumesate at 3 lb/A followed by the micro-rate. Kochia control was improved by adding dimethenamid-P or ethofumesate to the POST micro-rate. Increasing the rate of triflusulfuron from 0.004 to 0.005 lb/A did not improve kochia control.

Registered sugarbeet herbicides, Glasston, 2002. (continued)

Part		T-1C				July 18			
Part		-	·	July (литу 1	.0
Rate Inj cnt		Saht	Kocz	Rrpw	Fxtl	Cola	Kocz	Rrpw	Wioa
Desm+Tfsu+Clpy+Clet+MSO(14X)	Rate	inj	cntl	cntl	cntl	cntl	cntl	cntl	cntl
Desmiftent(py/clet+MSO(4X)	11 Cd Cliff C								
Desmitification Desmitification Desmitification Desmition									
Desm&Phent=Tisu+Clpy+Clet+MSO(4X)	Desm+Tfsu+Clpy+Clet+MSO ¹ (4X) 0.08+0.004+0.03+0.03+1.5%	8							
DeePhaEt+Tfsu+Clpy+Clet+MSO (2X)	Desm&Phen+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%								
DesPhaEttTfsutClpytClettMSO(ZX)	De&Ph&Et+Tfsu+Clpy+Clet+MSO (4X) 0.08+0.004+0.03+0.03+1.5%	9	63	99	100	100	58	93	100
DesPhasEt+Tfsu+Clpy+Clet+MSO(2X) 0.12+0.004+0.03+0.03+1.58					7.00	100	F.C	0.0	100
DesPhaEt+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.58	De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.12+0.004+0.03+0.03+1.5%	6	58	99	100	100	56	98	100
DesPhaEt+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.58	De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N ² (2X)								
DesPhaEt+Tfsu+Clpy+Clet+MSO(2X)	0.08+0.004+0.03+0.03+1.58+0.125	0	73	100	100	100	78	93	100
DesPhaEt+Tfsu+Clpy+Clet+MSO(2X)	De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.38	3	13	100	100	100	,,,		6.5
DeaPhaEtt+Tfsu+Clpy+Clet+MSO(2X)	De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-WC (ZX)								
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (4X)	DecEpher + I T fau + Clay + Clay + MSO(2X) 0 08+0 004+0.03+0.03+0.03+1.5%	8	63	96	100	100	64	97	100
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X)	Dear Thoras Thor								
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X)	0.053+0.027+0.004+0.03+0.03+1.5%	4	54	100	100	100	54	94	100
Desm&Phen+Etho-N+Tfsu+Clpy+Clet									
Desmedipham+Tfsu+Clpy+Clet	0.053+0.152+0.004+0.03+0.03+1.5%								
Desmedipham+Tfsu+Clpy+Clet	Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X)				100	100	(2)	0.0	100
DesmediphamtTsu+Clpy+Clet	0.053+0.027+0.004+0.03+0.03+1.5%	5	76	96	100	100	63	99	100
DesmæPhen+Tfsu+Clpy+Clet	Debined Price								
Desm&Phen+Tfsu+Clpy+Clet	DCDmccarpmam. ==== +=F1	0	76	93	qq	97	69	88	100
Desm&Phen+Tfsu+Clpy+Clet	20011101	9	70	93	33		0.3	- 00	
Desm&Phen+Tfsu+Clpy+Clet	Desmarrier in the corpy of the corps of the corpy of the corps of the								
De&Ph&Et+Tfsu+Clpy+Clet		9	74	89	99	92	78	92	100
De&Ph&Et+Tfsu+Clpy+Clet	DODMULINO		Tagli						
De&Ph&Et+Tfsu+Clpy+Clet	DesPhsEt+Tfsu+Clpv+Clet 0.33+0.008+0.047+0.042								
De&Ph&Et+Tfsu+Clpy+Clet+Etho-N 0.25+0.008+0.047+0.042+0.125 D&P&E+Tfsu+Clpy+Clet+Etho-N 0.33+0.008+0.047+0.042+0.125 D&P&E+Tfsu+Clpy+Clet	De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	16	91	83	99	99	80	75	97
D&P&E+Tfsu+Clpy+Clet+Etho-N 0.33+0.008+0.047+0.042+0.125 De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 13 90 92 100 100 78 88 100 De&Ph&Et+Tfsu+Clpy+Clet+Etho-WC 0.25+0.008+0.047+0.042+0.125 D&P&E+Tfsu+Clpy+Clet+Etho-WC 0.33+0.008+0.047+0.042+0.125 D&P&E+Tfsu+Clpy+Clet+Etho-WC 0.33+0.008+0.047+0.042+0.125 D&P&E+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Des&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.08+0.008+0.047+0.042 Des&Phen+Etho-N+Tfsu+Clpy+Clet 0.22+0.11+0.008+0.047+0.042 Des&Phen+Etho-N+Tfsu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042 Desm&Ph=Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 Desm&Ph=Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph=Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph=Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph=Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph=Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph=Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph=Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph=Etho-N+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% De&Ph&EthOfumesate-N (PRE) De&Ph&EthOfumesate-N (PRE) De&Ph&EthOfumesate-N (PRE)	DesPhsEt+Tfsu+Clpv+Clet+Etho-N 0.25+0.008+0.047+0.042+0.125								
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D&P&E+Tfsu+Clpy+Clet+Etho-WC 0.33+0.008+0.047+0.042+0.125 De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 9 94 92 100 100 85 83 100 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.08+0.008+0.047+0.042 Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.22+0.11+0.008+0.047+0.042 Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph-Etho-N+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 10 95 100 100 100 87 100 100 Ethofumesate-WC (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 9 95 100 100 100 83 100 100 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 4 74 100 100 99 70 100 100 Ethofumesate-N (PRE)		13	90	92	100	100	10	00	100
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Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 10 95 100 100 100 87 100 100 Ethofumesate-WC (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 9 95 100 100 100 83 100 100 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 4 74 100 100 99 70 100 100 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 4 74 100 100 99 70 100 100	Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042		Maria di	i-Date					
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De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 10 95 100 100 100 87 100 100 Ethofumesate-WC (PRE)	Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042	13	91	95	98	99	83	88	100
Ethofumesate-WC (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 9 95 100 100 83 100 100 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 4 74 100 100 99 70 100 100 Ethofumesate-N (PRE) 3 Ethofumesate-N (PRE) 3	Ethofumesate-N (PRE)	4.0	0.5	100	100	100	07	100	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 9 95 100 100 100 83 100 100 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 4 74 100 100 99 70 100 100 Ethofumesate-N (PRE)		10	95	100	100	100	0 /	100	100
Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 4 74 100 100 99 70 100 100 Ethofumesate-N (PRE) 3	Ethofumesate-WC (PRE) 3	0	95	100	100	100	83	100	100
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 4 74 100 100 99 70 100 100 Ethofumesate-N (PRE) 3		9	33	100	100	100	- 03	200	
Ethofumesate-N (PRE)	ETNOTHMESALE-N (PKL)	4	74	100	100	99	70	100	100
RINOLUMESale-N (FAL)			, 1			No.			
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042	Ethorumesate-N (FRE)								
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042									- 15
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 10 93 99 100 100 86 91 100			93	99	100	100	86	91	100
Ethofumesate-N (PRE)	Ethofumesate-N (PRE) 3			1 2 1 - 6					100
Desm&Phen&Etho+Tfsu+Clpy+Clet (3X) 0.25+0.008+0.047+0.042 9 94 97 100 100 84 94 100	Desm&Phen&Etho+Tfsu+Clpy+Clet (3X) 0.25+0.008+0.047+0.042	9	94	97	100	100	84	94	100

	July 6					July 18			
				Gr&Y					
Trootmant	Sgbt	Kocz	Rrpw	Fxtl	Colq	Kocz	Rrpw	Wioa	
<u>Treatment</u> Rate	inj		cntl	cntl	cntl	cntl	cntl	cntl	
lb/A	olo	%	%	90	olo	િ	olo	90	
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.004+0.03+0.03+1.5%									
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.004+0.03+0.03+1.5%									
D&P&E+Tfsu+Clpy+Clet+MSO+Dime 0.12+0.004+0.03+0.03+1.5%+1									
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.004+0.03+0.03+1.5%	6	74	100	100	100	75	99	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N			100	100	100	13	99	100	
0.08+0.004+0.03+0.03+1.5%+0.125									
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N									
0.08+0.004+0.03+0.03+1.5%+0.125									
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Dime									
0.12+0.004+0.03+0.03+1.5%+1									
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.004+0.03+0.03+1.5%	9	81	99	100	100	74	100	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO (2X) 0.08+0.005+0.03+0.03+1.5%									
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.12+0.005+0.03+0.03+1.5%	4	70	96	100	100	46	95	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N									
0.08+.005+.03+.03+1.5%+0.063									
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N									
0.08+0.005+0.03+0.03+1.5%+0.063									
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N									
0.12+0.005+0.03+0.03+1.5%+0.094									
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.005+0.03+0.03+1.5%	6	71	99	100	100	71	98	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.005+0.03+0.03+1.5%									
De&Ph&Et+Tfsu+Clpy+Clet+MSO									
D&P&E+Tfsu+Clpy+Clet+MSO+Dime 0.12+0.005+0.03+0.03+1.5%+1 De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.005+0.03+0.03+1.5%									
	11	75	100	100	100	64	100	100	
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N (2X)									
0.08+0.005+0.03+0.03+1.5%+0.063 De&Ph&Et+Tfsu+Clpy+Clet+MSO+Dime (2X)									
0.0010.00510.0011 F010.5	0	60							
0.08+0.005+0.03+0.03+1.5%+0.5 Desm&Phen&Etho+Triflusulfuron 0.14+0.0156	9	68	100	100	100	70	100	100	
D	0.1	0.5							
	21	96	100	86	100	91	99	65	
Decree Division and the second									
Desm&Phen&Etho+Tisu+Clpy 0.33+0.0156+0.11 Desm&Phen&Etho+Tisu+Clpy+Dime(June 28) 0.42+0.0156+0.11+1	0.4	0.0	100						
Description of the control of the co	24	92	100	84	100	89	100	56	
Desm&Phen&Etho+Tisu+Etho-N 0.14+0.0156+0.19 Desm&Phen&Etho+Tfsu+Etho-N+Clpy 0.33+0.0156+0.19+0.11									
Desm&Phen&Etho+Tfsu+Clpy+Dime 0.42+0.0156+0.11+1	22	0.0	100	100	100	0.5			
De&Ph&Et+Tfsu+Clet+MSO+Etho-N 0.08+0.004+0.03+1.5%+0.125	23	98	100	100	100	96	99	66	
De&Ph&Et+Tfsu+Clet+MSO+Etho-N 0.08+0.004+0.03+1.5%+0.125									
De&Ph&Et+Tfsu+Clet+MSO+Clpy 0.12+0.004+0.03+1.5%+0.03									
De&Ph&Et+Tfsu+Clet+MSO+Clpy 0.12+0.004+0.03+1.5%+0.03	5	73	95	100	98	71	91	100	
					,	. 1	71	100	
EXP MEAN	10	78	97	99	99	73	94	96	
C.V. % LSD 5%	56	14	4	3	2	14	8	5	
LSD 1%	8	16	5	4	3	14	11	7	
# OF REPS	10	21	7	5	4	19	14	10	
¹ MSO=methylated good oil from Laveland	4	4	4	4	4	4	4	4	

¹MSO=methylated seed oil from Loveland.
²Etho-N=Nortron formulation of ethofumesate from Aventis.
³Etho-WC=Ethofumesate formulation from West Central Chemical.

Registered sugarbeet herbicides, Hillsboro, 2002. (Dexter) 'Seedex Gladiator' sugarbeet was seeded 1.25 inches deep in 22 inch rows May 3. Counter 15G insecticide at 12 lb product/A was applied modified in-furrow at planting. Preemergence ethofumesate treatments were soil applied May 3 after planting. Postemergence treatments were applied May 24, May 31, June 12 and June 19. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center four rows of six row plots. Sugarbeet injury was evaluated June 26. Common lambsquarters, kochia and redroot pigweed control were evaluated June 26 and July 9.

Date of Application	May 3	May 24	May 31	June 12	June 19
Time of Day	12:30 pm	3:00 pm	12:00 pm	2:00 pm	3:00 pm
Air Temp. (°F)	58	58	86	68	76
Relative Humidity (%)	25	16	7	38	87
Soil Temp. (°F at 6")	38	56	66	63	70
Wind Velocity (mph)	19	6	6	11	1
Cloud Cover (%)	0	60	70	100	100
Soil Moisture	good	good	good	good	good
Sugarbeet Stage	0.0	cotyledon	2 leaf	4-6 leaf	6-8 leaf
Redroot pigweed		cot-2 lf	2-4 leaf	6 leaf-2"	2-6" tall
Common Lambsquarters		cot-2 lf	2-8 leaf	6 leaf-5"	2-8" tall
		cot-0.25"	0.5-1.5"		
Kochia		ros.diam.	ros.diam.	2-4" tall	3-8" tall

Summary

Sugarbeet injury and redroot pigweed control were summarized over locations and this data is in a table following the "Registered sugarbeet herbicides, St. Thomas" data. Kochia was present only in two replications and the differences among treatments were not significant. All treatments gave excellent control of common lambsquarters.

Registered sugarbeet herbicides, Hillsboro, 2002. (continued)

Properties			Juna	26			Tulve	2
Rate Implication Implica		Sabt			Rrnw	Cola	Kocz	Rrnu
Bit	Treatment Rate		cntl	cntl	cntl	cntl	cntl	cntl
DesmrtEsu+Clpy+Clet+MSO (4X)	lb/A	%						
Design D	Desm+Tfsu+Clpv+Clet+MSO ¹ (AY) 0 00440 00440 0044	_						
DesPhaEtt+Tfsu+Clpy+Clet+MSO(2X)								
DeaPhaEtHTISHHCIPY+Clet-MSO(ZX)	100 200							
DesPhasEt+Tfsu+Clpy+Clet+MSO+EDN-N (ZX)		5	99	50	94	99	55	86
DeaPhaEt+Tfsu+Clpy+Clet+MSO(ZN) 0.08+0.004+0.03+0.58+0.125 DeaPhaEt+Tfsu+Clpy+Clet+MSO(ZN) 0.08+0.004+0.03+0.158		_	100					
DesPhaEt+Tfsu+Clpy+Clet+MSO(2X)		5	100	45	93	99	45	73
DesPhiEtHTESU+Clpy+CletHMSO(2X) 0.88+0.004+0.03+0.03+1.58 0 100 70 93 100 50 81 DesPhiEtHTESU+Clpy+CletHMSO(2X) 0.08+0.004+0.03+1.58+0.125 3 99 50 97 100 55 88 DesMsPhen+Etho-NHTESU+Clpy+CletHMSO(2X) 0.08+0.004+0.03+0.03+1.58 0 99 55 94 99 55 81 DesmsPhen+Etho-NHTESU+Clpy+CletHMSO(2X) 0.053+0.027+0.004+0.03+0.03+1.58 0 99 55 94 99 55 81 DesmsPhen+Etho-NHTESU+Clpy+CletHMSO(2X) 0.053+0.027+0.004+0.03+0.03+1.58 0 99 40 94 99 50 82 DesmsEphen+Etho-NHTESU+Clpy+CletHMSO(2X) 0.053+0.027+0.004+0.03+0.03+1.58 6 99 40 94 99 50 82 DesmsEdipham+TESU+Clpy+Clet 0.25+0.008+0.047+0.042 0 90 90 90 90 90 90 90								
DeaPhaEt+Tfsu+Clpy+Clet+MSO*(ZX)	De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5%+0.123	0	100	70	0.2	100	F.0	0.1
0.08+0.004+0.03+0.03+1.08+0.125	De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-WC ³ (2X)	0	100	70	93	100	50	81
DesPhaEtH*TfsuhClpy+Cleth*MSO(ZX) 0.08+0.004+0.03+0.03+1.58 3 99 50 97 100 55 81	0.08+0.004+0.03+0.03+1.5%+0.125							
Desm&Phen+Etho-N+Tfsut-Clpy+Clet+MSO (2K)	De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5%	3	99	50	97	100	55	00
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X)	Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (4X)					100		
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X)	0.053+0.027+0.004+0.03+0.03+1.5%	0	99	55	94	99	55	81
DesmaPhen+Etho-N+Tfsu+Clpy+Clet								
0.053+0.027+0.004+0.03+0.03+1.58	0.053+0.152+0.004+0.03+0.03+1.5%							
Desmedipham+Tfsu+Clpy+Clet								
Desmedipham+Tfsu+Clpy+Clet		6	99	40	94	99	50	82
Desmedipham+Tfsu+Clpy+Clet								
Desm&Phen+Tfsu+Clpy+Clet								
DesmaPhen+Tfsu+Clpy+Clet		5	100	60	99	100	50	92
Desm&Phen+Tfsu+Clpy+Clet								
De&Ph&Et+Tfsu+Clpy+Clet	D		100					
De&Ph&Et+Tfsu+Clpy+Clet	0.011.0.012	6	100	68	99	100	60	96
DeaPh&EttTfsu+Clpy+Clet								
De&Ph&Et+Tfsu+Clpy+Clet+Etho-N 0.25+0.008+0.047+0.042+0.125		Λ	100	65	Q.E.	100	7.5	0.0
De&Ph&Et+Tfsu+Clpy+Clet	De&Ph&Et+Tfsu+Clpy+Clet+Etho-N 0.25+0.008+0.047+0 042+0 125	-	100	0.5	93	100	/5	82
De&Ph&Et+Tfsu+Clpy+Clet+Eth-WC 0.25+0.008+0.047+0.042 6 100 65 97 100 70 89 De&Ph&Et+Tfsu+Clpy+Clet+Eth-WC 0.33+0.008+0.047+0.042+0.125 D&P&E+Tfsu+Clpy+Clet+Eth-WC 0.33+0.008+0.047+0.042+0.125 De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 4 100 70 97 100 65 89 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.08+0.008+0.047+0.042 Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.22+0.11+0.008+0.047+0.042 Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.38+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.38+0.004+0.03+0.03+1.5% 3 99 65 99 100 60 97 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 3 99 70 99 100 60 97 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 70 99 100 65 98 Ethofumesate-N (PRE) Desm&Phen&Etho-Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho-Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm	D&P&E+Tfsu+Clpy+Clet+Etho-N 0.33+0.008+0.047+0.042+0.125							
De&Ph&Et+Tfsu+Clpy+Clet+Etho-WC 0.25+0.008+0.047+0.042+0.125 De&Ph&Et+Tfsu+Clpy+Cletethetho-WC 0.33+0.008+0.047+0.042+0.125 De&Ph&Et+Tfsu+Clpy+Clet	De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	6	100	65	97	100	70	20
D&P&E+Tfsu+Clpy+Clet+Etho-WC 0.33+0.008+0.047+0.042+0.125 De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.08+0.008+0.047+0.042 Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.22+0.11+0.008+0.047+0.042 Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 Desm&Phettho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph-Etho-N+Tfsu+Clpy+Clet 0.33+0.008+0.004+0.03+0.03+1.5% 3 99 65 99 100 60 97 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 70 99 100 65 98 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 70 99 100 65 98 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 100 40 98 100 50 92 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.30+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.30+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.30+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.30+0.047+0.042 Desm&Phen&Etho+Tfsu	De&Ph&Et+Tfsu+Clpy+Clet+Eth-WC 0.25+0.008+0.047+0.042+0.125							
Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.08+0.008+0.047+0.042 Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.22+0.11+0.008+0.047+0.042 Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 3 99 65 99 100 60 97 Ethofumesate-N (PRE)	D&P&E+Tfsu+Clpy+Clet+Etho-WC 0.33+0.008+0.047+0.042+0.125							
Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.08+0.008+0.047+0.042 Des &Phen+Eth-N+Tfsu+Clpy+Clet 0.22+0.11+0.008+0.047+0.042 Desm&Phen+Eth-N+Tfsu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph-Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph-Etho-N+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 3 99 65 99 100 60 97 Ethofumesate-WC (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 70 99 100 65 98 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 100 40 98 100 50 92 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042		4	100	70	97	100	65	89
DesaPhen+Eth-N+Tfsu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042 4 100 60 99 100 65 96 Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 Desm&Ph-Etho-N+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 3 99 65 99 100 60 97 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 70 99 100 65 98 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 100 40 98 100 50 92 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Ethofumesate-N (PRE)	Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.08+0.008+0.047+0.042							
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Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042 6 100 80 99 100 60 97 Ethofumesate-N (PRE) 3 99 65 99 100 60 97 Ethofumesate-WC (PRE) 3 99 70 99 100 65 98 Ethofumesate-WC (PRE) 3 99 70 99 100 65 98 Ethofumesate-N (PRE) 2 99 100 65 98 Ethofumesate-N (PRE) 2 99 100 65 98 Ethofumesate-N (PRE) 3 99 70 99 100 65 98 Ethofumesate-N (PRE) 4 99 70 99 100 65 98 Ethofumesate-N (PRE) 4 99 70 99 100 65 98 Ethofumesate-N (PRE) 4 99 70 99 100 65 98 Ethofumesate-N (PRE) 4 99 70 99 100 65 98 Ethofumesate-N (PRE) 4 99 70 99 100 65 98 Ethofumesate-N (PRE) 4 99 70 99 100 65 98 Ethofumesate-N (PRE) 4 99 70 99 70 99 100 65 98 Ethofumesate-N (PRE) 4 99 70 99 70 99 100 65 98 Ethofumesate-N (PRE) 4 99 70 99 70 99 100 65 98 Ethofumesate-N (PRE) 4 99 70 99 70 99 100 65 98 Ethofumesate-N (PRE) 4 99 70 99 70 99 70 99 70 99 Ethofumesate-N (PRE) 4 99 70 99 70 99 70 99 Ethofumesate-N (PRE) 4 99 70 99 70 99 70 99 Ethofumesate-N (PRE) 4 99 70 99 70 99 Ethofumesate-N (PRE	DesmaPhertho-N+Tfsu+Clpy+Clet 0.1/+0.21+0.008+0.047+0.042							
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De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 3 99 65 99 100 60 97 Ethofumesate-WC (PRE) 3 De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 70 99 100 65 98 Ethofumesate-N (PRE) 2 De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 100 40 98 100 50 92 Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Ethofumesate-N (PRE) 3	Ethofumogato-N (DDE)	6	100	80	99	100	60	97
Ethofumesate-WC (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 70 99 100 65 98 Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 100 40 98 100 50 92 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Ethofumesate-N (PRE) Ethofumesate-N (PRE)		2	0.0	C.F.	0.0			
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 99 70 99 100 65 98 Ethofumesate-N (PRE) 2 2 2 2 2 3 100 50 92 Ethofumesate-N (PRE) 3 4 100<	Ethofumesate-WC (PRE)	3	99	65	99	100	60	97
Ethofumesate-N (PRE) De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 100 40 98 100 50 92 Ethofumesate-N (PRE) Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Ethofumesate-N (PRE) 3 Ethofumesate-N (PRE)	De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0 03+0 03+1 59	0	0.0	70	0.0	100	C.F.	
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5% 0 100 40 98 100 50 92 Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Ethofumesate-N (PRE) 3	Ethofumesate-N (PRE)	0	23	70	99	100	65	98
Ethofumesate-N (PRE) 3 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Ethofumesate-N (PRE) 3 Comparison of the property of the	De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	0	100	40	0.0	100	EO	00
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 Ethofumesate-N (PRE)	Ethofumesate-N (PRE)	V	100	40	90	100	50	92
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 4 100 86 100 100 75 100 Ethofumesate-N (PRE)	Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042							
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042 4 100 86 100 100 75 100 Ethofumesate-N (PRE)	Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042							
Ethofumesate-N (PRE)	Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	4	100	86	100	100	75	100
THE WILL PRODUCE TO COME TO CO	Ethotumesate-N (PRE)							
DesmaPhenaEtho+Tisu+Cipy+Clet (3X) 0.25+0.008+0.047+0.042 1 100 88 100 100 68 98	Desm&Phen&Etho+Tfsu+Clpy+Clet (3X) 0.25+0.008+0.047+0.042	1	100	88	100	100	68	98

Registered sugarbeet herbicides, Hillsboro, 2002. (continued)

			Turne	e 26			July 9	9
		Caht	Colq		Prow			
	Rate	ini	cntl	cntl	cntl	cntl	cntl	cntl
Treatment	lb/A	%	8	%	%	8	8	8
	ID/A	6	6	8	70	0	0	
D. CDL CH+ LEECON Class Class LMCO	0.08+0.004+0.03+0.03+1.5%							
De&Ph&Et+Tfsu+Clpy+Clet+MSO De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.08+0.004+0.03+0.03+1.5%							
D&P&E+Tfsu+Clpy+Clet+MSO+Dime C								
	0.12+0.004+0.03+0.03+1.5%	6	98	70	98	100	60	91
De&Ph&Et+Tfsu+Clpy+Clet+MSO			30					
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-	0.004+0.03+0.03+1.5%+0.125							
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Eth	0.004+0.03+0.03+1.5%+0.125							
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Dim								
De&Pn&Et+Tisu+Cipy+Ciet+M3O+Dim	0.12+0.004+0.03+0.03+1.5%+1							
	0.12+0.004+0.03+0.03+1.5%	9	100	85	98	100	58	94
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.08+0.005+0.03+0.03+1.5%							
De&Ph&Et+Tfsu+Clpy+Clet+MSO (2X)	0.08+0.005+0.05+0.05+1.5%	4	99	40	95	95	55	87
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X)	0.12+0.003+0.0310.0311.38		- 33	- 10				
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-	-N							
	08+.005+.03+.03+1.5%+0.063							
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Eth	10-N							
	-0.005+0.03+0.03+1.5%+0.063							
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Eth	10-N							
	-0.005+0.03+0.03+1.5%+0.094	8	100	60	100	100	60	94
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.12+0.005+0.03+0.03+1.5%	0	100	00	100	100	- 00	
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.08+0.005+0.03+0.03+1.5%							
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.08+0.005+0.03+0.03+1.5%							
D&P&E+Tfsu+Clpy+Clet+MSO+Dime).12+0.005+0.03+0.03+1.5%+1	13	99	60	99	100	60	94
De&Ph&Et+Tfsu+Clpy+Clet+MSO	0.12+0.005+0.03+0.03+1.5%	13	99	60	99	100	00	
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho	-N (2X)							
	+0.005+0.03+0.03+1.5%+0.063							
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Dir	ne (2X)	0	100	75	100	100	55	90
	08+0.005+0.03+0.03+1.5%+0.5		100	13	100	100	- 30	
Desm&Phen&Etho+Triflusulfuron	0.14+0.0156							
Desm&Phen&Etho+Tfsu+Clpy	0.33+0.0156+0.11		4.00	0.0	07	100	7.0	0:
Desm&Phen&Etho+Tfsu+Clpy	0.42+0.0156+0.11		100	93	97	100	70	9:
Desm&Phen&Etho+Triflusulfuron	0.14+0.0156							
Desm&Phen&Etho+Tfsu+Clpy	0.33+0.0156+0.11		100	7.5	100	100	, CE	9
Desm&Phen&Etho+Tfsu+Clpy+Dime	0.42+0.0156+0.11+1		100	75	100	100) 65) 9.
Desm&Phen&Etho+Tfsu+Etho-N	0.14+0.0156+0.19							
Desm&Phen&Etho+Tfsu+Etho-N+Clp	y 0.33+0.0156+0.19+0.11							10
Desm&Phen&Etho+Tfsu+Clpy+Dime	0.42+0.0156+0.11+1		100	85	100	100	7(10
De&Ph&Et+Tfsu+Clet+MSO+Etho-N	0.08+0.004+0.03+1.5%+0.125	j						
De&Ph&Et+Tfsu+Clet+MSO+Etho-N	0.08+0.004+0.03+1.5%+0.125							
De&Ph&Et+Tfsu+Clet+MSO+Clpy	0.12+0.004+0.03+1.5%+0.03		No.	182.4				
De&Ph&Et+Tfsu+Clet+MSO+Clpy	0.12+0.004+0.03+1.5%+0.03	8	100	50	99	100) 55	5 8
EXP MEAN		6	99	64				
C.V. %		82	1					
LSD 5%		6						
LSD 1%		8	2					
# OF REPS	THE PERSON NAMED AND PARTY OF THE PERSON NAMED AND PARTY.	4	4	2	4	ł		2 .

TMSO=methylated seed oil from Loveland.

Etho-N=Nortron formulation of ethofumesate from Aventis.

Etho-WC=Ethofumesate formulation from West Central Chemical.

Registered sugarbeet herbicides, St. Thomas, 2002. (Dexter) 'Hilleshog Horizon RR' sugarbeet was seeded 1.25 inches deep in 22 inch rows May 2. Counter 15G insecticide at 12 lb product/A was applied modified in-furrow at planting. Preemergence ethofumesate treatments were soil applied May 2 after planting. Postemergence treatments were applied May 29, June 6, June 14 and June 28. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center four rows of six row plots. Sugarbeet was hand thinned to a 10 inch spacing June 18. Roundup UltraMax herbicide at 3 pint/A was applied to the entire plot area June 20. Lorsban 4E insecticide at 1 qt/A was applied to the entire plot area June 28. Sugarbeet was row-crop cultivated July 2. Sugarbeet injury was evaluated July 6. Sugarbeet in the center two rows of 35 foot long plots was counted and harvested October 2.

Date of Application	May 2	May 29	June 6	June 14	June 28
Time of Day	7:30 pm	9:00 am	10:30 am	11:00 am	11:00 am
Air Temp. (°F)	48	75	70	66	78
Relative Humidity (%)	22	51	36	52	50
Soil Temp. (°F at 6")	52	58	60	57	72
Wind Velocity (mph)	2	6	4	5	8
Cloud Cover (%)	0	70	0	75	0
Soil Moisture	good	fair	good	good	good
Sugarbeet Stage		cotyledon	2-4 leaf	4-6 leaf	6-10 leaf

Summary

Sugarbeet injury and redroot pigweed control were summarized over locations and this data is in a table following the data from St. Thomas.

None of the treatments had a significant influence on sugarbeet yield or population.

Registered sugarbeet herbicides, St. Thomas, 2002. (continued)

		7.6	10.0				
		7-6			Doot	Imput	Extx
		Sgbt		Caran	Root Yield	Index	
Treatment	Rate	inj		Sucr		Index	
	lb/A	å b	lt/70	' %	ton/A		lb/A
	0.08+0.004+0.03+0.03+1.5%	11	78	13.8	19.0	855	4550
Desm+Tfsu+Clpy+Clet+MSO ¹ (4X)		13	79	14.4	17.9	799	4499
Desm&Phen+Tfsu+Clpy+Clet+MSO(4X)	0.08+0.004+0.03+0.03+1.5%					814	4723
De&Ph&Et+Tfsu+Clpy+Clet+MSO (4X)	0.08+0.004+0.03+0.03+1.5%	11	82	14.2	19.2	014	4/23
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X)	0.08+0.004+0.03+0.03+1.5%		75	14.2	10.0	010	47E7
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X)	0.12+0.004+0.03+0.03+1.5%	15	75	14.3	18.9	810	4757
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-	N ² (2X)						
	0.004+0.03+0.03+1.5%+0.125	1.5	70	15.0	10 0	725	E200
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X)	0.08+0.004+0.03+0.03+1.5%	15	73	15.0	19.9	735	5280
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-	WC^3 (2X)						
	0.004+0.03+0.03+1.5%+0.125		-	14 5	10.0	016	4.610
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X)	0.08+0.004+0.03+0.03+1.5%	14	75	14.5	18.2	816	4618
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+M	SO (4X)				10.0	004	4041
	0.027+0.004+0.03+0.03+1.5%	18	74	14.1	19.8	834	4841
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+M	SO (2X)						
0.053+	0.152+0.004+0.03+0.03+1.5%						
Desm&Phen+Etho-N+Tfsu+Clpy+Clet	+MSO (2X)				40.0	7.67	2640
	0.027+0.004+0.03+0.03+1.5%	13	81	14.5	19.0	767	3642
Desmedipham+Tfsu+Clpy+Clet	0.25+0.008+0.047+0.042						
Desmedipham+Tfsu+Clpy+Clet	0.33+0.008+0.047+0.042					700	45.40
Desmedipham+Tfsu+Clpy+Clet	0.5+0.008+0.047+0.042	15	77	14.7	18.2	723	4743
Desm&Phen+Tfsu+Clpy+Clet	0.25+0.008+0.047+0.042						
Desm&Phen+Tfsu+Clpy+Clet	0.33+0.008+0.047+0.042						
Desm&Phen+Tfsu+Clpy+Clet	0.5+0.008+0.047+0.042	23	75	14.5	18.7	760	4812
De&Ph&Et+Tfsu+Clpy+Clet	0.25+0.008+0.047+0.042						
De&Ph&Et+Tfsu+Clpy+Clet	0.33+0.008+0.047+0.042					F.60	4010
De&Ph&Et+Tfsu+Clpy+Clet	0.5+0.008+0.047+0.042	10	81	14.7	18.4	760	4813
De&Ph&Et+Tfsu+Clpy+Clet+Etho-N 0.	25+0.008+0.047+0.042+0.125						
D&P&E+Tfsu+Clpy+Clet+Etho-N 0.	33+0.008+0.047+0.042+0.125				40.0	T.40	4054
De&Ph&Et+Tfsu+Clpy+Clet	0.5+0.008+0.047+0.042	13	79	14.8	18.9	742	4954
De&Ph&Et+Tfsu+Clpy+Clet+Eth-WC 0.	25+0.008+0.047+0.042+0.125						
D&P&E+Tfsu+Clpy+Clet+Etho-WC 0.		19813				5.44	1050
De&Ph&Et+Tfsu+Clpy+Clet	0.5+0.008+0.047+0.042	18	77	14.6	19.1	741	4960
Desm&Phen+Etho-N+Tfsu+Clpy+Clet (0.17+0.08+0.008+0.047+0.042						
Des&Phen+Eth-N+Tfsu+Clpy+Clet (0.22+0.11+0.008+0.047+0.042	10	7.0	111	17 0	770	AFEA
Des&Phen+Eth-N+Tfsu+Clpy+Clet (0.33+0.17+0.008+0.047+0.042	18	78	14.4	17.9	779	4554
Desm&Phen+Etho-N+Tfsu+Clpy+Clet (0.17+0.21+0.008+0.047+0.042						
Desm&Ph+Etho-N+Tfsu+Clpy+Clet (0.22+0.24+0.008+0.047+0.042	0.4		14 5	17.4	FFO	AACE
Desm&Ph+Etho-N+Tfsu+Clpy+Clet (24	77	14.5	17.4	553	4465
Ethofumesate-N (PRE)	3			4. 6	01 0	770	E 4 0 0
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X)		10	82	14.6	21.0	778	5403
Ethofumesate-WC (PRE)	3						
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X)	0.08+0.004+0.03+0.03+1.5%	16	69	14.2	18.4	803	4602
Ethofumesate-N (PRE)	2						
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X)	0.08+0.004+0.03+0.03+1.5%	13	76	14.4	19.6	751	5018
Ethofumesate-N (PRE)	3						
Desm&Phen&Etho+Tfsu+Clpy+Clet	0.25+0.008+0.047+0.042						
Desm&Phen&Etho+Tfsu+Clpy+Clet	0.33+0.008+0.047+0.042				Reg .		
Desm&Phen&Etho+Tfsu+Clpy+Clet	0.5+0.008+0.047+0.042	16	77	14.6	18.2	767	4700
Ethofumesate-N (PRE)	3						
Desm&Phen&Etho+Tfsu+Clpy+Clet	(3X) 0.25+0.008+0.047+0.042	10	80	14.4	19.3	808	4883

	7-6	10-2				
	Sgbt	Sgbt		Root	Imput	Extr
Treatment Rate	inj	Popl	Sucr	Yield	Index	
lb/A		olt/70)' %	ton/A		lb/A
	- 1			0011,11		10,11
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.004+0.03+0.03+1.5%						
D&P&E+Tfsu+Clpy+Clet+MSO+Dime 0.12+0.004+0.03+0.03+1.5%+1						
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.004+0.03+0.03+1.5%	19	79	14.4	18.2	735	4634
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N				10.2	755	1034
0.08+0.004+0.03+0.03+1.5%+0.125						
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N						
0.08+0.004+0.03+0.03+1.5%+0.125						
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Dime						
0.12+0.004+0.03+0.03+1.5%+1						
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.004+0.03+0.03+1.5%	20	73	11 0	10 1	775	4010
	20	73	14.6	19.1	775	4913
De&Ph&Et+Tfsu+Clpy+Clet+MSO (2X) 0.08+0.005+0.03+0.03+1.5%		-				
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.12+0.005+0.03+0.03+1.5%	15	67	14.0	18.0	862	4375
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N						
0.08+.005+.03+.03+1.5%+0.063						
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N						
0.08+0.005+0.03+0.03+1.5%+0.063						
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N						
0.12+0.005+0.03+0.03+1.5%+0.094						
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.005+0.03+0.03+1.5%	11	78	14.4	19.0	777	4850
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.005+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.005+0.03+0.03+1.5%						
D&P&E+Tfsu+Clpy+Clet+MSO+Dime 0.12+0.005+0.03+0.03+1.5%+1						
De&Ph&Et+Tfsu+Clpy+Clet+MSO	14	77	14.4	18.2	787	4627
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N (2X)						1027
0.08+0.005+0.03+0.03+1.5%+0.063						
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Dime (2X)						
0.08+0.005+0.03+0.03+1.5%+0.5	16	74	14.4	19.0	819	4813
Desm&Phen&Etho+Triflusulfuron 0.14+0.0156		, 1	17.7	10.0	019	4013
Desm&Phen&Etho+Tfsu+Clpy 0.33+0.0156+0.11						
Desm&Phen&Etho+Tfsu+Clpy (June 28) 0.42+0.0156+0.11	30	74	14 7	10 6	7.00	4000
	30	/4	14.7	18.6	762	4837
0:11:0:0100						
Desm&Phen&Etho+Tfsu+Clpy 0.33+0.0156+0.11 	20	70	45.0			
	30	73	15.0	18.5	744	4896
0.11,0.0100,0.13						
Desm&Phen&Etho+Tfsu+Etho-N+Clpy 0.33+0.0156+0.19+0.11						
Desm&Phen&Etho+Tfsu+Clpy+Dime 0.42+0.0156+0.11+1	35	76	14.3	18.8	832	4683
De&Ph&Et+Tfsu+Clet+MSO+Etho-N 0.08+0.004+0.03+1.5%+0.125						
De&Ph&Et+Tfsu+Clet+MSO+Etho-N 0.08+0.004+0.03+1.5%+0.125						
De&Ph&Et+Tfsu+Clet+MSO+Clpy 0.12+0.004+0.03+1.5%+0.03						
De&Ph&Et+Tfsu+Clet+MSO+Clpy 0.12+0.004+0.03+1.5%+0.03	14	81	14.2	20.3	819	5042
EXP MEAN	17	76	14.4	18.8	777	4750
C.V. %	32	11	3.4	9.9	14	13
LSD 5%	8	NS	NS	NS	NS	NS
LSD 1%	10	NS	NS	NS	NS	NS
# OF REPS	4	4	4	4	4	4
TMSO=methylated sood oil from Loveland						

MSO=methylated seed oil from Loveland.

²Etho-N=Nortron formulation of ethofumesate from Aventis.

³Etho-WC=Ethofumesate formulation from West Central Chemical.

Registered sugarbeet herbicides, combined locations, 2002. (Dexter)

	Sgbt ⁴	Rrpw ⁵	Rrpw ⁶	Rrpw ⁷
Treatment Rate	inj	cntl	cntl	cntl
lb/A	્રે	ક	%	8
			60	0.1
Desm+Tfsu+Clpy+Clet+MSO ¹ (4X) 0.08+0.004+0.03+0.03+1.5%	8	94	69	81
Desm&Phen+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	10	92	66	79
De&Ph&Et+Tfsu+Clpy+Clet+MSO (4X) 0.08+0.004+0.03+0.03+1.5%	7	90	63	77
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5%	0	0.1	CE	78
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.12+0.004+0.03+0.03+1.5%	9	91	65	7.6
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N ² (2X) 0.08+0.004+0.03+0.03+1.5%+0.125				
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5%	7	91	64	77
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-WC ³ (2X)				
0.08+0.004+0.03+0.03+1.5%+0.125				
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.08+0.004+0.03+0.03+1.5%	8	90	65	78
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (4X)				
0.053+0.027+0.004+0.03+0.03+1.5%	6	89	64	77
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X)				
0.053+0.152+0.004+0.03+0.03+1.5%				
Desm&Phen+Etho-N+Tfsu+Clpy+Clet+MSO (2X)				Element.
0.053+0.027+0.004+0.03+0.03+1.5%	6	91	73	82
Desmedipham+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042				
Desmedipham+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042	1.1	0.2	70	0.2
Desmedipham+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	11	93	73	83
Desm&Phen+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042				
Desm&Phen+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042 Desm&Phen+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	11	91	75	83
12	<u> </u>	71	7.5	
De&Ph&Et+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042 De&Ph&Et+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042				
De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	10	88	63	75
De&Ph&Et+Tfsu+Clpy+Clet+Etho-N 0.25+0.008+0.047+0.042+0.125				1000000
D&P&E+Tfsu+Clpy+Clet+Etho-N 0.33+0.008+0.047+0.042+0.125				
De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	13	92	70	81
De&Ph&Et+Tfsu+Clpy+Clet+Eth-WC 0.25+0.008+0.047+0.042+0.125				
D&P&E+Tfsu+Clpy+Clet+Etho-WC 0.33+0.008+0.047+0.042+0.125				
De&Ph&Et+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	12	93	71	82
Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.08+0.008+0.047+0.042				
Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.22+0.11+0.008+0.047+0.042	1.0	0.1	CO	0.0
Des&Phen+Eth-N+Tfsu+Clpy+Clet 0.33+0.17+0.008+0.047+0.042	10	91	69	80
Desm&Phen+Etho-N+Tfsu+Clpy+Clet 0.17+0.21+0.008+0.047+0.042				
Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.22+0.24+0.008+0.047+0.042 Desm&Ph+Etho-N+Tfsu+Clpy+Clet 0.33+0.29+0.008+0.047+0.042	12	92	72	82
Ethofumesate-N (PRE)	12	72	, ,	
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	8	95	76	85
Ethofumesate-WC (PRE) 3				EX DESCRIPTION
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	9	96	75	86
Ethofumesate-N (PRE) 2				
De&Ph&Et+Tfsu+Clpy+Clet+MSO(4X) 0.08+0.004+0.03+0.03+1.5%	7	92	72	82
Ethofumesate-N (PRE) 3				
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.25+0.008+0.047+0.042				
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.33+0.008+0.047+0.042	1.4	0.0	7.0	0.7
Desm&Phen&Etho+Tfsu+Clpy+Clet 0.5+0.008+0.047+0.042	11	96	78	87
Ethofumesate-N (PRE) 3	8	95	79	87
Desm&Phen&Etho+Tfsu+Clpy+Clet (3X) 0.25+0.008+0.047+0.042	0	33	13	0 /

Registered sugarbeet herbicides, combined locations, 2002. (continued)

Treatment	Sgbt ⁴	Rrpw ⁵	Rrpw ⁶	Rrpw'
Kate	inj	cntl	cntl	cntl
lb/A	olo	્રે	olo	ક
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.004+0.03+0.03+1.5%				
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.004+0.03+0.03+1.5%				
D&P&E+Tfsu+Clpy+Clet+MSO+Dime 0.12+0.004+0.03+0.03+1.5%+1				
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.004+0.03+0.03+1.5%	10	0.0	D.C.	
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N	12	96	76	86
0.08+0.004+0.03+0.03+1.5%+0.125				
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N				
0.08+0.004+0.03+0.03+1.5%+0.125				
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Dime				
0.12+0.004+0.03+0.03+1.58+1				
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.12+0.004+0.03+0.03+1.5%	13	97	84	91
De&Ph&Et+Tfsu+Clpy+Clet+MSO (2X) 0.08+0.005+0.03+0.03+1.5%		31	04	91
De&Ph&Et+Tfsu+Clpy+Clet+MSO(2X) 0.12+0.005+0.03+0.03+1.5%	7	92	67	0.0
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N	- '	32	67	80
0.08+.005+.03+.03+1.5%+0.063				
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N				
0 08+0 005+0 03+0 03+1 58+0 063				
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N				
0.12+0.005+0.03+0.03+1.58+0.094				
De&Ph&Et+Tfsu+Clpy+Clet+MSO	7	93	66	80
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.005+0.03+0.03+1.5%			- 00	
De&Ph&Et+Tfsu+Clpy+Clet+MSO 0.08+0.005+0.03+0.03+1.5%				
D&P&E+Tfsu+Clpy+Clet+MSO+Dime 0.12+0.005+0.03+0.03+1.58+1				
De&Ph&Et+Tisu+Clpy+Clet+MSO	14	98	80	89
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Etho-N (2X)				
0.08+0.005+0.03+0.03+1.5%+0.063				
De&Ph&Et+Tfsu+Clpy+Clet+MSO+Dime (2X)				
0.08+0.005+0.03+0.03+1.5%+0.5	10	98	86	92
Desm&Phen&Etho+Triflusulfuron 0.14+0.0156				
Desm&Phen&Etho+Tfsu+Clpy 0.33+0.0156+0.11				
Desm&Phen&Etho+Tfsu+Clpy 0.42+0.0156+0.11	14	94	75	85
Desm&Phen&Etho+Triflusulfuron 0.14+0.0156				
Desm&Phen&Etho+Tfsu+Clpy 0.33+0.0156+0.11				
Desm&Phen&Etho+Tfsu+Clpy+Dime 0.42+0.0156+0.11+1	21	99	90	94
Desm&Phen&Etho+Tfsu+Etho-N 0.14+0.0156+0.19				
Desm&Phen&Etho+Tfsu+Etho-N+Clpy 0.33+0.0156+0.19+0.11				
Desm&Phen&Etho+Tfsu+Clpy+Dime 0.42+0.0156+0.11+1	23	100	93	96
De&Ph&Et+Tfsu+Clet+MSO+Etho-N 0.08+0.004+0.03+1.5%+0.125				
De&Ph&Et+Tfsu+Clet+MSO+Etho-N 0.08+0.004+0.03+1.5%+0.125				
De&Ph&Et+Tfsu+Clet+MSO+Clpy 0.12+0.004+0.03+1.5%+0.03				
De&Ph&Et+Tfsu+Clet+MSO+Clpy 0.12+0.004+0.03+1.5%+0.03	9	88	61	75
EXP MEAN				
C.V. %	10	93	73	83
LSD 5%	56	6	20	11
LSD 1%	3	4	10	6
# OF REPS	4	5	13	8
MSO=methylated seed oil from Loveland	23	16	16	16

MSO=methylated seed oil from Loveland.

 $^{^2}$ Etho-N=Nortron formulation of ethofumesate from Aventis.

³Etho-WC=Ethofumesate formulation from West Central Chemical.

⁴Sugarbeet injury combined over Christine, St. Thomas, Glasston, Crookston, Hillsboro and Breckenridge locations.

 $^{^5}$ Redroot pigweed evaluation 1-2 weeks after the last herbicide application combined over Christine, Glasston, Fargo and Hillsboro locations.

Redroot pigweed evaluation 3-5 weeks after the last herbicide application combined over Christine, Glasston, Fargo and Hillsboro locations.

Mean of early and late redroot pigweed evaluations combined over Christine, Glasston, Fargo and Hillsboro locations.

⁽Summary of results over locations on next page)

Registered sugarbeet herbicides, combined locations, 2002. (continued)

Summary of Results over Locations

Redroot pigweed control was less at the second evaluation as compared to the first, partly due to pigweed that emerged after the last POST treatment. Conventional rates of desm&phenðo + triflusulfuron applied once followed by desm&phenðo + triflusulfuron + clopyralid twice with dimethenamid-P in the third application gave 94 to 96% redroot pigweed control but also gave more sugarbeet injury than the other treatments. The micro-rate applied four times plus dimethenamid-P in the third application gave more sugarbeet injury and greater redroot pigweed control than the micro-rate alone. PRE ethofumesate followed by the micro-rate gave better control of redroot pigweed and similar sugarbeet injury compared to the micro-rate alone. The micro-rate with triflusulfuron at 0.004 lb/A gave sugarbeet injury and redroot pigweed control similar to the micro-rate with triflusulfuron at 0.005 lb/A. The addition of POST ethofumesate did not improve redroot pigweed control from the micro-rate or conventional rate treatments. PRE ethofumesate followed by the micro-rate gave redroot pigweed control similar to PRE ethofumesate followed by the conventional rate.

Outlook on sugarbeet, Crookston, 2002. (Dexter) 'Crystal 999' sugarbeet was seeded 1.25 inches deep in 22 inch rows May 14. Counter 15G insecticide at 12 pounds product per acre was applied modified in-furrow at planting. Postemergence treatments were applied June 3, June 12, June 18 and June 24. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center four rows of six row plots. Sugarbeet injury and pigweed species (redroot pigweed and prostrate pigweed) control were evaluated July 1. Redroot pigweed control was evaluated July 19.

Date of Application	June 3	June 12	June 18	June 24	
Time of Day	1:15 pm	9:30 am	11:00 am	3:00 pm	
Air Temp. (°F)	60	62	72	86	
Relative Humidity (%)	34	52	52	40	
Soil Temp. (°F at 6")	55	61	61	80	
Wind Velocity (mph)	12	8	14	4	
Cloud Cover (%)	90	20	80	100	
Soil Moisture	fair	good	good	good	
Sugarbeet Stage	cot-early 2 lf	4 leaf	4-6 leaf	6-8 leaf	
Redroot pigweed	cot - 1 leaf	2-8 leaf	21f-1.5" tall	2-5" tall	
Prostrate Pigweed	cot - 2 leaf	4-8 leaf	2 1f-2"diam.	1-4" diam.	

Summary

Dimethenamid + clethodim gave less pigweed control than other treatments. The micro-rate applied three times plus dimethenamid-P on June 12 caused more sugarbeet injury than the micro-rate without dimethenamid. Adding dimethenamid three times at 0.33 lb/A caused more sugarbeet injury than adding 1.0 lb/A once. Adding Quadris or GEM fungicide to the micro-rate plus dimethenamid caused increased sugarbeet injury but adding Headline or Eminent did not increase injury. Leaving the clopyralid out of the micro-rate did not reduce sugarbeet injury. Delaying the dimethenamid application from June 12 to June 18 did not reduce sugarbeet injury.

			July	1	July 19
					Redroot
	(Date of		Sugarbeet		Pigweed
Treatment*	Application)	Rate	injury	control	control
		lb/A	ଡ଼	96	%
Desm&Phen+Tfsu+Cl	.py+Seth+Scoil	2.4.)			
(June 3, Ju	nne 12, June 18, June 2 0.08+0.004+0.03+0.0		16	100	95
		3011.30	10	100	
Desm&Phen+Tfsu+Cl	Py+Setn+Scoll 3, June 12, June 18)				
(June 3	0.08+0.004+0.03+0.0	06+1.5%	11	100	91
Desm&Phen+Tfsu+Cl		00.100			
Desmarhen+11su+C.	ine 3, June 18)				
	0.08+0.004+0.03+0.	06+1.5%			
Desm&Phen+Tfsu-	+Clpy+Seth+Scoil+Dime				
Debmar Hom 115	(June 12)				
	0.08+0.004+0.03+0.06	+1.5%+1	21	100	100
Desm&Phen+Tfsu+C					
(Jı	ine 3, June 12)				
	0.08+0.004+0.03+0.	06+1.5%			
Desm&Phen+Tfsu-	+Clpy+Seth+Scoil+Dime				
	(June 18)				0.0
	0.08+0.004+0.03+0.06	+1.5%+1	18	100	99
Desm&Phen+Tfsu+C	lpy+Seth+Scoil				
(J:	une 3, June 18)				
	0.08+0.004+0.03+0.	06+1.5%			
Desm&Phen+Tfsu	+Clpy+Seth+Dime				
	(June 12) 0.08+0.004+0.03	10 0611	16	100	100
		+0.06+1	10	100	100
Desm&Phen+Tfsu+C	(June 3)				
	0.08+0.004+0.03+0.	06+1 5%			
Doems Dhan+Tfall	+Clpy+Seth+Scoil+Dime	0011.50			
Desmarhentisa	(June 12)				
0	.08+0.004+0.03+0.06+1.	5%+0.29			
	+Clpy+Seth+Scoil+Dime				
	(June 18)				
0	.08+0.004+0.03+0.06+1.	5%+0.71	15	100	100
Desm&Phen+Tfsu+C	lpy+Seth+Scoil+Dime				
	, June 12, June 18)			4.00	0.0
0	.08+0.004+0.03+0.06+1.	5%+0.33	36	100	99
Desm&Phen+Tfsu+C					
(Ju	ne 3, June 12)				
	0.08+0.004+0.03+0.				
De&Ph+Tisu+Clp	y+Seth+Scoil+Dime+Head	iline			
	(June 18) 8+0.004+0.03+0.06+1.5%	±1±0 15	23	100	100
		7.110.13	25	100	
Desm&Phen+Tfsu+C	ne 3, June 12)				
(Ju	0.08+0.004+0.03+0.	06+1.5%			
De&Ph+Tfqu+Clr	y+Seth+Scoil+Dime+Emir				
DCuriiiira	(June 18)	i de la constante de la consta			
0.	08+0.004+0.03+0.06+1.5	5%+1+0.1	14	100	99

			July	1	July 19
					Redroot
	(Date of		Sugarbeet	Pigweed	Pigweed
Treatment*	Application)	Rate	injury	control	control
		lb/A	8	90	98
Desm&Phen+Tfsu+C					
(Ju	ne 3, June 12)				
	0.08+0.004+0.03+0				
De&Ph+Tfsu+Clp	y+Seth+Scoil+Dime+Qua	dris			
	(June 18)				
	08+0.004+0.03+0.06+1.5	%+1+0.15	34	100	96
Desm&Phen+Tfsu+C					
(Ju	ine 3, June 12)				
	0.08+0.004+0.03+0	.06+1.5%			
Desm&Phen+Tfsu	u+Clpy+Seth+Scoil+Dime	+GEM			
	(June 18)				
	08+0.004+0.03+0.06+1.5	%+1+0.11	36	100	100
Desm&Phen+Tfsu+C					
(Ju	ne 3, June 12)				
	0.08+0.004+0.03+0	.06+1.5%			
Dimethenamid	(June 18)	1	8	99	96
Dimethenamid+Cle		1+0.095	0	88	85
Dimethenamid+Cle	thodim+Scoil (June 12)			
		095+1.5%	4	92	83
Desm&Phen+Tfsu+S	eth+Scoil				
(Ju	ine 3, June 18)				
	0.08+0.004+0	.06+1.5%			
Desm&Phen+Tfsu	+Seth+Scoil+Dime				
	(June 12)				
	0.08+0.004+0.0	6+1.5%+1	19	100	99
Desm&Phen+Tfsu+C					
(June 3	, June 12, June 24)				
	0.08+0.004+0.03+0	.06+1.5%			
Desm&Phen+Tfsu	+Clpy+Seth+Scoil+Dime				
	(June 18)				
	0.08+0.004+0.03+0.0	6+1.5%+1	20	100	99
Desm&Phen+Tfsu+C					
(Ju	ne 3, June 18)				
D. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	0.08+0.004+0.03+0	.06+1.5%			
Dimethenamid ¹	(June 12)	1			
Desm&Phen+Tisu	+Clpy+Seth+Scoil (Jun				
TT 1 2 2 2 2	0.08+0.004+0.03+0	.06+1.5%	15	100	100
Untreated Check			0	0	0
EXP MEAN			17	0.2	0.1
C.V. %			17	93	91
LSD 5%			33	2	6
LSD 1%			8	3	8
# OF REPS			11	4	10
*Cooil = motherle			4	4	4

^{*}Scoil = methylated seed oil from AGSCO.

Dimethenamid applied alone and allowed to dry on leaves prior to applying the other herbicides June 12.

Outlook on sugarbeet, Fargo, 2002. (Dexter) 'Beta 2088' sugarbeet was seeded 1.25 inches deep in 22 inch rows April 26. Postemergence treatments were applied May 21, May 28, June 4 and June 12. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center four rows of six row plots. Sugarbeet injury and Pennsylvania smartweed, redroot pigweed and volunteer wheat control were evaluated June 26. Pennsylvania smartweed and redroot pigweed control were evaluated July 18.

Date of Application	May 21	May 28	June 4	June 12
Time of Day	10:30 am	11:30 am	9:30 am	5:00 pm
Air Temp. (°F)	66	76	63	70
Relative Humidity (%)	19	40	37	35
Soil Temp. (°F at 6")	48	60	57	67
Wind Velocity (mph)	16	11	4	14
Cloud Cover (%)	0	0	30	100
Soil Moisture	good	good	good	good
Sugarbeet Stage	cotyledon	cot - 2 leaf	2-early 4 lf	4-6 leaf
Pennsylvania smartweed	cot - 1 leaf	cot - 2 leaf	2-4 leaf	2-3" tall
Redroot pigweed	cotyledon	cot - 1 leaf	cot - 2 leaf	21f-1" tall
Volunteer wheat	spike-1 leaf	1-2 lf(2-4")	4-6" tall	7-9" tall

Summary

Adding Headline, Quadris or GEM fungicide to the micro-rate plus dimethenamid-P caused increased sugarbeet injury with Quadris causing the most injury. Four applications of the micro-rate gave better control of redroot pigweed than three applications. Three applications of the micro-rate plus dimethenamid in the second or third application gave pigweed control similar to four applications of the micro-rate. Adding Headline to the micro-rate plus dimethenamid reduced control of redroot pigweed and Pennsylvania smartweed. Leaving the Scoil out of the third application of micro-rate plus dimethenamid gave reduced redroot pigweed control on June 26. Two applications of the micro-rate plus dimethenamid alone at time 3 gave poor weed control. Splitting the dimethenamid into two or three applications did not improve weed control. Dimethenamid plus clethodim gave less sugarbeet injury than several of the micro-rate plus dimethenamid treatments.

	(Dato of		0.11		e 26			y 18
Treatment*	(Date of Application)		Sgbt	Pesw	Rrpw	Vowh	Pesw	Rrpw
TTCGCINCITC	Application)	Rate	inj	cntl	cntl	cntl	cntl	cntl
Desm&Phen+Tfsu+C	Class Coth (Co. 1)	lb/A	%	િ	용	용	્ર	ofo
/May 21 M	May 28, June 4, June 12)							
(May 21, 1	0.08+0.004+0.03+0.0	C11 F0	_	4.00				
Desm&Phen+Tfsu+(Class Co+b (Co+i)	6+1.5%	5	100	99	100	88	86
May (May)	21, May 28, June 4)							
(May 2	0 08±0 004±0 03±0 0	C11 F0						
Desm&Phen+Tfsu+(0.08+0.004+0.03+0.0	6+1.5%	3	97	88	92	88	44
	May 21, June 4)							
(P	0.08+0.004+0.03+0.0	C11 F0						
Desm&Phen+Tfsi	a+Clpy+Seth+Scoil+Dime	6+1.5%						
	(May 28)							
	0.08+0.004+0.03+0.06+	1 5911	10	0.0	0.0	100		
Desm&Phen+Tfsu+C	Clov+So+b+Sooil	1.3571	13	96	99	100	79	92
	May 21, May 28)							
(1	0.08+0.004+0.03+0.0	6±1 50						
Desm&Phen+Tfsu	1+Clpy+Seth+Scoil+Dime	011.55						
	(June 4)							
	0.08+0.004+0.03+0.06+	1.5%+1	11	97	100	100	0.4	0.0
Desm&Phen+Tfsu+C	Clpv+Seth+Scoil	10011		31	100	100	84	82
	May 21, June 4)							
	0.08+0.004+0.03+0.0	6+1.5%						
Desm&Phen+Tfsu	1+Clpy+Seth+Dime	0.1.00						
	(May 28)							
	0.08+0.004+0.03+	0.06+1	3	91	92	97	84	74
Desm&Phen+Tfsu+C	Clpy+Seth+Scoil							/ 1
	(May 21)							
	0.08+0.004+0.03+0.0	6+1.5%						
Desm&Phen+Tfsu	+Clpy+Seth+Scoil+Dime							
	(May 28)							
0	.08+0.004+0.03+0.06+1.5	8+0.29						
Desmarnen+Tisu	+Clpy+Seth+Scoil+Dime							
	(June 4)							
Do om C Dhan I M C 1 C	.08+0.004+0.03+0.06+1.5	8+0.71	10	98	97	98	90	82
/May 21	lpy+Seth+Scoil+Dime							
	, May 28, June 4)							
Dogma Dhon I Mfarri G	.08+0.004+0.03+0.06+1.59	*+0.33	10	98	96	100	84	66
Desm&Phen+Tfsu+C								
(Ma	y 21, May 28)	C. 1 = 0						
De&Ph+Tfsu+Cln	0.08+0.004+0.03+0.06 y+Seth+Scoil+Dime+Headl:	0+1.5%						
	(June 4)	ine						
0.0	8+0.004+0.03+0.06+1.5%+1	1 + 0 1 5	2.0	0.0	0.0			
Desm&Phen+Tfsu+C	lpv+Seth+Scoil	110.13	39	92	93	100	68	53
	y 21, May 28)							
uri)	0.08+0.004+0.03+0.06	S_1 E 0.						
De&Ph+Tfsu+Clp	y+Seth+Scoil+Dime+Eminer) +						
	(June 4)	10						
0.	08+0.004+0.03+0.06+1.5%+	+1+0 1	9	94	96	0.0	0.4	
	11.0.0,00.1.00	1.0.1	9	24	96	99	84	66

			Turn	e 26		.Tu 1	y 18
		Cah+	Pesw		Vowh	Pesw	
	(Date of	Sgbt	cntl		cntl	cntl	cntl
Treatment*	Application) Rate	inj		%	96	%	%
	lb/A	96	96	6	•	•	0
	+Clpy+Seth+Scoil						
	May 21, May 28)						
	0.08+0.004+0.03+0.06+1.5%						
De&Ph+Tfsu+C	lpy+Seth+Scoil+Dime+Quadris						
	(June 4)	69	94	97	99	74	80
	.08+0.004+0.03+0.06+1.5%+1+0.15	0.5	<u> </u>				
Desm&Phen+Tfsu	+Clpy+Seth+Scoil						
	May 21, May 28)						
	0.08+0.004+0.03+0.06+1.5%						
Desm&Phen+Ti	su+Clpy+Seth+Scoil+Dime+GEM						
	(June 4) .08+0.004+0.03+0.06+1.5%+1+0.11	30	95	98	99	81	73
		- 30					
Desm&Phen+Tisu	+Clpy+Seth+Scoil May 21, May 28)						
	0.08+0.004+0.03+0.06+1.5%						
Dimethenamio		0	68	76	90	58	50
	Clethodim (May 28) 1+0.095	0	8	0	100	0	55
	Clethodim (May 20) 1:0:050						
Dimethenamid+0	1+0.095+1.5%	0	10	0	100	0	50
					14.4		
Desm&Phen+Tfsu	(May 21, June 4)						
	0.08+0.004+0.06+1.5%						
Dogm (Phon+T)	Esu+Seth+Scoil+Dime						
Desmarhen	(May 28)						
	0.08+0.004+0.06+1.5%+1	14	83	89	100	60	64
Deams Phen+Tfs:	u+Clpy+Seth+Scoil						
(May	21, May 28, June 12)						
(riay	0.08+0.004+0.03+0.06+1.5%						
Desm&Phen+T	fsu+Clpy+Seth+Scoil+Dime						
	(June 4)						
	0.08+0.004+0.03+0.06+1.5%+1	11	100	100	100	95	96
Desm&Phen+Tfs	u+Clpy+Seth+Scoil						
	(May 21, June 4)						
	0.08+0.004+0.03+0.06+1.5%						
Dimethenami	$d^1 (May 28) \qquad \qquad 1$						
Desm&Phen+T	fsu+Clpy+Seth+Scoil (May 28)			0.5	0.0	0.0	7.5
	0.08+0.004+0.03+0.06+1.5%	8	96	96	99	88	75
Untreated Che	ck	0	0	0	0	0	0
		10	7.0	79	93	67	66
EXP MEAN		13	79 7	4	93	15	29
C.V. %		60	8	4	5	14	27
LSD 5%		11 15	11	6	7	19	36
LSD 1%		4	4	4	4	4	4
# OF REPS		4	4	-	-		

^{*}Scoil = methylated seed oil from AGSCO.

Outlook on sugarbeet, St. Thomas, 2002. (Dexter) 'Hilleshog Horizon' Roundup Ready sugarbeet was seeded 1.25 inches deep in 22 inch rows May 2. Counter 15G insecticide at 12 pounds product per acre was applied modified in-furrow at planting. Postemergence treatments were applied May 29, June 6, June 14 and June 28. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center four rows of six row plots. Sugarbeet was hand thinned to a ten inch spacing June 18. Roundup UltraMax at 3 pt/A was applied to all plots June 20. Lorsban at 1 qt/A was applied to all plots June 28. Sugarbeet was row-crop cultivated July 2. Sugarbeet injury was evaluated July 6. Sugarbeet from the center two rows of 35 foot long plots was counted and harvested October 2.

Data of Ampliantian	ato of Amplication 200					
Date of Application	May 29	June 6	June 14	June 28		
Time of Day	10:00 am	10:30 am	11:00 am	11:00 am		
Air Temp. (°F)	75	70	66	78		
Relative Humidity (%)	51	36	52	50		
Soil Temp. (°F at 6")	58	60	57	72		
Wind Velocity (mph)	6	4	5	8		
Cloud Cover (%)	70	0	75	0		
Soil Moisture	fair	good	good	good		
Sugarbeet Stage	cotyledon	2-early 4 lf	4-6 leaf	6-10 leaf		

Summary

The micro-rate applied three times plus dimethenamid-P in the second application caused more sugarbeet injury than the micro-rate alone. Removing the Scoil from the micro-rate plus dimethenamid application did not reduce sugarbeet injury. Splitting the dimethenamid between two or three applications did not reduce sugarbeet injury. Adding Headline or Eminent fungicide to the third micro-rate application plus dimethenamid caused no increase in sugarbeet injury. However, adding Quadris or GEM fungicide to the micro-rate plus dimethenamid caused increased sugarbeet injury. Leaving the clopyralid out of the micro-rate plus dimethenamid did not reduce sugarbeet injury. None of the treatments caused significant yield loss.

(Date of Application) Rate in 1b/A Desm&Phen+Tfsu+Clpy+Seth+Scoil (May 29, June 6, June 14, June 28) 0.08+0.004+0.03+0.06+1.5% 1 Desm&Phen+Tfsu+Clpy+Seth+Scoil (May 29, June 6, June 14) 0.08+0.004+0.03+0.06+1.5% Desm&Phen+Tfsu+Clpy+Seth+Scoil (May 29, June 14) 0.08+0.004+0.03+0.06+1.5% Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime (June 6)	nj %]	10-2 Sgbt Popl plt/70 80 77		Root Yield ton/A 23.1 20.4		
Treatment* Application) Rate in 1b/A Desm&Phen+Tfsu+Clpy+Seth+Scoil (May 29, June 6, June 14, June 28) 0.08+0.004+0.03+0.06+1.5% 1 Desm&Phen+Tfsu+Clpy+Seth+Scoil (May 29, June 6, June 14) 0.08+0.004+0.03+0.06+1.5% Desm&Phen+Tfsu+Clpy+Seth+Scoil (May 29, June 14) 0.08+0.004+0.03+0.06+1.5% Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime (June 6) 0.08+0.004+0.03+0.06+1.5%+1 1 Desm&Phen+Tfsu+Clpy+Seth+Scoil	nj % 1 .5	Popl plt/70 80 77	13.8	Yield ton/A 23.1 20.4	Index 921	Sucr 1b/A 5508
Desm&Phen+Tfsu+Clpy+Seth+Scoil	[%]]	p1t/70 80 77	13.8	23.1 20.4	921	1b/A 5508
Desm&Phen+Tfsu+Clpy+Seth+Scoil (May 29, June 6, June 14, June 28) 0.08+0.004+0.03+0.06+1.5% 1 Desm&Phen+Tfsu+Clpy+Seth+Scoil (May 29, June 6, June 14) 0.08+0.004+0.03+0.06+1.5% Desm&Phen+Tfsu+Clpy+Seth+Scoil (May 29, June 14) 0.08+0.004+0.03+0.06+1.5% Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime (June 6) 0.08+0.004+0.03+0.06+1.5%+1 1 Desm&Phen+Tfsu+Clpy+Seth+Scoil	6	80 77	13.8	23.1		5508
(May 29, June 6, June 14, June 28)	6	77	14.2	20.4		
0.08+0.004+0.03+0.06+1.5% 1 Desm&Phen+Tfsu+Clpy+Seth+Scoil (May 29, June 6, June 14) 0.08+0.004+0.03+0.06+1.5% Desm&Phen+Tfsu+Clpy+Seth+Scoil (May 29, June 14) 0.08+0.004+0.03+0.06+1.5% Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime (June 6) 0.08+0.004+0.03+0.06+1.5%+1 1 Desm&Phen+Tfsu+Clpy+Seth+Scoil	6	77	14.2	20.4		
Desm&Phen+Tfsu+Clpy+Seth+Scoil (May 29, June 6, June 14)	6	77	14.2	20.4		
(May 29, June 6, June 14)					838	5054
0.08+0.004+0.03+0.06+1.5% Desm&Phen+Tfsu+Clpy+Seth+Scoil (May 29, June 14) 0.08+0.004+0.03+0.06+1.5% Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime (June 6) 0.08+0.004+0.03+0.06+1.5%+1 1 Desm&Phen+Tfsu+Clpy+Seth+Scoil					838	5054
Desm&Phen+Tfsu+Clpy+Seth+Scoil (May 29, June 14) 0.08+0.004+0.03+0.06+1.5% Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime (June 6) 0.08+0.004+0.03+0.06+1.5%+1 1 Desm&Phen+Tfsu+Clpy+Seth+Scoil					838	3034
(May 29, June 14) 0.08+0.004+0.03+0.06+1.5% Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime (June 6) 0.08+0.004+0.03+0.06+1.5%+1 1 Desm&Phen+Tfsu+Clpy+Seth+Scoil	4	79	1 4 2			
0.08+0.004+0.03+0.06+1.5% Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime (June 6) 0.08+0.004+0.03+0.06+1.5%+1 1 Desm&Phen+Tfsu+Clpy+Seth+Scoil	_4	79	14. 2			
Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime (June 6) 0.08+0.004+0.03+0.06+1.5%+1 1 Desm&Phen+Tfsu+Clpy+Seth+Scoil	4	79	14.2			
(June 6) 0.08+0.004+0.03+0.06+1.5%+1 1 Desm&Phen+Tfsu+Clpy+Seth+Scoil	4	79	14.2			
0.08+0.004+0.03+0.06+1.5%+1 1 Desm&Phen+Tfsu+Clpy+Seth+Scoil	4	79	14.2			
Desm&Phen+Tfsu+Clpy+Seth+Scoil	- 4	13		22.7	837	5678
Desm&Phen+Tfsu+Clpy+Seth+Sco11			14.5	22.1	037	3070
(Mary / U III) A A I						
0.08+0.004+0.03+0.06+1.5%						
Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime						
(June 14)						
	1	74	14.5	22.7	840	5780
Desm&Phen+Tfsu+Clpy+Seth+Scoil						
(May 29, June 14)						
0.08+0.004+0.03+0.06+1.5%						
Desm&Phen+Tfsu+Clpy+Seth+Dime						
(June 6)						
	14	66	14.4	21.9	844	5523
Desm&Phen+Tfsu+Clpy+Seth+Scoil						
(May 29)						
0.08+0.004+0.03+0.06+1.5%						
Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime						
(June 6)						
0.08+0.004+0.03+0.06+1.5%+0.29						
Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime						
(June 14)				00 0	000	FOFF
0.08+0.004+0.03+0.06+1.5%+0.71	16	68	14.4	20.9	822	5255
Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime						
(May 29, June 6, June 14)	10	7.5	147	20.0	0.00	E262
0.08+0.004+0.03+0.06+1.5%+0.33	18	/5	14.7	20.8	808	5362
Desm&Phen+Tfsu+Clpy+Seth+Scoil						
(May 29, June 6)						
0.08+0.004+0.03+0.06+1.5%						
De&Ph+Tfsu+Clpy+Seth+Scoil+Dime+Headline						
(June 14)	11	81	15.1	23.1	767	6191
0.08+0.004+0.03+0.06+1.5%+1+0.15			10.1	20.1	, 0, 1	0101
Desm&Phen+Tfsu+Clpy+Seth+Scoil						
(May 29, June 6) 0.08+0.004+0.03+0.06+1.5%						
De&Ph+Tfsu+Clpy+Seth+Scoil+Dime+Eminent						
(June 14)						
0.08+0.004+0.03+0.06+1.5%+1+0.1	16	70	14.4	21.3	839	5378

	_	7-6	10-2				
(Date of	5	Sgbt	Sgbt			Impur	
Treatment* Application) Ra	te	inj	Popl	Sucr	Yield	Index	Sucr
lb.	/A	90	plt/7	0' %	ton/A		lb/A
Desm&Phen+Tfsu+Clpy+Seth+Scoil							
(May 29, June 6)							
0.08+0.004+0.03+0.06+1	.5%						
De&Ph+Tfsu+Clpy+Seth+Scoil+Dime+Quadris							
(June 14)							
0.08+0.004+0.03+0.06+1.5%+1+0	.15	33	79	14.8	20.0	787	5203
Desm&Phen+Tfsu+Clpy+Seth+Scoil							
(May 29, June 6)							
0.08+0.004+0.03+0.06+1	.5%						
Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime+GEM							
(June 14)							
0.08+0.004+0.03+0.06+1.5%+1+0	.11	25	73	14.5	20.7	795	5288
Desm&Phen+Tfsu+Clpy+Seth+Scoil							
(May 29, June 6)							
0.08+0.004+0.03+0.06+1	.5%						
Dimethenamid (June 14)	1	11	66	14.1	20.0	905	4878
Dimethenamid+Clethodim (June 6) 1+0.	095	10	72	14.7	20.1	815	5159
Dimethenamid+Clethodim+Scoil (June 6)							
1+0.095+1	.5%	11	77	14.4	20.4	808	5170
Desm&Phen+Tfsu+Seth+Scoil							
(May 29, June 14)							
0.08+0.004+0.06+1	.5%						
Desm&Phen+Tfsu+Seth+Scoil+Dime							
(June 6)							
0.08+0.004+0.06+1.5	응+1	18	75	14.8	20.0	739	5276
Desm&Phen+Tfsu+Clpy+Seth+Scoil							
(May 29, June 6, June 28)							
0.08+0.004+0.03+0.06+1	.5%						
Desm&Phen+Tfsu+Clpy+Seth+Scoil+Dime							
(June 14)							
0.08+0.004+0.03+0.06+1.5	응+1	19	68	14.2	20.3	832	5069
Desm&Phen+Tfsu+Clpy+Seth+Scoil							
(May 29, June 14)							
0.08+0.004+0.03+0.06+1	. 5%						
Dimethenamid (June 6)	1						
Desm&Phen+Tfsu+Clpy+Seth+Scoil (June 6)							
0.08+0.004+0.03+0.06+1	.5%	16	70	13.6	19.9		4666
Untreated Check		3	73	14.9	21.0	756	5508
EXP MEAN		2.5	E.0	1.1.1	0.1		
C.V. %		15	73	14.4	21.1	827	5330
LSD 5%		40	10	4.9	8.2	15	10
LSD 1%		8	10 NC	NS	NS	NS	NS
# OF REPS		11	NS	NS	NS	NS	NS
# OT IVEE		4	4	4	4	4	4

^{*}Scoil = methylated seed oil from AGSCO.

Dimethenamid applied alone and allowed to dry on leaves prior to applying the other herbicides June 6.

Outlook on sugarbeet, combined locations, 2002. (Dexter)

				Redroot	
	(Date of		Sugarbeet	pigweed	
Treatment*		ate	injury ²	control ³	
		.b/A			
Desm&Phen+Tfsu	u+Clpy+Seth+Scoil				
	Time 2, Time 3, Time 4)				
	0.08+0.004+0.03+0.06+	1.5%	12	93	
Desm&Phen+Tfsu	ı+Clpy+Seth+Scoil				
	me 1, Time 2, Time 3)				
	0.08+0.004+0.03+0.06+	1.5%	7	74	
Desm&Phen+Tfsu	u+Clpy+Seth+Scoil				
	(Time 1, Time 3)				
	0.08+0.004+0.03+0.06+	.1.5%			
Desm&Phen+T:	fsu+Clpy+Seth+Scoil+Dime				
	(Time 2)	-0.4		2.7	
	0.08+0.004+0.03+0.06+1.	5%+1	16	97	
Desm&Phen+Tfsu	u+Clpy+Seth+Scoil				
	(Time 1, Time 2)	1 50			
D C Db L M-	0.08+0.004+0.03+0.06+	-1.5%			
Desm&Phen+T	fsu+Clpy+Seth+Scoil+Dime (Time 3)				
	0.08+0.004+0.03+0.06+1.	59+1	13	94	
Do am C Dh an I Mfa	u+Clpy+Seth+Scoil	J.0.1.T	10	94.	
DesmaPhen+11s	(Time 1, Time 3)				
	0.08+0.004+0.03+0.06+	-1 5%			
Desm&Phen+T	fsu+Clpy+Seth+Dime	1.50			
Desmarment	(Time 2)				
	0.08+0.004+0.03+0.	06+1	11	89	
Desm&Phen+Tfs	u+Clpy+Seth+Scoil		PERSON ENTERS		
	(Time 1)				
	0.08+0.004+0.03+0.06+	-1.5%			
Desm&Phen+T:	fsu+Clpy+Seth+Scoil+Dime				
	(Time 2)				
	0.08+0.004+0.03+0.06+1.5%+	-0.29			
Desm&Phen+T	fsu+Clpy+Seth+Scoil+Dime				
	(Time 3)	0 71	1.4	0.0	
	0.08+0.004+0.03+0.06+1.5%+	-0./1	14	93	
	u+Clpy+Seth+Scoil+Dime				
(Time	e 1, Time 2, Time 3)	0 22	21	87	
D (D) IMC	0.08+0.004+0.03+0.06+1.5%+	FU.33	2.1	0.7	20,4007,50
	u+Clpy+Seth+Scoil				
	(Time 1, Time 2) 0.08+0.004+0.03+0.06+	L1 5º			
Desph+Tfsu+	Clpy+Seth+Scoil+Dime+Headlir				
Dearmitisai	(Time 3)	10			
	0.08+0.004+0.03+0.06+1.5%+1+	0.15	24	82	
	u+Clpy+Seth+Scoil				
	(Time 1, Time 2)				
	0.08+0.004+0.03+0.06+	+1.5%			
De&Ph+Tfsu+	Clpy+Seth+Scoil+Dime+Eminent				
	(Time 3)				
	0.08+0.004+0.03+0.06+1.5%+1	L+0.1	13	87	

			Redroot	
	(Date of	Sugarbeet	pigweed	
Treatment*	Application) Rate	injury ²	control ³	
	lb/A		CONCLOT	
Desm&Phen+Tfs	u+Clpy+Seth+Scoil			
	(Time 1, Time 2)			
	0.08+0.004+0.03+0.06+1.5%			
De&Ph+Tfsu+	Clpy+Seth+Scoil+Dime+Quadris			
	(Time 3)			
	0.08+0.004+0.03+0.06+1.5%+1+0.15	45	91	
	u+Clpy+Seth+Scoil			
	(Time 1, Time 2)			
D CD1	0.08+0.004+0.03+0.06+1.5%			
Desm&Phen+T	fsu+Clpy+Seth+Scoil+Dime+GEM			
	(Time 3)	2.0		
	0.08+0.004+0.03+0.06+1.5%+1+0.11	30	90	
	u+Clpy+Seth+Scoil (Time 1, Time 2)			
	0.08+0.004+0.03+0.06+1.5%			
Dimethenami		6	74	
	Clethodim (Time 2) 1+0.095	3		
	Clethodim+Scoil (Time 2)	3	47	
Dimecricianita	1+0.095+1.5%	5	4.4	
Desm&Phen+Tfs		J	44	
	(Time 1, Time 3)			
	0.08+0.004+0.06+1.5%			
Desm&Phen+T:	fsu+Seth+Scoil+Dime			
	(Time 2)			
	0.08+0.004+0.06+1.5%+1	17	84	
Desm&Phen+Tfs	u+Clpy+Seth+Scoil			
(Time	e 1, Time 2, Time 4)			
	0.08+0.004+0.03+0.06+1.5%			
Desm&Phen+T	fsu+Clpy+Seth+Scoil+Dime			
	(Time 3)			
	0.08+0.004+0.03+0.06+1.5%+1	17	98	
	u+Clpy+Seth+Scoil			
	(Time 1, Time 3)			
Dimethenamio	0.08+0.004+0.03+0.06+1.5%			
	<pre>d (Time 2) 1 fsu+Clpy+Seth+Scoil (Time 2)</pre>			
Desmarmen 1.	0.08+0.004+0.03+0.06+1.5%	10	00	
Untreated Chec		13	90	
		1	0	
EXP MEAN		15	79	
C.V. %		60	22	
LSD 5%		7	14	
LSD 1%		10	19	
# OF REPS		12	12	
*Scoil = methy	vlated seed oil from AGSCO			

^{*}Scoil = methylated seed oil from AGSCO.

Dimethenamid applied alone and allowed to dry on leaves prior to applying the other herbicides Time 2.

²Sugarbeet injury combined over Crookston, Fargo and St. Thomas locations.
³Redroot pigweed control combined over July 19 evaluation at Crookston and June 26 and July 18 evaluation at Fargo.

Postemergence ethofumesate on sugarbeet, Crookston, 2002. (Dexter) 'Crystal 999' sugarbeet was seeded 1.25 inches deep in 22 inch rows May 14. Counter 15G insecticide at 12 lb product/A was applied modified in-furrow at planting. Treatments were applied 1:15 pm June 3 when the air temperature was 60F, soil temperature at six inches was 55F, relative humidity was 34%, wind velocity was 12 mph, cloud cover was 90%, soil moisture was fair, sugarbeet was in the cotyledon to 2 leaf stage, redroot pigweed was in the cotyledon to 1 leaf stage and prostrate pigweed was in the cotyledon to 2 leaf stage. All treatments were applied once in 17 gpa water at 40 psi through 8002 nozzles to the center four rows of six row plots. Sugarbeet injury and redroot pigweed and prostrate pigweed control were evaluated July 1.

			Prpw
Treatment	Rate	Sgbt inj	Rrpw cntl
	lb/A	oto .	ક
Ethofumesate-N ¹ (POST)	3.75	3	100
Ethofumesate-WC ² (POST)	3.75	4	100
Desm&Phen+Tfsu+Clpy+Clet+MSO ³ (1X) 0.08+0.004+0.03+0	.03+1.5%	1	48
De&Ph+Tfsu+Clpy+Clet+MSO+Etho-N (1X) 0.08+0.004+0.03+0	.03+3.75	18	100
De&Ph+Tfsu+Clpy+Clet+MSO+Etho-W (1X) 0.08+0.004+0.03+0	0.03+3.75	14	100
Desm&Phen+Ethofumesate-N (1X)	0.25+3.75	16	100
EXP MEAN C.V. % LSD 5% LSD 1%		9 41 6 8	91 6 8 11
# OF REPS		4	4

¹Ethofumesate-N=Nortron formulation of ethofumesate from Aventis.

Summary

Ethofumesate POST at 3.75 lb/A did not cause significant sugarbeet injury and gave excellent pigweed control. Ethofumesate plus the micro-rate gave more sugarbeet injury than the micro-rate alone. The two formulations of ethofumesate gave similar results.

²Ethofumesate-WC=Ethofumesate formulation from West Central Chemical.

³MSO=methylated seed oil from Loveland.

Grass control experiment, Crookston, 2002. (Dexter) 'Youngs' oats at 50 lb/A, 'Ember' wheat at 92 lb/A, Siberian red foxtail millet at 21 lb/A, 'Asgrow AG080 RR' soybean and 'Garst 359SG' corn were seeded in 4 foot wide strips across herbicide plots May 14. 'Crystal 999' sugarbeet was seeded in six 22 inch rows across the herbicide plots May 14. Counter 15G insecticide at 12 lb product/A was applied modified in-furrow at planting. Herbicide treatments were applied June 3, June 12, June 18 and June 24 in 17 gpa water at 40 psi through 8002 nozzles to the center 6.67 feet of 11 foot wide plots. Sugarbeet injury and redroot pigweed and prostrate pigweed, oats, wheat, foxtail millet, corn and soybean control were evaluated July 4. Corn and redroot pigweed control were evaluated July 19.

Date of Application	May 28	June 4	June 12	
Time of Day	1:15 pm	9:50 am		June 18
Air Temperature (°F)			11:00 am	3:00 pm
	60	62	72	86
Relative Humidity (%)	34	52	52	40
Soil Temp. (°F at 6")	55	61	61	80
Wind Velocity (mph)	12	8	14	4
Cloud Cover (%)	90	20	80	100
Soil Moisture	fair	good	good	good
Sugarbeet	cot-2 leaf	4 leaf	4-6 leaf	6-8 leaf
Corn	1-21f(2-3")	3-5" tall	4-7" tall	6-10" tall
Oats	1 leaf(2-3")	5-7" tall	6-8" tall	8-10" tall
Wheat	1-2 lf(3-4")	4-6" tall	5-8" tall	8-10" tall
Foxtail Millet	emerg-0.5"	0.5-1" tall	1-2" tall	1-3" tall
Redroot Pigweed	cot-1 leaf	2-8 leaf	21f-1.5"tall	2-5" tall
Prostrate Pigweed	cot-2 leaf	4-8 leaf	21f-2"diam.	1-4" diam.
Soybean	cotyledon	2 leaf	1 st trifol.	2 nd trifol.

Summary

V-10117 gave grass control similar to clethodim when used with the microrate and oil adjuvant. V-10117 gave less grass control than clethodim when used with conventional rates of herbicides and no oil adjuvant. The conventional rate with clethodim at 0.03 lb/A applied three times gave less corn control than the micro-rate with clethodim and Scoil applied four times. The micro-rate with sethoxydim and the best adjuvants gave better control of corn than the micro-rate with sethoxydim plus Sub4+3 plus Sub4MSO at 1% or at 1% twice and 1.5% twice; Base; Rivet; or AG01023. The micro-rate plus Z64 caused more sugarbeet injury than the micro-rate with other adjuvants. The conventional rate plus MSO gave more sugarbeet injury and greater corn control than the conventional rate without an adjuvant.

Experiment continued on next page.

						Tuller	1			.Trals	7 19
				Prpw		July	4				1 1 3
	(Date of		Sgbt	Rrpw	Oats	Wht	Fxmi	Corn	Soyb	Corn	Rrpw
Treatment*	Application)	Rate	inj		cntl						
		lb/A	ક	olo	િલ	olo	8	90	olo	ob Ob	용
Desm&Phen+Tfsu+C	lpy+Clet+Scoil	Tuno 10)									
(May 28, J	une 4, June 12, 0.08+0.004+0.	03+0.03+1.5%	13	99	100	100	100	100	100	100	100
Desm&Phen+Tfsu+C											
	e 4, June 12, Ju	ne 18)			-222	1.00	100	0.0	1.00	100	0.0
	0.08+0.004+0.0		15	96	100	100	100	99	100	100	98
Desm&Phen+Tfsu+C	lpy+Clet (May	28) 8+0.047+0.03									
Desm&Phen+Tfsu	+Clpy+Clet (June										
DCDING LITTER L	0.33+0.00	8+0.047+0.03									
Desm&Phen+Tfsu	+Clpy+Clet (June	12)	0.0	100	0.0	100	100	79	100	61	96
		8+0.047+0.03	20	100	98	100	100	19	100	01	20
Desm&Phen+Tfsu+C		ay 28) +0.047+0.028									
Desm&Phen+Tfsu	+Clpy+V-10117 (J										
	0.33+0.008	+0.047+0.028									
Desm&Phen+Tfsu	+Clpy+V-10117 (J	une 12)	21	100	97	99	100	69	100	50	98
~1 11 12 1		+0.047+0.028	0	0	100	100	100	100	0	100	0
Clethodim+Scoil V-10117+Scoil	(June 12) (June 12)	0.088+1.5%	0	0	100	100	100	100	0	100	0
Sethoxydim+Scoil		0.18+1.5%	0	0	98	98	100	100	0	99	0
Quizalofop+Scoil		0.055+1.5%	0	0	100	100	100	100	0	100	0
Desm&Phen+Tfsu+C											
Desm&Phen+Tfsu	+Clpy (June 4)										
		+0.008+0.047									
Desm&Phen+Tisu	u+Clpy+Clet (June 0.5+0.008	3+0.047+0.094	21	97	96	100	100	68	100	53	97
Desm&Phen+Tfsu+C											
	0.25	5+0.008+0.047									
Desm&Phen+Tfsu	1+Clpy (June 4)	0.0 00010 047									
Dogm (Dhon+Tfs)	0.33 1+Clpy+V-10117 (3	3+0.008+0.047									
Desmarmenting	0.5+0.008	3+0.047+0.088	20	98	95	99	100	65	100	43	95
Desm&Phen+Tfsu+C	Clpy+Seth+Scoil										
(May 28, Jur	ne 4, June 12, Ju	ine 18)	15	99	100	100	100	100	100	98	97
D cDb + m6 + 0	0.08+0.004+0		13	99	100	100	100	100			
(May 28. Jur	Clpy+Seth+Quad7+S ne 4, June 12, Ju	ne 18)									
	3+0.004+0.03+0.00		18	100	100	100	100	99	100	98	98
De&Ph+Tfsu+Clpy-	+Seth+Sub4+3+Sub4	MSO									
(May 28, Jur	ne 4, June 12, Ju	ine 18)	10	0.5	99	100	100	95	100	88	96
	0.08+0.004+0.03+0		18	95	99	100	100	- 55	100	00	
Desm&Phen+Tisu+C	Clpy+Seth+Sub4+3- ne 4, June 12, Ju	ine 18)									
	08+0.004+0.03+0.		14	98	99	100	100	96	100	91	97
Desm&Phen+Tfsu+C	Clpy+Seth+Sub4+3	+Sub4MSO									
	(May 28, June 4)	0 06.0 120.110									
	0.08+0.004+0.03+ Clpy+Seth+Sub4+3										
	(June 12, June 1										
0.	08+0.004+0.03+0.	06+0.13%+1.5%	15	96	98	100	100	93	100	88	96
Desm&Phen+Tfsu+	Clpy+Seth+Destin	У1.0.									
(May 28,	June 4, June 12,	June 18) .03+0.06+1.5%	15	97	100	100	100	99	100	96	5 99
	0.00+0.004+0	.0310.0011.38	10								
Constitution of the											

				July	4			Jul	y 19
(Data of	200	Prpw							
(Date of Treatment* Application) Rate		Rrpw			Fxmi	Corn	Soyb	Corn	Rrpw
	inj			cntl				cntl	cntl
lb/A Desm&Phen+Tfsu+Clpy+Seth+Base	ojo	90	용	90	ଚ୍ଚ	용	용	90	olo
(May 28, June 4, June 12, June 18)									
0.08+0.004+0.03+0.06+1.5%	10	0.0	0.0		0.00	-			
Desm&Phen+Tfsu+Clpy+Seth+MSO	13	98	99	100	100	97	100	90	95
(May 28, June 4, June 12, June 18)									
(May 20, June 4, June 12, June 18)									
0.08+0.004+0.03+0.06+1.5% Desm&Phen+Tfsu+Clpy+Seth+Z64	13	98	100	100	100	99	100	98	98
(May 28, June 4, June 12, June 18)									
0.08+0.004+0.03+0.06+1.5%	31	99	100	100	100	99	100	96	99
Desm&Phen+Tfsu+Clpy+Clet+Z64									
(May 28, June 4, June 12, June 18)									
0.08+0.004+0.03+0.03+1.5%	28	98	100	100	100	100	100	100	97
Desm&Phen+Tfsu+Clpy+V-10117+Z64									
(May 28, June 4, June 12, June 18)									
0.08+0.004+0.03+0.028+1.5%	31	98	100	100	100	100	100	100	97
Desm&Phen+Tfsu+Clpy+Qufp+Z64									
(May 28, June 4, June 12, June 18)									
0.08+0.004+0.03+0.028+1.5%	24	96	100	100	100	99	100	99	91
Desm&Phen+Tfsu+Clpy+Qufp+Base									
(May 28, June 4, June 12, June 18)									
0.08+0.004+0.03+0.028+1.5%	15	98	100	100	100	100	100	100	100
Desm&Phen+Tfsu+Clpy+Qufp+MSO								100	100
(May 28, June 4, June 12, June 18)									
0.08+0.004+0.03+0.028+1.5%	16	97	100	100	100	100	100	100	98
Desm&Phen+Tfsu+Clpy+Clet+MSO (May 28)							100	100	
0.25+0.008+0.047+0.03+1.5%									
Desm&Phen+Tfsu+Clpy+Clet+MSO (June 4)									
0.33+0.008+0.047+0.03+1.5%									
Desm&Phen+Tfsu+Clpy+Clet+MSO (June 12)									
0.5+0.008+0.047+0.03+1.5%	36	99	100	100	100	100	100	100	96
Desm&Phen+Tfsu+Clpy+Clet+V-10073 (May 28)									
0.25+0.008+0.047+0.03+0.047G									
Desm&Phen+Tfsu+Clpy+Clet+V-10073 (June 4)									
0.33+0.008+0.047+0.03+0.047G									
Desm&Phen+Tfsu+Clpy+Clet+V-10073 (June 12)									
0.5+0.008+0.047+0.03+0.047G	20	95	99	100	100	95	100	88	98
Desm&Phen+Tfsu+Clpy+Seth+Rivet									
(May 28, June 4, June 12, June 18)									
0.08+0.004+0.03+0.06+0.5%	11	98	98	100	100	96	100	90	98
Desm&Phen+Tfsu+Clpy+Seth+AG01023									
(May 28, June 4, June 12, June 18)									
0.08+0.004+0.03+0.06+0.5%	9	96	98	100	100	93	100	87	99
EVD MEAN									
EXP MEAN C.V. %	16	84	99	100	100	94	86	90	83
LSD 5%	31	3	2	1	0	4	0	8	4
LSD 18	7	3	3	1	0	5	NS	10	5
# OF REPS	9	4	3	NS	0	7	NS	14	6
*Scoil=methylated seed oil from AGSCO: V-1011	4	4	4	4	4	4	4	4	4

^{*}Scoil=methylated seed oil from AGSCO; V-10117=1.88 lb/gal formulation of clethodim from Valent; Quad 7=basic blend adjuvant from Agsco; Sub4+3=spray adjuvant plus pH modifier from CropSpray; Sub4MSO=methylated seed oil from CropSpray; Destiny=methylated seed oil from Agriliance; Base=methylated seed oil basic blend from West Central; MSO=methylated seed oil from Loveland; Z64=methylated seed oil basic blend from AGSCO; V-10073=experimental adjuvant from Valent; Rivet=methylated seed oil plus organosilicone surfactant from Agriliance; AG01023=experimental adjuvant from Agriliance.

Grass control experiment, Fargo, 2002. (Dexter) 'Youngs' oats at 54 lb/A, 'Oxen' wheat at 92 lb/A, Siberian red foxtail millet at 27 lb/A and 'Novartis N2555 BT' corn were seeded in 4 foot wide strips across herbicide plots May 7. 'Crystal 999' sugarbeet was seeded in six 22 inch rows across the herbicide plots May 7. Herbicide treatments were applied May 28, June 4, June 12 and June 18 in 17 gpa water at 40 psi through 8002 nozzles to the center 6.67 feet of 11 foot wide plots. Sugarbeet injury and wheat, oats, wild buckwheat, foxtail millet, corn, redroot pigweed and Pennsylvania smartweed control were evaluated June 28.

Date of Application	May 28	June 4	June 12	June 18
Time of Day	11:30 am	9:30 am	5:00 pm	1:30 pm
Air Temperature (°F)	76	63	70	83
Relative Humidity (%)	44	37	35	61
Soil Temp. (°F at 6")	60	57	67	69
Wind Velocity (mph)	11	4	14	11
Cloud Cover (%)	0	30	100	60
Soil Moisture	good	good	good	good
Sugarbeet	cot-2 leaf	2-4 leaf	4-6 leaf	6-10 leaf
Corn	emerging	2 leaf(3-4")	5-8" tall	5-9" tall
Oats	1 leaf(3-4")	2-3 lf(4-6")	7-9" tall	8-10" tall
Wheat	1 leaf(3-4")	2-3 lf(4-6")	7-9" tall	8-10" tall
Foxtail Millet	0.5" tall	2 leaf(2")	3-6" tall	4-7" tall
Redroot Pigweed	cotyledon	cot-2 leaf	2 lf-1" tall	2 lf-3" tall
Pennsylvania Smartweed	cot-2 leaf	2-4 leaf	2-3" tall	2-6" tall
Wild Buckwheat	cot-1 leaf	cot-2 leaf	2-3" tall	2-5" tall

Summary

V-10117 gave grass control similar to clethodim when used with the microrate and oil adjuvant. V-10117 gave less grass control than clethodim when used with conventional rates of herbicides and no oil adjuvant. Clethodim at 0.03 lb/A applied three times with the conventional rate gave less grass control than 0.09 lb/A applied once in the third application. The micro-rate with sethoxydim plus Sub4MSO; the micro-rate with sethoxydim plus Base; the micro-rate with sethoxydim plus Rivet; and the micro-rate with sethoxydim plus AG01023 gave less control of wheat or oats than the micro-rate with sethoxydim plus Quad 7 plus Scoil. Other tested adjuvants gave grass control similar to Quad 7 plus Scoil. The micro-rate with sethoxydim plus Z64 caused more sugarbeet injury than the same treatment with several of the other adjuvants. The conventional rate plus MSO gave more sugarbeet injury and better control of grass and Pennsylvania smartweed than the same treatment without MSO. The conventional rate with clethodim at 0.03 lb/A applied three times gave less control of grass and Pennsylvania smartweed than the micro-rate with clethodim and Scoil applied four times.

Experiment continued on next page.

Grass control experiment, Fargo, 2002. (continued)

(Date of Treatment* Application) Rate	Sgbt		Oats cntl					
1b/A	%	8	e circi	8	% CITCI	% CITCI	% CITCI	ent1
Desm&Phen+Tfsu+Clpy+Clet+Scoil					Ü	U		O
(May 28, June 4, June 12, June 18)								
0.08+0.004+0.03+0.03+1.5%	6	100	100	99	100	100	99	99
Desm&Phen+Tfsu+Clpy+V-10117+Scoil (May 28, June 4, June 12, June 18)								
0.08+0.004+0.03+0.028+1.5%	10	100	100	100	100	100	98	99
Desm&Phen+Tfsu+Clpy+Clet (May 28)	10	100	100	100	100	100	90	99
0.25+0.008+0.047+0.03								
Desm&Phen+Tfsu+Clpy+Clet (June 4)								
0.33+0.008+0.047+0.03 Desm&Phen+Tfsu+Clpy+Clet (June 12)								
0.5+0.008+0.047+0.03	25	70	81	98	99	EO	07	0.0
Desm&Phen+Tfsu+Clpy+V-10117 (May 28)		70	0.1	90	99	50	97	89
0.25+0.008+0.047+0.028								
Desm&Phen+Tfsu+Clpy+V-10117 (June 4)								
0.33+0.008+0.047+0.028								
Desm&Phen+Tfsu+Clpy+V-10117 (June 12)0.5+0.008+0.047+0.028	10	42	7.0	0.0	0.0	F.0	0.5	
Clethodim+Scoil (June 12) 0.094+1.5%	18	100	70 100	98	99	50	97	88
V-10117+Scoil (June 12) 0.088+1.5%	0	100	100	0	100	100	0	0
Sethoxydim+Scoil (June 12) 0.18+1.5%	0	98	100	0	100	100	0	0
Quizalofop+Scoil (June 12) 0.055+1.5%	0	100	100	0	100	100	0	0
Desm&Phen+Tfsu+Clpy (May 28) 0.25+0.008+0.047		100	100	0	100	100	0	0
Desm&Phen+Tfsu+Clpy (June 4) 0.33+0.008+0.047								
Desm&Phen+Tfsu+Clpy+Clet (June 12)								
0.5+0.008+0.047+0.094	14	80	91	96	100	88	99	88
Desm&Phen+Tfsu+Clpy (May 28) 0.25+0.008+0.047 Desm&Phen+Tfsu+Clpy (June 4) 0.33+0.008+0.047								
Desm&Phen+Tfsu+Clpy+V-10117 (June 12)								
0.5+0.008+0.047+0.088	19	80	93	95	100	82	99	90
Desm&Phen+Tfsu+Clpy+Seth+Scoil								
(May 28, June 4, June 12, June 18)								
0.08+0.004+0.03+0.06+1.5%	9	96	100	100	100	100	100	99
Desm&Phen+Tfsu+Clpy+Seth+Quad7+Scoil (May 28, June 4, June 12, June 18)								
0.08+0.004+0.03+0.06+0.75%+0.75%	19	99	100	99	100	100	100	0.0
De&Ph+Tfsu+Clpy+Seth+Sub4+3+Sub4MSO	13		100	33	100	100	100	99
(May 28, June 4, June 12, June 18)								
0.08+0.004+0.03+0.06+0.13%+1%	8	90	98	95	100	98	97	96
Desm&Phen+Tfsu+Clpy+Seth+Sub4+3+Sub4MSO								
(May 28, June 4, June 12, June 18) 0.08+0.004+0.03+0.06+0.13%+1.5%	11	0.5	100	0.0	100			
Desm&Phen+Tfsu+Clpy+Seth+Sub4+3+Sub4MSO	11	95	100	99	100	99	99	98
(May 28, June 4)								
0.08+0.004+0.03+0.06+0.13%+1%								
Desm&Phen+Tfsu+Clpy+Seth+Sub4+3+Sub4MSO								
(June 12, June 18)								
0.08+0.004+0.03+0.06+0.13%+1.5% Desm&Phen+Tfsu+Clpy+Seth+Destiny	8	91	96	99	100	98	98	97
(May 28, June 4, June 12, June 18)								
0.08+0.004+0.03+0.06+1.5%	9	99	100	100	100	100	98	99
0.00+0.004+0.03+0.00+1.38	_		-00	100	100	100	20	23
Desm&Phen+Tfsu+Clpy+Seth+Base								

Grass control experiment, Fargo, 2002. (continued)

(Date of	Sgbt		Oats				-	
Treatment* Application) Rate	inj	cntl						
lb/A	8	ક	ક	ે	용	용	용	ક
Desm&Phen+Tfsu+Clpy+Seth+MSO								
(May 28, June 4, June 12, June 18)								
0.08+0.004+0.03+0.06+1.5%	11	100	100	99	100	100	99	99
Desm&Phen+Tfsu+Clpy+Seth+Z64								
(May 28, June 4, June 12, June 18)								
0.08+0.004+0.03+0.06+1.5%	29	100	100	100	100	100	100	100
Desm&Phen+Tfsu+Clpy+Clet+Z64								
(May 28, June 4, June 12, June 18)								
0.08+0.004+0.03+0.03+1.5%	19	100	100	100	100	100	100	99
Desm&Phen+Tfsu+Clpy+V-10117+Z64								
(May 28, June 4, June 12, June 18)								
0.08+0.004+0.03+0.028+1.5%	26	100	100	100	100	100	100	100
Desm&Phen+Tfsu+Clpy+Qufp+Z64								
(May 28, June 4, June 12, June 18)								
0.08+0.004+0.03+0.028+1.5%	29	100	100	99	100	100	99	99
Desm&Phen+Tfsu+Clpy+Qufp+Base								
(May 28, June 4, June 12, June 18)								
0.08+0.004+0.03+0.028+1.5%	13	99	100	93	100	100	99	97
Desm&Phen+Tfsu+Clpy+Qufp+MSO (May 29 June 4 June 12 June 18)								
(May 28, June 4, June 12, June 18) 0.08+0.004+0.03+0.028+1.5%	13	100	100	100	100	100	99	98
		100	100	100	100	100		
Desm&Phen+Tfsu+Clpy+Clet+MSO (May 28) 0.25+0.008+0.047+0.03+1.5%								
Desm&Phen+Tfsu+Clpy+Clet+MSO (June 4)								
0.33+0.008+0.047+0.03+1.5%								
Desm&Phen+Tfsu+Clpy+Clet+MSO (June 12)								
0.5+0.008+0.047+0.03+1.5%	40	100	100	100	100	99	95	99
Desm&Phen+Tfsu+Clpy+Clet+V-10073 (May 28)								
0.25+0.008+0.047+0.03+0.047G								
Desm&Phen+Tfsu+Clpy+Clet+V-10073 (June 4)								
0.33+0.008+0.047+0.03+0.047G								
Desm&Phen+Tfsu+Clpy+Clet+V-10073 (June 12)								
0.5+0.008+0.047+0.03+0.047G	28	91	99	99	100	96	93	94
Desm&Phen+Tfsu+Clpy+Seth+Rivet								
(May 28, June 4, June 12, June 18)								
0.08+0.004+0.03+0.06+0.5%	11	91	98	86	100	98	98	94
Desm&Phen+Tfsu+Clpy+Seth+AG01023								
(May 28, June 4, June 12, June 18)								
0.08+0.004+0.03+0.06+0.5%	13	86	93	95	100	95	98	98
EXP MEAN	14	93	97	84	100	95	84	83
C.V. %	56	4	3	4	0	3	2	5
LSD 5%	11	6	4	5	0	4	3	5
LSD 1%	15	8	5	6	NS	5	4	7
# OF REPS	4	4	4	4	4	4	4	4

^{*}Scoil=methylated seed oil from AGSCO; V-10117=1.88 lb/gal formulation of clethodim from Valent; Quad 7=basic blend adjuvant from Agsco; Sub4+3=spray adjuvant plus pH modifier from CropSpray; Sub4MSO=methylated seed oil from CropSpray; Destiny=methylated seed oil from Agriliance; Base=methylated seed oil basic blend from West Central; MSO=methylated seed oil from Loveland; Z64=methylated seed oil basic blend from AGSCO; V-10073=experimental adjuvant from Valent; Rivet=methylated seed oil plus organosilicone surfactant from Agriliance; AG01023=experimental adjuvant from Agriliance.

Grass control experiment, combined over the Crookston and Fargo locations, 2002. (Dexter)

	(Date of		Wheat	0-+-	Foxtail	0
Treatment*	Application)	Rate	control	Oats control	Millet control	Corn
		lb/A	%	8		control
Desm&Phen+Tfsu	+Clpy+Clet+Scoil	ID/ A	•	6	olo	%
	Time 2, Time 3, Time	4)				
	0.08+0.004+0.03+		100	100	100	100
	+Clpy+V-10117+Scoil					
(Time 1, T	ime 2, Time 3, Time 4					
	0.08+0.004+0.03+0	.028+1.5%	100	100	100	100
Desm&Phen+Tfsu						
D CD1	0.25+0.008+0	.047+0.03				
Desmarnen+TI	su+Clpy+Clet (Time 2)	0.47.0.00				
Desm&Phen+Tf	0.33+0.008+0 su+Clpy+Clet (Time 3)	.04/+0.03				
Dobmur Hell (11	0.5+0.008+0	047+0 03	85	90	100	F.C
Desm&Phen+Tfsu	+Clpy+V-10117 (Time	1)	0.5	90	100	56
	0.25+0.008+0.					
Desm&Phen+Tf	su+Clpy+V-10117 (Time					
	0.33+0.008+0.	047+0.028				
Desm&Phen+Tf	su+Clpy+V-10117 (Time					
	0.5+0.008+0.	047+0.028	71	84	100	50
Clethodim+Scoi		094+1.5%	100	100	100	100
V-10117+Scoil		088+1.5%	100	100	100	100
Sethoxydim+Sco		.18+1.5%	98	99	100	99
Quizalofop+Sco		055+1.5%	100	100	100	100
Desm&Phen+Tfsu	+Clpy (Time 1)0.25+0.	008+0.047				
Desm&Phen+Tf	su+Clpy (Time 2)					
DogmanDhanime		008+0.047				
Desmarhentil	su+Clpy+Clet (Time 3) 0.5+0.008+0.	047+0 004	0.0	0.2	100	
Desm&Phen+Tfsu		047+0.094	90	93	100	70
		008+0.047				
Desm&Phen+Tf	su+Clpy (Time 2)	000.01017				
	0.33+0.	008+0.047				
Desm&Phen+Tf	su+Clpy+V-10117 (Time					
	0.5+0.008+0.	047+0.088	90	94	100	62
	+Clpy+Seth+Scoil					
(Time 1, T	ime 2, Time 3, Time 4)				
Do am C Dh an I M C	0.08+0.004+0.03+		98	100	100	99
	+Clpy+Seth+Quad7+Scoi ime 2, Time 3, Time 4					
	08+0.004+0.03+0.06+0.		100	100	100	
	y+Seth+Sub4+3+Sub4MSO		100	100	100	99
(Time 1. T	ime 2, Time 3, Time 4	1				
	0.08+0.004+0.03+0.06	/ +0.13%+1%	95	98	100	93
Desm&Phen+Tfsu	+Clpy+Seth+Sub4+3+Sub	4MSO		20	100	93
(Time 1, T	ime 2, Time 3, Time 4)				
	.08+0.004+0.03+0.06+0		97	99	100	95
	+Clpy+Seth+Sub4+3+Sub				200	
	(Time 1, Time 2)					
	0.08+0.004+0.03+0.06	+0.13%+1%				
Desm&Phen+Tfsu	+Clpy+Seth+Sub4+3+Sub	4MSO				
0	(Time 3, Time 4)	100.1				
	.08+0.004+0.03+0.06+0	.13%+1.5%	96	97	100	93
	+Clpy+Seth+Destiny	4.)				
(11me 1,	Time 2, Time 3, Time 0.08+0.004+0.03+		100	100	100	98
	U O U U O U U T U O U T T					

Grass control experiment, combined over the Crookston and Fargo locations, 2002.

(continued)					
			0.1	Foxtail	G
	(Date of	Wheat	Oats	Millet	Corn
reatment*	Application) Rate	control	control	control	control
	lb/A	8	8	ଚ	용
	+Clpy+Seth+Base				
(Time 1,	Time 2, Time 3, Time 4)	0.5	0.7	100	0.4
	0.08+0.004+0.03+0.06+1.5%	95	97	100	94
	+Clpy+Seth+MSO				
(Time 1,	Time 2, Time 3, Time 4)		September 1		0.0
	0.08+0.004+0.03+0.06+1.5%	100	100	100	99
	+Clpy+Seth+Z64				
(Time 1,	Time 2, Time 3, Time 4)				
	0.08+0.004+0.03+0.06+1.5%	100	100	100	98
esm&Phen+Tfsu	+Clpy+Clet+Z64				
(Time 1,	Time 2, Time 3, Time 4)				
	0.08+0.004+0.03+0.03+1.5%	100	100	100	100
esm&Phen+Tfsu	+Clpy+V-10117+Z64				
(Time 1,	Time 2, Time 3, Time 4)				
	0.08+0.004+0.03+0.028+1.5%	100	100	100	100
Desm&Phen+Tfsu	+Clpy+Qufp+Z64				
(Time 1,	Time 2, Time 3, Time 4)				
	0.08+0.004+0.03+0.028+1.5%	100	100	100	99
Desm&Phen+Tfsu	+Clpy+Qufp+Base				
	Time 2, Time 3, Time 4)				
	0.08+0.004+0.03+0.028+1.5%	100	100	100	100
Desm&Phen+Tfsu	+Clpy+Qufp+MSO				
	Time 2, Time 3, Time 4)				
	0.08+0.004+0.03+0.028+1.5%	100	100	100	100
Desm&Phen+Tfsu	+Clpy+Clet+MSO (Time 1)				
	0.25+0.008+0.047+0.03+1.5%				
Desm&Phen+Tf	su+Clpy+Clet+MSO (Time 2)				
	0.33+0.008+0.047+0.03+1.5%				
Desm&Phen+Tf	su+Clpy+Clet+MSO (Time 3)				
	0.5+0.008+0.047+0.03+1.5%	100	100	100	99
Desm&Phen+Tfsu	+Clpy+Clet+V-10073 (Time 1)				
	0.25+0.008+0.047+0.03+0.047G				
Desm&Phen+Tf	su+Clpy+Clet+V-10073 (Time 2)				
	0.33+0.008+0.047+0.03+0.047G				
Desm&Phen+Tf	su+Clpy+Clet+V-10073 (Time 3)				
	0.5+0.008+0.047+0.03+0.047G	96	99	100	92
	+Clpy+Seth+Rivet				
(Time 1,	Time 2, Time 3, Time 4)				
	0.08+0.004+0.03+0.06+0.5%	95	98	100	94
	+Clpy+Seth+AG01023				
(Time 1,	Time 2, Time 3, Time 4)				
	0.08+0.004+0.03+0.06+0.5%	93	96	100	91
		0.6	0.0	100	92
EXP MEAN		96	98	100	8
C.V. %		7	4	0	7
LSD 5%		9	4 5	0	10
LSD 1%		8	8	8	8
# OF REPS	tod good oil from AGSCO: V-1011				

^{*}Scoil=methylated seed oil from AGSCO; V-10117=1.88 lb/gal formulation of clethodim from Valent; Quad 7=basic blend adjuvant from Agsco; Sub4+3=spray adjuvant plus pH modifier from CropSpray; Sub4MSO=methylated seed oil from CropSpray; Destiny=methylated seed oil from Agriliance; Base=methylated seed oil basic blend from West Central; MSO=methylated seed oil from Loveland; Z64=methylated seed oil basic blend from AGSCO; V-10073=experimental adjuvant from Valent; Rivet=methylated seed oil plus organosilicone surfactant from Agriliance; AG01023=experimental adjuvant from Agriliance.

treatments were applied october 22, 2001 when the air temperature was 63F, soil temperature at six inches was 48F, relative humidity was 47%, wind velocity was 21 mph, cloud cover was 100% and soil moisture was good. EPTC+cycloate was incorporated with a rototiller set 4 inches deep and other preplant incorporated herbicides were incorporated with a rototiller set 2 inches deep. Spring herbicide treatments were applied and incorporated 1:00 pm April 26, 2002 when the air temperature was 44F, soil temperature at six inches was 33F, relative humidity was 9%, wind velocity was 7 mph, cloud cover was 10% and soil moisture was good. All herbicides were applied in 17 gpa water at 40 psi through 8002 nozzles to the center 6.67 feet of 11 foot wide plots. Spring tillage was one pass over the entire plot area with a field cultivator with rolling baskets April 26, 2002 after herbicides were applied. 'Beta 2088' sugarbeet was seeded 1.25 inches deep in 22 inch rows April 26, 2002. Sugarbeet injury and yellow foxtail, Pennsylvania smartweed and redroot pigweed control were evaluated June 26.

	Time of		Sgbt	Yeft	Decre	
Treatment (Trade Name)	Application	Rate	inj	cntl	Pesw	Rrpw
					cntl	cntl
		lb/A	96	િ	%	96
Flumioxazin (Valor) PRE	Fall	0.047	0	_		
Flumioxazin (Valor) PRE	Fall		0	5	8	5
Flumioxazin (Valor) PRE		0.063	0	5	15	3
	Fall	0.078	0	10	18	5
Flumioxazin (Valor) PRE	Fall	0.094	0	8	45	18
EPTC+Cycl (Eptam+Ro-Neet) PPI	Fall	2+2	0	61	43	55
S-Metolachlor (DualII Mag) PPI		2	0	58	39	60
S-Metolachlor (DualII Mag) PRE	Fall	2	0	20	29	22
Dimethenamid-P (Outlook) PPI	Fall	1	5	63	70	
Dimethenamid-P (Outlook) PRE	Fall	1	0			59
EPTC+Cycl (Eptam+Ro-Neet) PPI	Spring			48	58	64
S-Metolachlor (DualII Mag) PPI		2+2	10	96	81	81
Dimethenamid-P (Outlook) PPI	Spring	2	5	80	63	87
Dimethenamid-b (Outlook) bbl	Spring	1	21	92	92	96
EXP MEAN						
			3	45	47	46
C.V. %			90	36	4.4	51
LSD 5%			4	23	30	34
LSD 1%			6	31		
# OF REPS					40	45
			4	4	4	4

Summary

Fall-applied flumioxazin had little phytotoxicity in the spring. Fall-applied EPTC + cycloate, s-metolachlor and dimethenamid-P generally gave less weed control than the same herbicides applied in the spring. Incorporated s-metolachlor gave better weed control than non-incorporated s-metolachlor when fall applied. Dimethenamid-P caused more sugarbeet injury than s-metolachlor or EPTC + cycloate with spring PPI application.

New formulations of sugarbeet herbicides, Crookston, 2002. (Dexter) 'Crystal 999' sugarbeet was seeded 1.25 inches deep in 22 inch rows May 14. Counter 15G insecticide at 12 lb product/A was applied modified in-furrow at planting. Herbicide treatments were applied June 3, June 12 and June 18. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center four rows of six row plots. Sugarbeet injury, common lambsquarters and redroot and prostrate pigweed control were evaluated July 1. Redroot pigweed control was evaluated July 19.

Date of Application	June 3	June 12	June 18
Time of Day	1:15 pm	9:30 am	11:00 am
Air Temp. (°F)	60	62	72
Relative Humidity (%)	34	52	52
Soil Temp. (°F at 6")	55	61	61
Wind Velocity (mph)	12	8	14
Cloud Cover (%)	90	20	80
Soil Moisture	fair	good	good
Sugarbeet Stage	cot-2 leaf	4 leaf	4-6leaf
Redroot pigweed	cot-1 leaf	2-8 leaf	2 leaf-1.5"
Prostrate Pigweed	cot-2 leaf	4-8 leaf	21f-2"diameter
Common lambsquarters	2-6 leaf	4 leaf-1.5"	1-2" tall

			July 1		July19
				Prpw	
		Sgbt	Colq	Rrpw	Rrpw
Treatment	Rate	inj	cntl	cntl	cntl
TI Ca cincite	lb/A	%	용	ું	્ર
AE49913/AE49913/AE49913 ¹	0.25/0.33/0.33	11	100	99	91
De&Ph&Et/De&Ph&Et/De&Ph&Et	0.25/0.33/0.33	9	98	97	93
AE49913+Tfsu+Clpy+MSO ² (4X)	0.08+0.004+0.03+1.5%	13	100	100	98
De&Ph&Et+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	13	100	99	96
AE38584/AE38584/AE38584 ³	0.25/0.33/0.33	13	100	93	61
Desm&Phen/Desm&Phen/Desm&Phen	0.25/0.33/0.33	13	100	92	66
AE38584+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	8	100	100	95
Desm&Phen+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	11	100	100	97
AE38107/AE38107/AE38107 ⁴	0.25/0.33/0.33	13	100	94	63
Desmedipham/Desmedipham/Desmip	ham 0.25/0.33/0.33	15	98	93	66
AE38107+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	14	100	100	96
Desm+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	14	100	100	97
WC027/WC027/WC027 ⁵	0.25/0.33/0.33	3	100	94	61
WC027+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	14	100	100	96
$WC027+Tfsu+WC029^6+MSO$ (4X)	0.08+0.004+0.03+1.5%	19	100	100	93
WC028/WC028/WC028 ⁷	0.25/0.33/0.33	1	100	94	64
WC028+Tfsu+WC029+MSO (4X)	0.08+0.004+0.03+1.5%	15	100	99	92
Untreated Check	0	0	0	0	0
EXP MEAN		11	94	92	79
C.V. %		57	1	3	6
LSD 5%		9	1	4	7
LSD 1%		12	2	5	9
# OF REPS		4	3	4	4

¹AE49913=1.6lb/gal formulation of desmedipham+phenmedipham+ethofumesate from Bayer.

²MSO=methylated seed oil from Loveland.

³AE38584=2.67 lb/gal formulation of desmedipham+phenmedipham from Bayer.

⁴AE38107=2.67 lb/gal formulation of desmedipham from Bayer.

⁵WC027=1.3 lb/gal formulation of desmedipham+phenmedipham from Ag Value.

⁶WC029=3 lb/gal formulation of clopyralid from Ag Value.

⁷WC028=1.3 lb/gal formulation of desmedipham from Ag Value.

SUMMARY: WC027 at 0.25/0.33/0.33 lb/A gave less sugarbeet injury than desmedipham & phenmedipham at the same rate. WC028 at 0.25/0.33/0.33 lb/A gave less sugarbeet injury than desmedipham at the same rate.

New formulations of sugarbeet herbicides, Fargo, 2002. (Dexter) 'Beta 2088' sugarbeet was seeded 1.25 inches deep in 22 inch rows April 26. Herbicide treatments were applied May 28, June 4, June 12 and June 18. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center four rows of six row plots. Sugarbeet injury and redroot pigweed, Pennsylvania smartweed, volunteer wheat and common lambsquarters control were evaluated June 28.

Date of Application	May 28	June 4	June 12	Tune 10
Time of Day	11:30 am	9:30 am		June 18
Air Temp. (°F)	76		5:00 pm	1:30 pm
		63	70	83
Relative Humidity (%)	40	37	35	61
Soil Temp. (°F at 6")	60	57	67	69
Wind Velocity (mph)	11	4	14	11
Cloud Cover (%)	0	30	100	60
Soil Moisture	good	good	good	good
Sugarbeet Stage	cot-2 leaf	2-4 leaf	4-6 leaf	
Redroot pigweed	cot-1 leaf			6-10 leaf
		cot-2 leaf	2 leaf-1"	2 leaf-3"
Pennsylvania smartweed	cot-2 leaf	2-4 leaf	2-3" tall	2-6" tall
Volunteer wheat	1-21f (2-4")	4-6" tall	7-9" tall	10" tall
Common lambsquarters	cot-2 leaf	cot-6 leaf	6 leaf-2"	2-4" tall

Treatment		Sgbt	Rrpw	Pesw	Vowh	Colq
11 Cacinett	Rate	inj	cntl	cntl	cntl	cntl
	lb/A	90	olo	olo	용	olo
AE49913/AE49913/AE49913 ¹	0.05/0.00/0.00					
De&Ph&Et/De&Ph&Et/De&Ph&Et	0.25/0.33/0.33	0	95	76	45	100
AE49913+Tfsu+Clpy+MSO ² (4X)	0.25/0.33/0.33	0	93	76	58	100
Desphert Team Clare Mac (4x)	0.08+0.004+0.03+1.5%	0	100	100	94	100
De&Ph&Et+Tfsu+Clpy+MSO (4X) AE38584/AE38584/AE38584 ³	0.08+0.004+0.03+1.5%	0	100	100	97	100
Dosmi Phon / Dosmi	0.25/0.33/0.33	0	94	56	38	100
Desm&Phen/Desm&Phen/Desm&Phen	0.25/0.33/0.33	0	94	59	53	100
AE38584+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	0	99	99	96	100
Desm&Phen+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	0	100	100	97	100
AE38107/AE38107 ⁴	0.25/0.33/0.33	0	95	28	34	98
Desmedipham/Desmedipham/Desmip		0	99	30	38	98
AE38107+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	0	100	100	97	98
Desm+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	0	100	99	96	98
WC027/WC027/WC027 ⁵	0.25/0.33/0.33	0	84	36	33	90
WC027+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	0	99	100	97	100
WC027+Tfsu+WC029 ⁶ +MSO (4X)	0.08+0.004+0.03+1.5%	0	100	100	98	100
WC028/WC028/WC028 ⁷	0.25/0.33/0.33	0	100	49	43	100
WC028+Tfsu+WC029+MSO (4X)	0.08+0.004+0.03+1.5%	0	100	100	94	99
Untreated Check	0	0	0	0	0	0
EXP MEAN						
C.V. %		0	92	73	67	93
LSD 5%		0	5	17	18	5
LSD 1%		NS	7	17	17	7
# OF REPS		NS	10	23	23	9
TAP40013-1 Clb (1 C		4	4	4	4	4

AE49913=1.61b/gal formulation of desmedipham+phenmedipham+ethofumesate from Bayer. ²MSO=methylated seed oil from Loveland.

WC027 at 0.25/0.33/0.33 lb/A gave less control of redroot pigweed, Pennsylvania smartweed and volunteer wheat than desmedipham & phenmedipham at 0.25/0.33/0.33 lb/A.

 $^{^3}$ AE38584=2.67 lb/gal formulation of desmedipham+phenmedipham from Bayer.

AE38107=2.67 lb/gal formulation of desmedipham from Bayer.

⁵WC027=1.3 lb/gal formulation of desmedipham+phenmedipham from Ag Value.

⁶WC029=3 lb/gal formulation of clopyralid from Ag Value.

WC028=1.3 lb/gal formulation of desmedipham from Ag Value.

New formulations of sugarbeet herbicides, St. Thomas, 2002. (Dexter) 'Hilleshog Horizon RR' sugarbeet was seeded 1.25 inches deep in 22 inch rows May 2. Counter 15G insecticide at 12 lb product/A was applied modified in-furrow at planting. Herbicide treatments were applied May 29, June 6 and June 14. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center four rows of six row plots. Sugarbeet was hand thinned to a 10 inch spacing June 18. Roundup UltraMax herbicide at 3 pint/A was applied to the entire plot area June 20. Lorsban 4E insecticide at 1 qt/A was applied to the entire plot area June 28. Sugarbeet was row-crop cultivated July 2. Sugarbeet injury was evaluated July 6. Sugarbeet in the center two rows of 35 foot long plots was counted and harvested October 2

Date of Application	May 29	June 6	June 14
Time of Day	9:00 am	10:30 am	11:00 am
Air Temp. (°F)	75	70	66
Relative Humidity (%)	51	36	52
Soil Temp. (°F at 6")	58	60	57
Wind Velocity (mph)	6	4	5
Cloud Cover (%)	70	0	75
Soil Moisture	fair	good	good
Sugarbeet Stage	cotyledon	2-4 leaf	4-6 leaf

		7-6	<u>10-2</u>				
		Sgbt	Sgbt			Impur	
Treatment	Rate	inj	Popl	Sucr	Yield	Index	
17000000	lb/A	용	plt/70'	90	ton/A		lb/A
AE49913/AE49913/AE49913 ¹	0.25/0.33/0.33	14	74	14.6	20.1	805	5098
De&Ph&Et/De&Ph&Et/De&Ph&Et	0.25/0.33/0.33	25	71	14.8	18.3	774	4767
AE49913+Tfsu+Clpy+MSO ² (4X)	0.08+0.004+0.03+1.5%	13	73	14.1	22.3	869	5450
De&Ph&Et+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	7	71	14.5	21.2	792	5413
AE38584/AE38584/AE38584 ³	0.25/0.33/0.33	19	72	14.0	19.8	910	4779
Desm&Phen/Desm&Phen/Desm&Phen		21	73	14.1	20.1	888	4893
AE38584+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	13	76	13.9	23.3	930	5575
Desm&Phen+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	14	74	14.3	22.5	887	5584
AE38107/AE38107/AE38107 ⁴	0.25/0.33/0.33	19	71	14.6	19.5	800	5021
Desmedipham/Desmedipham/Desm	ipham $0.25/0.33/0.33$	28	69	14.2	21.5	878	5291
AE38107+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	13	76	14.4	21.9	854	5469
Desm+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	11	69	14.5	22.4	816	5717
WC027/WC027/WC027 ⁵	0.25/0.33/0.33	4	67	14.4	20.6	852	5162
WC027+Tfsu+Clpy+MSO (4X)	0.08+0.004+0.03+1.5%	15	66	14.7	20.9	812	5367
$WC027+Tfsu+WC029^6+MSO$ (4X)	0.08+0.004+0.03+1.5%	15	77	13.7	22.5	988	5229
WC028/WC028/WC028 ⁷	0.25/0.33/0.33	3	78	14.4	22.7	811	5729
WC028+Tfsu+WC029+MSO (4X)	0.08+0.004+0.03+1.5%	16	65	13.6		979	5013
Untreated Check	0	0	69	13.7	21.6	944	5030
EXP MEAN		14	72	14.2	21.3	866	5255
C.V. %		44	8	4.1	9.5	12	10
LSD 5%		9	NS	NS	NS	NS	NS
LSD 3%		12	NS	NS	NS	NS	NS
# OF REPS		4	4	4	4	4	4
# OF KEED	2 2 2 2 2 2	1.1		- h - fin	magata	from	Rayor

AE49913=1.6lb/gal formulation of desmedipham+phenmedipham+ethofumesate from Bayer. MSO=methylated seed oil from Loveland.

SUMMARY: Desmedipham & phenmedipham & ethofumesate at 0.25/0.33/0.33 lb/A gave more sugarbeet injury than AE49913 at 0.25/0.33/0.33 lb/A. Desmedipham at 0.25/0.33/0.33 lb/A gave more sugarbeet injury than AE 38107 at 0.25/0.33/0.33 lb/A but WC028 at the same rates gave less sugarbeet injury than desmedipham or AE38107. WC027 at 0.25/0.33/0.33 lb/A gave less sugarbeet injury than desmedipham & phenmedipham at 0.25/0.33/0.33 lb/A. Sugarbeet yield was not affected by herbicide treatment in these weed-free plots.

 $^{^{3}}$ AE38584=2.67 lb/gal formulation of desmedipham+phenmedipham from Bayer.

⁴AE38107=2.67 lb/gal formulation of desmedipham from Bayer.

⁵WC027=1.3 lb/gal formulation of desmedipham+phenmedipham from Ag Value.

⁶WC029=3 lb/gal formulation of clopyralid from Ag Value.

⁷WC028=1.3 lb/gal formulation of desmedipham from Ag Value.

Herbicide screening experiment, Fargo, 2002. (Dexter) Experimental test plots 11 feet wide and 50 feet long were established May 7. 'Oxen' wheat at 92 lb/A, 'ND15606' barley at 68 lb/A, 'IS Hyola Hybrid 308' canola at 26 lb/A, Siberian Red foxtail millet at 27 lb/A, lentil, 'Majorette' pea, 'Neche' flax at 31 lb/A, 'VDH 66280' sugarbeet, 'IS Hybrid 5030' sunflower and 'Youngs' oats at 69 lb/A was drilled in 4 foot wide strips across the herbicide plots May 7. There was a natural infestation of Pennsylvania smartweed, redroot pigweed and wild buckwheat. Preemergence herbicide treatments were applied 3:30 pm May 7 when the air temperature was 47F, soil temperature at six inches was 40F, relative humidity was 34%, wind velocity was 4 mph, cloud cover was 100% and soil moisture was good. Postemergence herbicide treatments were applied 1:30 pm June 18 when the air temperature was 83F, soil temperature at six inches was 69F, relative humidity was 61%, wind velocity was 11 mph, cloud cover was 100%, soil moisture was good, wheat was 5-8 inches tall, barley was 3-9 inches tall, canola was 1-5 inches tall, foxtail millet was 4-7 inches tall, pea was 1-5 inches tall, flax was 4-6 inches tall, sugarbeet was in the 6-10 leaf stage, sunflower was 4-8 inches tall, oats was 3-9 inches tall, Pennsylvania smartweed was 2-6 inches tall, redroot pigweed was 2-5 inches tall and wild buckwheat was 2-5 inches tall. All herbicides were applied in 17 gpa water at 40 psi through 8002 nozzles to the center 6.67 feet of 11 foot wide plots. Pennsylvania smartweed, redroot pigweed and wild buckwheat control and control of bioassay crops were evaluated July 3.

	OT DIO	assay	Crop.	s were	e eva.	Luate	d July	y 3.				
Manager and the same of the sa	Wheat	Barl	Sufl	Oats	Fxmi	Pea	Lent	Flax	Sabt	Pesw	Proter	Mibro
Treatment (Application) Rate	cntl	cntl	cntl	cntl	cntl	cntl	cnt1	cnt1	cn+1	cn+1	an+1	WIDW
lb/A	્રે	96	96	ુ	8	8	96	8	%			
				· ·	· ·	0	0	б	6	96	96	િ
Flumioxazin(Valor) Pre 0.094	0	1	0	2	57	0	0	0	0.6	0.0		
Carfentrazone (Aim) +X-77 Post					<u> </u>		0	U	96	23	43	40
0.008+0.25%	0	0	17	2	2	7	0.0	1				
Mesotrione(Callisto)+Herbimax+		0	1/			7	30	20	38	- 0	98	17
28%N Post 0.094+0.25G+0.5G		2	0.5									
Isoxaflutole(BalancePro) Pre	23	3	95	0	37	75	80	50	93	73	75	30
	_											
0.094	7	10	94	8	98	77	96	83	100	96	70	0
Foramsulfuron(Option)+MSO+28%N												
Post 0.066+0.1875G+0.375G	87	93	85	93	92	67	53	75	99	53	99	23
Sulfentrazone(Spartan/										- 33	99	23
Authority) Pre 0.25	0	0	8	13	57	0	33	0	87	4.5	1.0	
Flufenacet (Define) Pre 0.75	3	0	0	3	80	0	0	0		45	10	0
Acetochlor(Surpass) Pre 2.5	95	90	0	96					0	0	0	0
Clodinafop(Discover)+DSV	- 33	90	- 0	96	98	15	62	80	70	27	95	13
Post 0.0625+1.2%	0	F.0	0									
Flucarbazone (Everest) +X-77	0	50	0	99	98	0	3	0	5	0	0	0
0.020+0.256	0	50	33	85	87	63	33	72	87	73	83	35
Fomesafen(Flexstar)+Herbimax												
Post 0.175+0.25G	37	17	63	25	42	90	65	99	72	58	99	25
Dimethenamid-P(Outlook) Pre 1	83	47	0	47	98	0	0	8	45	3	33	0
Mesosulfuron+Safener+Destiny									43	3	33	
Post 0.0033+.026+.25G	0	0	77	90	83	70	4.5	7	0.1		100	
Quinclorac(Paramount)+MSO				30	03	70	43	7	91	13	99	7
Post 0.1875+0.19G	0	2	45	12	00	10						
Amicarbozone Pre 0.3125	7	2	40		92	13	40	70	17	3	0	0
Azafenidin (Milestone) Pre0.125				10	62	80	70	37	83	86	0	67
red contain (miles cone) Preu.125	10	10	3	2	80	0	0	0	73	0	0	0
EXP MEAN	0.0											
C.V. %	22	23	35	37	72	35	38	38	66	35	50	16
LSD 5%	25	36	44	29	20	34	24	25	19	42	43	94
LSD 1%	9	14	26	18	24	20	15	15	20	24	36	25
# OF REPS	12	19	35	24	32	26	20	21	27	33	48	34
" OF MERS	3	3	3	3	3	3	3	3	3	3	3	3

Summary

Isoxaflutole gave 96% control of Pennsylvania smartweed, the best of any treatment. None of the herbicides gave good control of wild buckwheat. Foramsulfuron caused 50% or greater injury to all species except wild buckwheat. Flufenacet, clodinafop and quinclorac did not cause significant injury to sugarbeet.

Soybean herbicide carryover, Fargo, 2001-2002. (Dexter) 'Asgrow AG0801' Roundup Ready soybean was seeded in the entire plot area May 16, 2001. The soil texture was clay with 7.8 pH, 4.6% organic matter, 91 lb nitrogen at 0-6 inches, 111 lb nitrogen at 6-24 inches, 16 ppm phosphorus and 390 ppm potassium. Preemergence herbicide treatments were applied 4:15 pm May 16, 2001 when the air temperature was 80F, soil temperature at six inches was 60F, relative humidity was 30%, wind velocity was 0 mph, cloud cover was 20% and soil moisture was good. Postemergence herbicide treatments were applied 12:30 pm June 9, 2001 when the air temperature was 75F, soil temperature at six inches was 62F, relative humidity was 59%, wind was 8 mph, cloud cover was 80%, soil moisture was good and soybean was in the 2 leaf to first trifoliolate stage. Treatments were applied to the center 13 feet of 20 foot wide and 40 foot long plots. All herbicides were applied in 17 gpa water at 40 psi through 8002 nozzles. Roundup UltraMax at 3.5 pt/A was applied to all plots June 23, 2001 to control weeds in the plots. Plots were tilled once with a chisel plow in the fall of 2001 after corn was chopped with a flail/shredder. Spring tillage in 2002 was one pass with a field cultivator with All tillage operations were parallel to the direction the rolling baskets. herbicides were applied to avoid moving treated soil from plot to plot. Gladiator' sugarbeet, 'Conquest' Roundup Ready canola at 19 lb/A, 'Youngs' oats at 60 lb/A, 'ND15606' barley at 74 lb/A, and 'Pioneer 63M80' sunflower were seeded in 4 foot wide strips across the herbicide plots May 15, 2002. There was a natural infestation of yellow foxtail. Sugarbeet, canola, oats, barley, sunflower, and yellow foxtail control were evaluated June 29, 2002.

Sufl Yeft Oats Barl Sgbt Cano cntl cntl cntl cntl cntl cntl Rate Treatment 용 용 용 양 lb/A 0 0 0 0 0 0.031 POST Imazamox (Raptor-1 lb/gal) 0 0 0 0 0.062 0 0 POST Imazamox (Raptor-1 lb/gal) 0 0 0 0 0.094 Flumioxazin (Valor-50%) PRE 0 0 0 0 0 0.188 Flumioxazin (Valor-50%) PRE 0 0 0 0.375 0 0 0 Flumioxazin (Valor-50%) PRE 0 0 0 0 0 0.026 Flucarbazone (Everest-70%) POST 0 0 0 0 0 0 EXP MEAN 0 0 0 0 0 0 C.V. % 0 0 0 0 0 0 LSD 5% 0 0 0 0 0 0 LSD 1% 4 4 4 4 # OF REPS

Summary

No injury from carryover was observed in 2002.

Corn herbicide carryover, Fargo, 2001-2002. (Dexter) 'Dekalb DKC35-50' Roundup Ready corn was seeded over the entire plot area May 16, 2001. The soil texture was clay with 7.8 pH, 4.6% organic matter, 91 lb nitrogen at 0-6 inches, 111 lb nitrogen at 6-24 inches, 16 ppm phosphorus and 390 ppm potassium. Herbicide treatments were applied 12:30 pm June 9, 2001 when the air temperature was 75F, soil temperature at six inches was 62F, relative humidity was 59%, wind was 8 mph, cloud cover was 80%, soil moisture was good and corn was in the 3 leaf stage (4 inches tall). Treatments were applied to the center 13 feet of 20 foot wide and 40 foot long plots. All herbicides were applied in 17 gpa water at 40 psi through 8002 nozzles. Roundup UltraMax at 3.5 pt/A was applied to all plots June 23, 2001 to control weeds in the plots. Plots were tilled once with a chisel plow in the fall of 2001 after corn was chopped with a flail/shredder. Spring tillage in 2002 was one pass with a field cultivator with rolling baskets. All tillage operations were parallel to the direction the herbicides were applied to avoid moving treated soil from plot to plot. 'Seedex Gladiator' sugarbeet, 'Conquest' Roundup Ready canola at 19 lb/A, 'Youngs' oats at 60 lb/A, 'ND15606' barley at 74 lb/A, and 'Pioneer 63M80' sunflower were seeded in 4 foot wide strips across the herbicide plots May 15, 2002. There was a natural infestation of Venice mallow and yellow foxtail. Sugarbeet, canola, oats, barley, sunflower, Venice mallow and yellow foxtail control were evaluated June 29, 2002.

Treatment	Sgbt	Cano	Oats	Barl	Sufl	Vema	Yeft
Rati	01101	cntl	cntl	cntl	cntl	cntl	cntl
1b/i	A %	ક	olo	olo	ું	용	ક
Nicosulfuron (Accent-75%) POST 0.188	3 53	68	15	20	28	33	43
Nicosulfuron (Accent-75%) POST 0.379	83	93	63	74	49	68	71
Nicosulfuron (Accent-75%) POST 0.563	96	97	88	90	76	74	79
E9636 Rimsulfuron (Matrix-25%) POST 0.188	68	75	18	25	50	44	30
E9636 Rimsulfuron (Matrix-25%) POST 0.375	76	81	34	41	89	56	29
E9636 Rimsulfuron (Matrix-25%) POST 0.563	95	93	58	70	96	78	61
Nicosulfuron+E9636 POST 0.188+0.188	81	84	53	66	81	65	55
Nicosulfuron+E9636 POST 0.375+0.375	98	100	86	91	96	85	78
Nicosulfuron+E9636 POST 0.563+0.563	100	100	95	99	99	97	90
Foramsulfuron (Option-70%DG) POST 0.13125	0	0	0	0	0	0	0
EXP MEAN C.V. % LSD 5% LSD 1% # OF REPS	75 14 15 20 4	79 11 13 18 4	51 29 21 29 4	58 28 23 31 4	66 14 14 19	60 33 28 38 4	54 30 23 31

Summary

The nicosulfuron and rimsulfuron were applied at higher than normal rates which explains the severe injury to the bioassay crops.

Extreme carryover to crops. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Fargo, ND, to evaluate weed control and crop response following POST applications the previous year. Asgrow 'AG0801' soybean was planted June 1, 2001. POST treatments were applied July 18, 2001 at 10:30 am with 79 F air, 87 F soil surface, 54% relative humidity, 50% clouds, 3 mph SE wind, dry soil surface, moist subsoil, good crop vigor, and no dew present to V3 soybean. Weed species present were: 6 to 12 inch (1 to 3/yd²) foxtail species; 4 to 12 inch (1 to 5/yd²) redroot pigweed; 3 to 12 inch (1/yd²) Canada thistle; 4 to 8 inch (1 to 2/yd²) common lambsquarters; and 2 to 12 inch diameter (1 to 5/yd²) common purslane. LPOST treatments were applied July 26, 2001 at 3:45 pm with 77 F air, 83 F soil surface, 61% relative humidity, 90% clouds, 6 mph NW wind, dry soil surface, moist subsoil, good crop vigor, and no dew present to V4 to V6 soybean. POST and LPOST treatments were applied to the entire 20 by 20 foots plots with a bicycle-wheel-type plot sprayer delivering 8.5 gpa at 40 psi through 8001 flat fan nozzles. The experiment had a randomized complete block design with four replicates per treatment.

On August 1, 2001 (14 DAT), all treatments gave 99% foxtail, redroot pigweed, common purslane, common lambsquarters, common cocklebur, Canada thistle, and wild mustard control. At August 15, 2001(28 DAT) weeds were completely controlled and soybean injury was stunting and chlorosis. Harvest was not taken because soybean were planted late and were not mature by freeze up.

DeKalb 'DKC35-50' corn was planted May 14, 2002 on the left ten feet of each plot followed by the planting of 'Oxen' wheat on May 15, 2002 on the right ten feet of each plot. No treatments were applied during the growing season of 2002. Weed infestation in 2002 was minimal and the weeds that emerged were hand weeded. The center four feet of wheat and the center two rows of corn was harvested in the fall of 2002.

In 2002, no chemical control was used to control weeds and residual herbicide required little hand-weeding. There was no observable growth reduction the first half of the growing season and there were no differences or delay in normal growth in any crop. At July 31, some chlorosis and lighter green color develop in corn treated with 2 applications of glyphosate. Rep 1 of that treatment looked normal but reps 2, 3, and 4 showed lighter green corn but not shorter, and there were no difference in tasseling date or observable cob/seed fill production. This observation was not consistent with the excellent safety that would be expected from lack of any glyphosate soil residue appearing the year after application. A possible explanation could be that some impact from the previous year affect amount of available nitrogen. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table Extreme carryover to crops (Zollinger and Ries).

Table. Latterne carryo	ver to crops (Zomnger an	Aug 1, 2001	Aug 15, 2001	Yield - F	all 2002
Treatments ¹	Rate	Soybean	Soybean	Wheat	Corn
	(product/A)	% injury	% injury	bu/A	bu/A
POST					
Extreme+NIS+AMS	2.25pt	6	4	29.0	113.8
Extreme+NIS+AMS	3pt	15	9	29.9	111.7
Extreme+NIS+AMS	4.5pt	29	20	27.7	116.2
Extreme+NIS+AMS	6pt	31	23	27.9	131.2
POST/LPOST RUM+AMS/ RUM+AMS	26fl oz+2% w/w/ 26fl oz+2% w/w	0	0	27.2	88.5
LSD (0.05)		7	8	3.4	41.8

¹NIS = nonionic surfactant = Activator 90 at 0.25% v/v; AMS = ammonium sulfate at 2.5 lb/A.

Pulse crop response to Curtail carryover from previous year. Jenks, Willoughby, and Markle. The objective of this study was to evaluate dry pea, lentil, and chickpea tolerance to Curtail carryover from the previous year. Curtail was applied to Alsen wheat on June 8, 2001. Corners of the plots were marked with permanent stakes to ensure that we planted in the same area in 2002. Dry pea, chickpea, and lentil were planted across the 2001 treatments on May 16, 2002. 'Majoret' dry pea, 'B-90' chickpea, and 'CDC Richlea' lentil were seeded into 6-inch rows at 140, 120, and 55 lb/A, respectively. This study was conducted at two locations at the North Central Research Extension Center (Field T and Field Y).

We collected stand counts and biomass per square meter in June and July 2002. Two subsamples within a replication were taken for each crop and averaged for each replication. Early growth in May seemed normal for all crops, but by early to mid-June, the crops started showing some curling and chlorosis on Field T. Early injury appeared worse with the lentils and chickpeas. By late season, all three crops showed significant injury symptoms. The June stand counts and biomass results do not show differences between treatments, whereas, the July results start to show numerical differences between treatments on Field T (Table 2).

In Field T, reps 1 and 3 were on a hilltop and reps 2 and 4 were on a slope. We saw more injury in reps 2 and 4. The soil test indicates that the soil pH in reps 2 and 4 were 4.7 and 4.8, respectively (Table 1). We observed less injury in reps 1 and 3, which had soil pH of 6.9 and 7.2, respectively. In Field Y, we observed only very slight injury in a small area of Rep 3, which had slightly lower pH and OM than the other reps.

Table 1. Soil pH, organic matter, and soil texture of fields used for Curtail carryover study

p y s game matter) and con toxtale of field						Carryov	er study.
		Field T	T			Field Y	
	Soil pH	% OM	Soil texture		Soil pH	% OM	Soil textu
Rep 1	6.9	1.1	Sandy loam	Rep 1	5.8	2.8	Loam
Rep 2	4.7	1.5	Sandy loam	Rep 2	5.9	2.8	Loam
Rep 3	7.2	1.5	Loam	Rep 3	5.3	2.6	Loam
Rep 4	4.8	1.5	Sandy loam	Rep 4	5.4	2.8	Loam

Table 2. Pulse crop tolerance to Curtail carryover - Field T (Sandy loam, 1.5% OM)

Table 2. Pui	se crop	LOIGIAII	ce to c	urtan	carryo	V C1 - 1 1			Tourn,	110700				
			Stand				Dry weight				Injury			
		Jur	12	Jul 8		Jur	Jun 12		Jul 8		Jun 24		Jul 24	
Treatment	Rate	pH: 6.9-7.2	pH: 4.7-4.8	pH: 6.9-7.2	pH: 4.7-4.8	pH: 6.9-7.2	pH: 4.7-4.8	pH: 6.9-7.2	pH: 4.7-4.8	pH: 6.9-7.2	pH: 4.7-4.8	pH: 6.9-7.2	pH: 4.7-4.8	
			- plants	s / m² –			g /	m ² —			9	6 ——		
LENTIL Curtail Untreated	2 pt	116 120	85 102	113 124	30 116	7 6	3 5	131 150	8 96	3 0	50 0	4 0	90	
DRY PEA Curtail Untreated	2 pt	63 74	68 64	74 80	64 59	11 12	8 11	215 253	153 181	0	20	3	70 0	
CHICKPEA Curtail Untreated	2 pt	73 73	61 61	83 73	42 73	15 14	11 11	200 158	28 122	3 0	30 0	0	68 0	

Table 3 Pulse crop tolerance to Curtail carryover - Field Y (Loam, 2.8% OM)

Table 3. Pu	ilse crop	tolerance to	Curtail carryo	ver - Fleid Y	Loam, 2.6%	JIVI)	
		Sta	and	Dry w	eight	Inju	ury
		Jun 19	Jul 15	Jun 19 Jul 15		Jun 24	Jul 24
Treatment	Rate			pH:	5.3-5.9		
		plant	s / m ² —	g/	m ² ——	9	6 ——
LENTIL Curtail Untreated	2 pt	139 136	123 123	21 18	225 228	0 0	0 0
DRY PEA Curtail Untreated	2 pt	66 68	65 71	32 32	347 389	0	0 0
CHICKPEA Curtail Untreated	2 pt	64 68	71 71	25 27	259 286	1 0	0 0