Control of glyphosate resistant sugarbeet for replanting, St. Thomas, 2008.
(Stachler) Treatments were applied to conventional sugarbeet in the four leaf stage on July 2nd when the air temperature was 64°F, relative humidity was 40%, six inch soil temperature was 63°F, wind velocity was 15 mph, soil moisture was good and cloud cover was 15%. 'VDH 46519' sugarbeet with 45 grams Tachigaren per 100,000 seeds was planted 1 inch deep in 22 inch rows across the herbicide plots on July 10th. Control of the original treated sugarbeet was evaluated on July 17th and July 24th. Sugarbeet injury to the replanted sugarbeet was evaluated on July 17th, July 24th and August 7th. Common lambsquarters and redroot pigweed control were evaluated on July 17th. All evaluations are a visual estimate of percent fresh weight reduction in the treated plot compared to the adjacent untreated strips.

Treatment	Rate	7-17 Orig Sgbt cntl	7-17 Repl Sgbt inj	7-17 Colq cntl	7-17 Rrpw cntl	7-24 Orig Sgbt cntl	7-24 Repl Sgbt inj	8-7 Repl Sgbt inj
	(lb/A)	%	%	%	%	%	%	%
Untreated Check	0	0	0	0	0	0	0	0
Paraquat+DestinyHC	0.375+0.5%	100	0	82	100	99	3	3
Paraquat+Premier90	0.375+0.25%	100	0	70	98	100	2	3
Paraquat+Premier90	0.56+0.25%	100	0	93	100	100	2	0
Paraquat+Premier90	0.75+0.25%	100	0	99	100	99	3	1
Paraquat+Premier90	0.9375+0.25%	100	0	99	100	100	3	1
Glufosinate+AMS	0.22+3	97	0	81	96	96	2	0
Glufosinate+AMS	0.33+3	100	0	98	99	99	2	0
Glufosinate+AMS	0.44+3	99	0	100	98	99	1	1
Paraquat+Desm&Phen+DestinyHC	0.375+0.12+0.5%	100	0	90	100	100	1	1
Paraquat+Thifensulfuron+DestinyHC	0.375+0.0039+0.5%	100	0	90	100	99	3	0
Glufosinate+Thifensulfuron+AMS	0.22+0.0039+3	99	1	99	100	98	3	1
EXP MEAN		91	0	83	91	91	2	1
C.V. %		2	693	10	3	2	123	235
LSD 5%		2	NS	12	4	3	NS	NS
LSD 1%		3	NS	16	6	4	NS	NS
# OF REPS		4	4	4	4	4	4	4

Summary: Glufosinate (Liberty) at 0.22 lb ai/A controlled fewer original sugarbeet plants than all other treatments at both evaluation times. Paraquat at 0.375, 0.56, and 0.9375 lb ai/A plus NIS and Paraquat plus Betamix controlled all original sugarbeet plants at both evaluation dates. No herbicide treatment caused significant injury of replanted sugarbeets at any evaluation time.

Sugarbeet weed control, Cavalier, 2008. (Stachler) Roundup Ready sugarbeets were not planted in the study. Soil was tilled and preemergence ethofumesate was applied May 1. Postemergence treatments were applied May 27, June 3, June 16, June 23 and June 30. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center 6.67 feet of 11 foot wide plots. Powell amaranth/redroot pigweed, kochia, common lambsquarters, common mallow and pale smartweed control were evaluated July 13 and July 28. All evaluations are a visual estimate of percent fresh weight reduction in the treated plot compared to the adjacent untreated strips.

Date of Application	**May 1**	**May 27**	**June 3**	**June 16**	**June 23**	**June 30**
Time of Day	3:30 pm	1:30 pm	10:30 am	11:30 am	10:45 am	11:00 am
Air Temperature (°F)	62	60	62	68	75	81
Relative Humidity (%)	10	12	27	41	35	40
Soil Temp. (°F at 6")	44	50	54	55	64	66
Wind Velocity (mph)	16	5	11	3	6	7
Cloud Cover (%)	60	5	95	0	80	50
Soil Moisture	Good	Good	Good	Good	Good	Good
Powell amaranth / Redroot Pigweed	PRE	Cot	Cot-2 leaf	Cot-6 leaf	2-8 leaf	4-10 leaf
Kochia	PRE	0.25-0.5" diameter	0.25-1" diameter	0.5" diam. - 3" tall	4-6 inches tall	10-14 inch. tall
Common Lambsquarters	PRE	Cot-2 leaf	2-8 leaf	2-5" tall	4-8" tall	12-16"
Common Mallow	PRE	Cot	Cot-2 leaf	2-6 leaf	4-8 leaf	4-8" tall
Pale Smartweed	PRE	Cot	2-4 leaf	2-6 leaf	6-10 leaf	6-10" tall

Summary: On July 13th, ethofumesate + glyphosate followed by glyphosate and Outlook and UpBeet combined with glyphosate improved control of Powell amaranth and redroot pigweed. On July 28th, Outlook and UpBeet combined with glyphosate still improved control of Powell amaranth and redroot pigweed. Glyphosate applied on June 3rd and June 30th provided the greatest control of kochia, common lambsquarters, common mallow, pale smartweed, and Powell amaranth and redroot pigweed. Two applications of conventional herbicides followed by glyphosate provided nearly the same control of kochia, common lambsquarters, common mallow, pale smartweed, and Powell amaranth and redroot pigweed. Glyphosate applied on June 3rd and June 30th controlled more Powell amaranth and redroot pigweed compared to three glyphosate applications because the larger weed biomass on June 3rd created a mulch layer that reduced germination of pigweed species. Glyphosate controlled more kochia and common mallow compared to conventional herbicides applied only.

Experiment continued on the next page.

Sugarbeet weed control, Cavalier, 2008. (Continued)

July 13 Evaluation

Treatment	(Date of Application)	Rate	Poam Rrpw cntl	Kocz cntl	Colq cntl	Coma cntl	Pasw cntl
		(lb/A)	%	%	%	%	%
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 27, June 3, 16, 23)	0.08+0.004+0.03+0.03+1.5%	68	28	77	78	80
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 27)	0.12+0.004+0.03+0.03+1.5%					
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 3, 16)	0.16+0.004+0.03+0.03+1.5%					
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 23)	0.25+0.004+0.03+0.03+1.5%	73	38	89	84	86
De&Ph&Et+Tfsu+Clpy+CletM	(May 27)	0.25+0.008+0.06+0.03					
De&Ph&Et+Tfsu+Clpy+CletM	(June 3, 16)	0.33+0.008+0.06+0.03					
De&Ph&Et+Tfsu+Clpy+CletM	(June 23)	0.5+0.008+0.06+0.03	91	69	99	79	95
Ethofumesate(PRE)	(May 1)	3.75					
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 27)	0.12+0.004+0.03+0.03+1.5%					
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 3, 16)	0.16+0.004+0.03+0.03+1.5%					
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 23)	0.25+0.004+0.03+0.03+1.5%	82	65	92	82	84
Glyphosate+AMS	(May 27, June 16)	1+2.5	61	92	89	95	93
Glyphosate+AMS	(May 27, June 23)	1+2.5	86	99	95	100	100
Glyphosate+AMS	(June 3, 23)	1+2.5	86	100	96	98	100
Glyphosate+AMS	(June 3, 30)	1+2.5	98	99	98	99	100
Glyphosate+AMS	(May 27, June 16, 30)	1+2.5	95	100	99	99	100
Ethofumesate (POST)	(May 27)	3.75	21	20	23	20	19
Etho+Glyt+AMS	(May 27)	3.75+1+2.5					
Glyt+AMS	(June 23)	1+2.5	90	99	99	97	98
Glyt+AMS	(May 27)	1+2.5					
Glyt+AMS+Dime	(June 16)	1+2.5+0.98	74	92	91	94	89
Glyt+AMS+Tfsu	(June 3, 23)	1+2.5+0.008	94	99	98	98	99
Glyt+AMS+Clpy	(June 3, 23)	1+2.5+0.06	85	98	99	98	99
Glyt+AMS	(June 3)	1+2.5					
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 23)	0.5+0.015+0.09+0.08+1.5%	69	72	87	85	94
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 3)	0.25+0.008+0.06+0.06+1.5%					
Glyt+AMS	(June 23)	1+2.5	86	98	98	96	100
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 27)	0.16+0.008+0.06+0.06+1.5%					
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 16)	0.25+0.008+0.06+0.06+1.5%					
Glyt+AMS	(June 30)	1+2.5	96	98	98	99	100
Glyt+AMS	(May 27, June 16)	1+2.5					
Glyt+AMS+Headline	(June 30)	1+2.5+0.1	95	100	98	99	99
Glyt+AMS	(May 27, June 16)	1+2.5					
Glyt+AMS+SuperTin	(June 30)	1+2.5+0.25	95	100	99	97	100
EXP MEAN			81	82	91	89	91
C.V. %			3	5	5	5	5
LSD 5%			3	6	7	6	6
LSD 1%			4	8	9	8	8
# OF REPS			4	4	4	4	4

*Glyt=Roundup WeatherMAX formulation of glyphosate; CletM=Select Max formulation of clethodidm; AMS=Am-Stik liquid ammonium sulfate from West Central; MSO=methylated seed oil from Loveland.

Sugarbeet weed control, Cavalier, 2008. (Continued)

July 28 Evaluation

Treatment	(Date of Application)	Rate	Poam Rrpw cntl	Kocz cntl	Colq cntl	Coma cntl	Pasw cntl
		(lb/A)	%	%	%	%	%
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 27, June 3, 16, 23)	0.08+0.004+0.03+0.03+1.5%	44	21	61	68	84
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 27)	0.12+0.004+0.03+0.03+1.5%					
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 3, 16)	0.16+0.004+0.03+0.03+1.5%					
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 23)	0.25+0.004+0.03+0.03+1.5%	45	30	81	70	78
De&Ph&Et+Tfsu+Clpy+CletM	(May 27)	0.25+0.008+0.06+0.03					
De&Ph&Et+Tfsu+Clpy+CletM	(June 3, 16)	0.33+0.008+0.06+0.03					
De&Ph&Et+Tfsu+Clpy+CletM	(June 23)	0.5+0.008+0.06+0.03	77	49	94	59	88
Ethofumesate(PRE)	(May 1)	3.75					
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 27)	0.12+0.004+0.03+0.03+1.5%					
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 3, 16)	0.16+0.004+0.03+0.03+1.5%					
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 23)	0.25+0.004+0.03+0.03+1.5%	59	44	91	54	86
Glyphosate+AMS	(May 27, June 16)	1+2.5	28	81	81	90	87
Glyphosate+AMS	(May 27, June 23)	1+2.5	62	91	89	95	95
Glyphosate+AMS	(June 3, 23)	1+2.5	63	95	95	88	96
Glyphosate+AMS	(June 3, 30)	1+2.5	85	95	94	94	93
Glyphosate+AMS	(May 27, June 16, 30)	1+2.5	77	96	91	91	93
Ethofumesate (POST)	(May 27)	3.75	15	16	18	19	13
Etho+Glyt+AMS	(May 27)	3.75+1+2.5					
Glyt+AMS	(June 23)	1+2.5	66	91	93	88	92
Glyt+AMS	(May 27)	1+2.5					
Glyt+AMS+Dime	(June 16)	1+2.5+0.98	48	78	86	86	86
Glyt+AMS+Tfsu	(June 3, 23)	1+2.5+0.008	76	88	92	93	93
Glyt+AMS+Clpy	(June 3, 23)	1+2.5+0.06	65	86	92	93	97
Glyt+AMS	(June 3)	1+2.5					
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 23)	0.5+0.015+0.09+0.08+1.5%	40	44	88	93	91
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 3)	0.25+0.008+0.06+0.06+1.5%					
Glyt+AMS	(June 23)	1+2.5	67	88	91	92	97
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 27)	0.16+0.008+0.06+0.06+1.5%					
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 16)	0.25+0.008+0.06+0.06+1.5%					
Glyt+AMS	(June 30)	1+2.5	85	94	93	96	97
Glyt+AMS	(May 27, June 16)	1+2.5					
Glyt+AMS+Headline	(June 30)	1+2.5+0.1	77	94	92	93	97
Glyt+AMS	(May 27, June 16)	1+2.5					
Glyt+AMS+SuperTin	(June 30)	1+2.5+0.25	78	95	94	91	97
EXP MEAN			61	72	85	82	87
C.V. %			8	10	8	8	7
LSD 5%			7	10	9	9	8
LSD 1%			9	14	12	13	11
# OF REPS			4	4	4	4	4

*Glyt=Roundup WeatherMAX formulation of glyphosate; CletM=Select Max formulation of clethodidm; AMS=Am-Stik liquid ammonium sulfate from West Central; MSO=methylated seed oil from Loveland.

Sugarbeet weed control, Mayville, 2008. (Stachler) Roundup Ready sugarbeet was not planted in this study. Soil was tilled and preemergence ethofumesate was applied May 1st. Postemergence treatments were applied on June 4th, June 13th, June 20th, June 26th and July 3rd. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center 6.67 feet of 11 foot wide plots. Glyphosate + AMS at 1.5 lb ae/A + 1.7 lbs/A was sprayed over the entire experiment on August 7th. Common ragweed and common lambsquarters were evaluated on June 20th, July 17th, July 30th and October 8th. Volunteer soybean was evaluated October 8th. All evaluations are a visual estimate of percent fresh weight reduction in the treated plot compared to the adjacent untreated strips.

Date of Application	May 1	June 4	June 13	June 20	June 26	July 3
Time of Day	10:30 am	12:45 pm	9:00 am	10:45 am	9:15 am	9:00 am
Air Temperature (°F)	50	65	61	76	76	67
Relative Humidity (%)	30	50	44	29	39	40
Soil Temp. (°F at 6")	42	58	55	68	71	66
Wind Velocity (mph)	17	3	10	15	0	2
Cloud Cover (%)	100	100	60	0	95	30
Soil Moisture	Good	Good	Good	Good	Good	Good
Common Ragweed	---	Cot-4 leaf	Cot-8 leaf	4lf-3"tall	4lf-6"tall	6lf-8"tall
Common Lambsquarters	---	Cot-6 leaf	Cot-10 lf	6lf-3"tall	6lf-6"tall	6lf-8"tall

Summary: On June 20th, ethofumesate (3.75 lb ai/A) plus glyphosate improved control of common lambsquarters compared to a single application of glyphosate. As time progresses, common lambsquarters control declined with little advantage to adding ethofumesate to glyphosate. Full rates of conventional sugarbeet herbicides applied four times provided the same control as glyphosate applied lastly on July 3rd.

Based upon the July 30th evaluation, common ragweed was not controlled with glyphosate at this location even with three glyphosate applications. Therefore, glyphosate-resistant common ragweed biotypes exist within this common ragweed population. Glyphosate applied three times provided greater common ragweed control compared to two glyphosate applications, demonstrating glyphosate resistance is low-level. Ethofumesate plus glyphosate followed by glyphosate and glyphosate followed by glyphosate plus Outlook improved common ragweed control compared to glyphosate applied twice at the same times, although control was fair and poor, respectively. The number of applications and the rate of Stinger influenced common ragweed control. Stinger applied four times at 0.06 lb ae/A controlled all common ragweed while two applications of Stinger at 0.06 lb ae/A only controlled 90% of common ragweed. Single applications of Stinger even at high rates and two applications of Stinger at low rates controlled even fewer common ragweed.

On October 8th, common ragweed control was similar for all glyphosate treatments applied prior to July 4th, although still ineffectively controlled. This was due to an August 7th application of glyphosate at 1.5 lb ae/A as the common ragweed was beginning to flower. Only treatments including Stinger provided effective control of volunteer Roundup Ready soybeans at this location. Ethofumesate applied POST controlled 55% of volunteer Roundup Ready soybeans. Common lambsquarters control was the same for all treatments and nearly complete after the August 7th glyphosate application.

Experiment continued on next page.

Sugarbeet weed control, Mayville, 2008. (Continued)

Treatment*	(Date of Application)	Rate	June 20 Cora cntl	June 20 Colq cntl	July 17 Cora cntl	July 17 Colq cntl	July 30 Cora cntl	July 30 Colq cntl
		(lb/A)	%	%	%	%	%	%
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 4, 13, 20, 26)	0.08+0.004+0.03+0.03+1.5%	94	82	100	71	99	51
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 4)	0.12+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 13, 20)	0.16+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 26)	0.25+0.004+0.03+0.03+1.5%	97	95	100	91	96	78
De&Ph&Et+Tfsu+Clpy+CletM	(June 4)	0.25+0.008+0.06+0.03						
De&Ph&Et+Tfsu+Clpy+CletM	(June 13, 20)	0.33+0.008+0.06+0.03						
De&Ph&Et+Tfsu+Clpy+CletM	(June 26)	0.5+0.008+0.06+0.03	99	99	100	98	100	84
Ethofumesate(PRE)	(May 1)	3.75						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 4)	0.12+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 13, 20)	0.16+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 26)	0.25+0.004+0.03+0.03+1.5%	98	93	98	95	96	74
Glyphosate+AMS	(June 4, 20)	1+2.5	87	89	51	89	34	74
Glyphosate+AMS	(June 4, 26)	1+2.5	89	89	75	94	53	74
Glyphosate+AMS	(June 13, 26)	1+2.5	73	98	65	89	51	69
Glyphosate+AMS	(June 13, July 3)	1+2.5	70	99	63	100	54	93
Glyphosate+AMS	(June 4, 20, July 3)	1+2.5	86	93	84	100	70	89
Ethofumesate (POST)	(June 4)	3.75	78	89	33	85	26	67
Etho+Glyt+AMS	(June 4)	3.75+1+2.5						
Glyt+AMS	(June 26)	1+2.5	96	100	84	95	70	85
Glyt+AMS	(June 4)	1+2.5						
Glyt+AMS+Dime	(June 20)	1+2.5+0.98	84	88	69	98	44	82
Glyt+AMS+Tfsu	(June 13, 26)	1+2.5+0.008	71	98	74	94	61	70
Glyt+AMS+Clpy	(June 13, 26)	1+2.5+0.06	81	100	98	94	90	71
Glyt+AMS	(June 13)	1+2.5						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 26)	0.5+0.015+0.09+0.08+1.5%	76	100	89	95	78	81
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 13)	0.25+0.008+0.06+0.06+1.5%						
Glyt+AMS	(June 26)	1+2.5	89	82	95	88	81	71
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 4)	0.16+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 20)	0.25+0.004+0.03+0.03+1.5%						
Glyt+AMS	(July 3)	1+2.5	85	79	93	97	79	83
Glyt+AMS	(June 4, 20)	1+2.5						
Glyt+AMS+Headline	(July 3)	1+2.5+0.1	85	88	85	100	70	83
Glyt+AMS	(June 4, 20)	1+2.5						
Glyt+AMS+SuperTin	(July 3)	1+2.5+0.25	87	88	84	99	72	87
EXP MEAN			85	92	81	93	70	77
C.V. %			5	6	10	5	9	9
LSD 5%			6	7	12	7	9	10
LSD 1%			8	10	15	9	12	14
# OF REPS			4	4	4	4	4	4

*Glyt=Roundup WeatherMAX formulation of glyphosate; CletM=Select Max formulation of clethodim; AMS=Am-Stik liquid ammonium sulfate from West Central; MSO=methylated seed oil from Loveland.

Experiment continued on next page.

Sugarbeet weed control, Mayville, 2008. (Continued)

Treatment*	(Date of Application)	Rate	October 8 Soyb cntl	Cora cntl	Colq cntl
		(lb/A)	%	%	%
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 4, 13, 20, 26)		0.08+0.004+0.03+0.03+1.5%	96	98	99
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 4)		0.12+0.004+0.03+0.03+1.5%			
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 13, 20)		0.16+0.004+0.03+0.03+1.5%			
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 26)		0.25+0.004+0.03+0.03+1.5%	100	96	99
De&Ph&Et+Tfsu+Clpy+CletM (June 4)		0.25+0.008+0.06+0.03			
De&Ph&Et+Tfsu+Clpy+CletM (June 13, 20)		0.33+0.008+0.06+0.03			
De&Ph&Et+Tfsu+Clpy+CletM (June 26)		0.5+0.008+0.06+0.03	96	98	97
Ethofumesate(PRE) (May 1)		3.75			
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 4)		0.12+0.004+0.03+0.03+1.5%			
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 13, 20)		0.16+0.004+0.03+0.03+1.5%			
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 26)		0.25+0.004+0.03+0.03+1.5%	96	91	99
Glyphosate+AMS (June 4, 20)		1+2.5	0	61	99
Glyphosate+AMS (June 4, 26)		1+2.5	0	63	99
Glyphosate+AMS (June 13, 26)		1+2.5	0	59	99
Glyphosate+AMS (June 13, July 3)		1+2.5	0	60	99
Glyphosate+AMS (June 4, 20, July 3)		1+2.5	0	59	99
Ethofumesate (POST) (June 4)		3.75	55	55	99
Etho+Glyt+AMS (June 4)		3.75+1+2.5			
Glyt+AMS (June 26)		1+2.5	38	63	99
Glyt+AMS (June 4)		1+2.5			
Glyt+AMS+Dime (June 20)		1+2.5+0.98	0	56	99
Glyt+AMS+Tfsu (June 13, 26)		1+2.5+0.008	0	58	99
Glyt+AMS+Clpy (June 13, 26)		1+2.5+0.06	96	89	99
Glyt+AMS (June 13)		1+2.5			
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 26)		0.5+0.015+0.09+0.08+1.5%	96	81	99
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 13)		0.25+0.008+0.06+0.06+1.5%			
Glyt+AMS (June 26)		1+2.5	93	81	99
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 4)		0.16+0.004+0.03+0.03+1.5%			
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 20)		0.25+0.004+0.03+0.03+1.5%			
Glyt+AMS (July 3)		1+2.5	93	71	99
Glyt+AMS (June 4, 20)		1+2.5			
Glyt+AMS+Headline (July 3)		1+2.5+0.1	0	60	99
Glyt+AMS (June 4, 20)		1+2.5			
Glyt+AMS+SuperTin (July 3)		1+2.5+0.25	0	65	99
EXP MEAN			45	72	99
C.V. %			19	8	1
LSD 5%			12	8	NS
LSD 1%			16	10	NS
# OF REPS			4	4	4

*Glyt=Roundup WeatherMAX formulation of glyphosate; CletM=Select Max formulation of clethodidm; AMS=Am-Stik liquid ammonium sulfate from West Central; MSO=methylated seed oil from Loveland.

Sugarbeet weed control, Crookston, 2008. (Stachler) Roundup Ready sugarbeets were not planted in the study. Quinoa (*Chenopodium quinoa*) and amaranth were broadcast across the herbicide plots May 2nd. Preemergence ethofumesate was applied May 2nd. Postemergence treatments were applied June 17th, June 23rd, June 30th, July 8th and July 15th. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center 6.67 feet of 11 foot wide plots. Quinoa/common lambsquarters, wild oats and wild buckwheat control were evaluated July 28th. All evaluations are a visual estimate of percent fresh weight reduction in the treated plot compared to the adjacent untreated strips.

Date of Application	May 2	June 17	June 23	June 30	July 8	July 15
Time of Day	1:15 pm	12:00 pm	2:00 pm	1:30 pm	9:15 am	12:00 pm
Air Temperature (°F)	54	76	79	84	68	77
Relative Humidity (%)	17	31	29	38	41	36
Soil Temp. (°F at 6")	42	63	70	71	62	68
Wind Velocity (mph)	26	6	4	6	5	4
Cloud Cover (%)	0	0	85	5	60	40
Soil Moisture	Good	Good	Good	Good	Good	Good
Quinoa	---	Cot-10lf (3.5"tall)	6-8 in. tall	6-10 in. tall	10-17 in. (heading)	20-27 in. tall
Wild oats	---	2-5 leaf	6 leaf (jointing)	Jointing	Heading	Heading
Wild buckwheat	---	2-4 leaf	4-10 in. tall	10-22 in. diameter	Vining	Flowering

Experiment continued on next page.

Sugarbeet weed control, Crookston, 2008. (Continued)

Treatment*	(Date of Application)	Rate	Colq Quin cntl	Wioa cntl	Wibw cntl
		(lb/A)	%	%	%
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 17, 23, 30, July 8)		0.08+0.004+0.03+0.03+1.5%	79	89	66
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 17)		0.12+0.004+0.03+0.03+1.5%			
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 23, 30)		0.16+0.004+0.03+0.03+1.5%			
De&Ph&Et+Tfsu+Clpy+CletM+MSO (July 8)		0.25+0.004+0.03+0.03+1.5%	88	91	84
De&Ph&Et+Tfsu+Clpy+CletM (June 17)		0.25+0.008+0.06+0.03			
De&Ph&Et+Tfsu+Clpy+CletM (June 23, 30)		0.33+0.008+0.06+0.03			
De&Ph&Et+Tfsu+Clpy+CletM (July 8)		0.5+0.008+0.06+0.03	100	65	76
Ethofumesate(Preemergence) (May 2)		3.75			
De&Ph&Et+Tfsu+Clpy+CletM+MSO(June 17)		0.12+0.004+0.03+0.03+1.5%			
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 23, 30)		0.16+0.004+0.03+0.03+1.5%			
De&Ph&Et+Tfsu+Clpy+CletM+MSO (July 8)		0.25+0.004+0.03+0.03+1.5%	99	96	75
Glyphosate+AMS (June 17, 30)		1+2.5	100	99	98
Glyphosate+AMS (June 17, July 8)		1+2.5	97	100	99
Glyphosate+AMS (June 23, July 8)		1+2.5	100	100	95
Glyphosate+AMS (June 23, July 15)		1+2.5	99	100	97
Glyphosate+AMS (June 17, 30, July 15)		1+2.5	99	100	99
Ethofumesate (Postemergence) (June 17)		3.75	63	10	10
Etho+Glyt+AMS (June 17)		3.75+1+2.5			
Glyt+AMS (July 8)		1+2.5	99	100	99
Glyt+AMS (June 17)		1+2.5			
Glyt+AMS+Dime (June 30)		1+2.5+0.98	99	100	99
Glyt+AMS+Tfsu (June 23, July 8)		1+2.5+0.008	99	100	96
Glyt+AMS+Clpy (June 23, July 8)		1+2.5+0.06	100	100	99
Glyt+AMS (June 23)		1+2.5			
De&Ph&Et+Tfsu+Clpy+CletM+MSO (July 8)		0.5+0.015+0.09+0.08+1.5%	97	100	95
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 23)		0.25+0.008+0.06+0.06+1.5%			
Glyt+AMS (July 8)		1+2.5	99	100	98
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 17)		0.16+0.004+0.03+0.03+1.5%			
De&Ph&Et+Tfsu+Clpy+CletM+MSO(June 30)		0.25+0.004+0.03+0.03+1.5%			
Glyt+AMS (July 15)		1+2.5	99	100	98
Glyt+AMS (June 17, 30)		1+2.5			
Glyt+AMS+Headline (July 15)		1+2.5+0.1	100	100	100
Glyt+AMS (June 17, 30)		1+2.5			
Glyt+AMS+SuperTin (July 15)		1+2.5+0.25	100	100	99
EXP MEAN			96	92	88
C.V. %			3	4	5
LSD 5%			5	6	7
LSD 1%			6	7	9
# OF REPS			4	4	4

*Glyt=Roundup WeatherMax formulation of glyphosate; AMS=Am-Stik liquid ammonium sulfate from West Central; MSO=methylated seed oil from Loveland.

Sugarbeet weed control, Kindred, 2008. (Stachler) Sugarbeets were not planted in this study. Soil was tilled and preemergence ethofumesate was applied May 8. Postemergence treatments were applied May 22, May 29, June 17, June 24 and July 1. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center 6.67 feet of 11 foot wide plots. Ladysthumb, wild buckwheat and redroot pigweed were evaluated July 15 and July 29. All evaluations are a visual estimate of percent fresh weight reduction in the treated plot compared to the adjacent untreated strips.

Date of Application	May 8	May 22	May 29	June 17	June 24	July 1
Time of Day	10:00 am	12:15 pm	11:00 am	9:00 am	10:45 am	11:00 am
Air Temperature (°F)	49	67	61	69	83	81
Relative Humidity (%)	24	24	50	40	42	40
Soil Temp. (°F at 6")	44	52	53	56	66	66
Wind Velocity (mph)	4	11	12	5	2	7
Cloud Cover (%)	100	10	100	0	0	50
Soil Moisture	Good	Good	Good	Good	Good	Good
Ladysthumb	PRE	Cot	Cot-1 leaf	Cot-6 leaf	2-8 leaf	2 leaf-5"
Wild Buckwheat	PRE	Cot-1 leaf	Cot-2 leaf	Cot-10 lf	4-12 leaf	Vining
Redroot Pigweed	PRE	Cot	Cot-1 leaf	Cot-6 leaf	2-8 leaf	4-10 leaf

Summary: Based upon the July 29th evaluation, Outlook, UpBeet, and Stinger combined with glyphosate improved ladysthumb control compared to glyphosate applied alone at the same application timings. UpBeet combined with glyphosate improved wild buckwheat control compared to glyphosate applied alone at the same application timings. Glyphosate applied three times provided the greatest (92%) wild buckwheat control. Ethofumesate applied POST with and without glyphosate and Outlook and Upbeet combined with glyphosate improved control of Powell amaranth and redroot pigweed compared to glyphosate applied alone at the same application timings. Ethofumesate applied PRE and followed by the mid-rate of conventional sugarbeet herbicides controlled ladysthumb, wild buckwheat, Powell amaranth, and redroot pigweed similarly to glyphosate applied lastly on July 7th two and three times and greater than glyphosate applied on May 22nd followed by June 17th and May 29th followed by June 24th. Conventional sugarbeet herbicides applied on May 29th followed by glyphosate improved ladysthumb and wild buckwheat control compared to glyphosate applied at the same application timings.

Experiment continued on next page.

Sugarbeet weed control, Kindred, 2008. (Continued)

Treatment*	(Date of Application)	Rate	July 15 Lath cntl	July 15 Wibw cntl	July 15 Rrpw cntl	July 29 Lath cntl	July 29 Wibw cntl	July 29 Rrpw cntl
		(lb/A)	%	%	%	%	%	%
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 22, 29, June 17, 24)	0.08+0.004+0.03+0.03+1.5%	63	79	38	62	63	39
De&Ph&Et+Tfsu+Clpy+CletM+MSO (May 22)		0.12+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 29, June 17)	0.16+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 24)		0.25+0.004+0.03+0.03+1.5%	67	88	44	67	72	41
De&Ph&Et+Tfsu+Clpy+CletM (May 22)		0.25+0.008+0.06+0.03						
De&Ph&Et+Tfsu+Clpy+CletM (May 29, June 17)		0.33+0.008+0.06+0.03						
De&Ph&Et+Tfsu+Clpy+CletM (June 24)		0.5+0.008+0.06+0.03	80	85	75	75	75	56
Ethofumesate(PRE)	(May 8)	3.75						
De&Ph&Et+Tfsu+Clpy+CletM+MSO (May 22)		0.12+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 29, June 17)	0.16+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 24)		0.25+0.004+0.03+0.03+1.5%	94	95	90	90	89	87
Glyphosate+AMS (May 22, June 17)		1+2.5	77	79	38	75	75	28
Glyphosate+AMS (May 22, June 24)		1+2.5	75	73	66	82	75	48
Glyphosate+AMS (May 29, June 24)		1+2.5	74	88	56	72	70	53
Glyphosate+AMS (May 29, July 1)		1+2.5	86	80	96	94	88	92
Glyphosate+AMS (May 22, June 17, July 1)		1+2.5	97	95	85	91	92	73
Ethofumesate (POST)	(May 22)	3.75	45	15	90	28	10	69
Etho+Glyt+AMS (May 22)		3.75+1+2.5						
Glyt+AMS	(June 24)	1+2.5	87	76	83	86	69	66
Glyt+AMS (May 22)		1+2.5						
Glyt+AMS+Dime (June 17)		1+2.5+0.98	90	85	90	87	78	83
Glyt+AMS+Tfsu (May 29, June 24)		1+2.5+0.008	89	88	85	87	83	80
Glyt+AMS+Clpy (May 29, June 24)		1+2.5+0.06	83	92	64	82	76	39
Glyt+AMS (May 29)		1+2.5						
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 24)		0.5+0.015+0.09+0.08+1.5%	60	92	41	59	75	39
De&Ph&Et+Tfsu+Clpy+CletM+MSO (May 29)		0.25+0.008+0.06+0.06+1.5%						
Glyt+AMS (June 24)		1+2.5	86	86	70	84	82	56
De&Ph&Et+Tfsu+Clpy+CletM+MSO (May 22)		0.16+0.008+0.06+0.06+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO (June 17)		0.25+0.008+0.06+0.06+1.5%						
Glyt+AMS (July 1)		1+2.5	89	81	93	90	83	81
Glyt+AMS (May 22, June 17)		1+2.5						
Glyt+AMS+Headline (July 1)		1+2.5+0.1	97	94	88	91	89	74
Glyt+AMS (May 22, June 17)		1+2.5						
Glyt+AMS+SuperTin (July 1)		1+2.5+0.25	98	96	96	96	95	95
EXP MEAN			81	82	73	79	76	63
C.V. %			8	7	12	8	11	19
LSD 5%			9	9	13	9	12	17
LSD 1%			12	11	17	12	16	23
# OF REPS			4	4	4	4	4	4

*Glyt=Roundup WeatherMAX formulation of glyphosate; CletM=Select Max formulation of clethodidm; AMS=Am-Stik liquid ammonium sulfate from West Central; MSO=methylated seed oil from Loveland.

Sugarbeet weed control, Prosper, 2008. (Stachler) Roundup Ready sugarbeet was not planted in this study. Quinoa (*Chenopodium quinoa*), amaranth, canola, foxtail millet, flax and oats were seeded in four foot wide strips across the herbicide plots on May 7th. Treatments were applied May 22nd, June 18th, June 24th, July 1st and July 14th. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center 6.67 feet of 11 foot wide plots. Quinoa, amaranth, flax, canola, oats and foxtail millet control were evaluated July 29. Redroot pigweed and/or Powell amaranth were included in the evaluation with the seeded amaranth. All evaluations are a visual estimate of percent fresh weight reduction in the treated plot compared to the adjacent untreated strips.

Date of Application	**May 7**	**May 22**	**June 18**	**June 24**	**July 1**	**July 14**
Time of Day	1:45 pm	9:00 am	9:45 am	9:00 am	9:15 am	9:00 am
Air Temperature (°F)	59	55	75	71	76	69
Relative Humidity (%)	25	25	29	41	42	37
Soil Temp. (°F at 6")	46	46	67	64	66	63
Wind Velocity (mph)	12	10	2	2	5	5
Cloud Cover (%)	80	80	10	0	0	0
Soil Moisture	Good	Good	Good	Good	Good	Good
Quinoa	---	Cot	1.5-8 in.	4-12 in.	10-30 in.	26-36 in.
Amaranth	---	Not emerg.	Cot-6 lf	2-6 in.	2-8 in.	20-24 in.
Flax	---	Cot	2-7 in.	5-12 in.	flowering	26 in.
Canola	---	Cot	6-10 leaf	bolting	flowering	28 in.
Oats	---	1-2 leaf	3-6 leaf (3 tillers)	5-8 leaf	Jointing	36 in.
Foxtail millet	---	Not emerg.	2-4 leaf	3-5 leaf (2 tillers)	4-6 leaf (2 tillers)	20-22 in.

Summary: Ethofumesate plus glyphosate applied on May 22nd followed by glyphosate applied on July 1st and glyphosate applied on May 22nd and June 24th followed by glyphosate plus Supertin controlled all species at the highest level. Glyphosate controlled canola and flax more effectively than Ethofumesate applied PRE followed by the mid-rate program of conventional sugarbeet herbicides. Tank-mixtures of ethofumesate or dimethenamid plus glyphosate improved control of redroot pigweed and/or Powell amaranth and the seeded amaranth compared to multiple glyphosate applications applied at the same time. Glyphosate applied on May 22nd and June 24th controlled fewer quinoa compared to all other glyphosate only treatments. Glyphosate applied on May 22nd and June 24th controlled fewer canola compared to three glyphosate applications. The most effective conventional herbicide treatment was the application of ethofumesate applied PRE followed by the mid-rate program.

Experiment continued on next page.

Sugarbeet weed control, Prosper, 2008. (Continued)

Treatment*	(Date of Application)	Rate	Amar cntl	Quin cntl	Cano cntl	Flax cntl	Fomi cntl	Oats cntl
		(lb/A)	%	%	%	%	%	%
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 22, June 18, 24, July 1)	0.08+0.004+0.03+0.03+1.5%	30	61	25	18	86	100
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 22)	0.12+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 18, 24)	0.16+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(July 1)	0.25+0.004+0.03+0.03+1.5%	48	91	20	18	93	100
De&Ph&Et+Tfsu+Clpy+CletM	(May 22)	0.25+0.008+0.06+0.03						
De&Ph&Et+Tfsu+Clpy+CletM	(June 18, 24)	0.33+0.008+0.06+0.03						
De&Ph&Et+Tfsu+Clpy+CletM	(July 1)	0.5+0.008+0.06+0.03	70	100	35	28	76	73
Ethofumesate(PRE)	(May 7)	3.75						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 22)	0.12+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 18, 24)	0.16+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(July 1)	0.25+0.004+0.03+0.03+1.5%	96	96	29	18	98	100
Glyphosate+AMS	(May 22, June 24)	1+2.5	70	93	83	100	96	100
Glyphosate+AMS	(May 22, July 1)	1+2.5	81	100	88	100	100	100
Glyphosate+AMS	(June 18, July 1)	1+2.5	92	100	88	99	100	100
Glyphosate+AMS	(June 18, July 14)	1+2.5	100	100	92	100	100	100
Glyphosate+AMS	(May 22, June 24, July 14)	1+2.5	99	100	93	100	100	100
Ethofumesate	(POST) (May 22)	3.75	92	28	8	8	26	59
Etho+Glyt+AMS	(May 22)	3.75+1+2.5						
Glyt+AMS	(July 1)	1+2.5	100	100	95	100	100	100
Glyt+AMS	(May 22)	1+2.5						
Glyt+AMS+Dime	(June 24)	1+2.5+0.98	96	96	86	100	99	100
Glyt+AMS+Tfsu	(June 18, July 1)	1+2.5+0.008	96	100	91	100	100	100
Glyt+AMS+Clpy	(June 18, July 1)	1+2.5+0.06	98	99	86	100	100	100
Glyt+AMS	(June 18)	1+2.5						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(July 1)	0.5+0.015+0.09+0.08+1.5%	83	97	82	100	99	100
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 18)	0.25+0.008+0.06+0.06+1.5%						
Glyt+AMS	(July 1)	1+2.5	90	100	86	100	95	100
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(May 22)	0.16+0.004+0.03+0.03+1.5%						
De&Ph&Et+Tfsu+Clpy+CletM+MSO	(June 24)	0.25+0.004+0.03+0.03+1.5%						
Glyt+AMS	(July 14)	1+2.5	100	100	84	98	100	100
Glyt+AMS	(May 22, June 24)	1+2.5						
Glyt+AMS+Headline	(July 14)	1+2.5+0.1	100	100	94	100	100	100
Glyt+AMS	(May 22, June 24)	1+2.5						
Glyt+AMS+SuperTin	(July 14)	1+2.5+0.25	100	100	95	100	100	100
EXP MEAN			86	93	71	78	93	96
C.V. %			9	5	9	6	5	4
LSD 5%			11	6	9	6	6	5
LSD 1%			15	9	12	9	9	6
# OF REPS			4	4	4	4	4	4

*Glyt=Roundup WeatherMAX formulation of glyphosate; CletM=Select Max formulation of clethodim; AMS=Am-Stik liquid ammonium sulfate from West Central; MSO=methylated seed oil from Loveland.

Ethofumesate on Roundup Ready sugarbeet, Prosper, 2008. (Stachler) Roundup Ready sugarbeets were not planted in the study. Quinoa (*Chenopodium quinoa*) was broadcast seeded over plots and lightly incorporated on May 7th. Preemergence ethofumesate was applied May 7th after seeding quinoa. Postemergence treatments were applied May 22nd, June 18th and June 24th. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center 6.67 feet of 11 foot wide plots. Quinoa density was 22 plants/m^2. Quinoa and redroot pigweed control were evaluated July 15 and July 29. Wild oats control was evaluated July 29. All evaluations are a visual estimate of percent fresh weight reduction in the treated plot compared to the adjacent untreated strips.

Date of Application	May 7	May 22	June 18	June 24
Time of Day	1:45 pm	9:45 am	11:10 am	9:30 am
Air Temperature (°F)	59	55	76	71
Relative Humidity (%)	25	25	29	41
Soil Temp. (°F at 6")	46	46	67	64
Wind Velocity (mph)	12	10	2	2
Cloud Cover (%)	80	80	10	0
Soil Moisture	Good	Good	Good	Good
Quinoa	PRE	Cot	3-4 lf	8-12 lf
Wild Oats	PRE	1-2 leaf	2-5 lf, 2 tiller	3-6 lf, 2 tiller

Summary: No Roundup Ready sugarbeet was planted in the study, therefore residual control could be easily evaluated. On July 15th, 27 Days after the June 18th application, three applications of glyphosate controlled all of the quinoa. On July 15th, ethofumesate at 1.0 lb ai/A or greater when combined with glyphosate both with and without a PRE application of ethofumesate, improved quinoa control compared to a single application of glyphosate. On July 15th, ethofumesate needed to be applied PRE at 3.75 lb ai/A to improve quinoa control. On July 29th, 14 days later, only ethofumesate applied at 3.75 lb ai/A in combination with glyphosate both with and without ethofumesate applied PRE at 3.75 lb ai/A and three applications of glyphosate improved quinoa control compared to a single application of glyphosate. Wild oat control was improved when ethofumesate was applied PRE at 3.75 lb ai/A and followed by glyphosate, when ethofumesate was applied PRE at 2.0 lb ai/A or greater and followed by ethofumesate at 2.0 lb ai/A or greater in combination with glyphosate, and three glyphosate applications compared to glyphosate applied in a single application.

Experiment continued on next page.

Ethofumesate on Roundup Ready sugarbeet, Prosper, 2008. (Continued)

Treatment*	(Date of Application)	Rate	July 15 Quin cntl	July 29 Wioa cntl	July 29 Quin cntl
		(lb/A)	%	%	%
Glyt+AMS	(June 18)	0.75+2.5	89	94	90
Etho (PRE)	(May 7)	0.25			
Glyt+AMS	(June 18)	0.75+2.5	95	93	90
Etho (PRE)	(May 7)	1			
Glyt+AMS	(June 18)	0.75+2.5	89	95	89
Etho (PRE)	(May 7)	2			
Glyt+AMS	(June 18)	0.75+2.5	93	99	89
Etho (PRE)	(May 7)	3.75			
Glyt+AMS	(June 18)	0.75+2.5	98	100	96
Etho (PRE)	(May 7)	0.25			
Glyt+AMS+Etho	(June 18)	0.75+2.5+0.25	92	94	88
Etho (PRE)	(May 7)	1			
Glyt+AMS+Etho	(June 18)	0.75+2.5+1	97	99	96
Etho (PRE)	(May 7)	2			
Glyt+AMS+Etho	(June 18)	0.75+2.5+2	99	100	96
Etho (PRE)	(May 7)	3.75			
Glyt+AMS+Etho	(June 18)	0.75+2.5+3.75	99	100	99
Glyt+AMS+Etho	(June 18)	0.75+2.5+0.25	95	94	90
Glyt+AMS+Etho	(June 18)	0.75+2.5+1	96	97	93
Glyt+AMS+Etho	(June 18)	0.75+2.5+2	97	99	96
Glyt+AMS+Etho	(June 18)	0.75+2.5+3.75	99	98	98
Untreated Check		0	0	0	0
Glyt+AMS	(May 22, June 18, 24)	0.75+2.5	100	96	99
EXP MEAN			89	90	87
C.V. %			5	3	6
LSD 5%			6	4	7
LSD 1%			8	5	10
# OF REPS			4	4	4

*Glyt=Roundup PowerMAX formulation of glyphosate; AMS=Am-Stik liquid ammonium sulfate from West Central.

Ethofumesate + Glyphosate, Prosper, 2008. (Stachler) Sugarbeets were not planted in this study. Quinoa (*Chenopodium quinoa*), amaranth, canola, foxtail millet, flax and oats were seeded perpendicularly across the herbicide-treated plots in four foot wide strips on May 7th. Ethofumesate was applied PRE on May 7th after seeding the bioassay species. Postemergence treatments were applied May 22nd, June 18th and July 1st. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center 6.67 feet of 11 foot wide plots. Quinoa, amaranth, flax, canola, oats and foxtail millet control were evaluated July 15th and July 29th. Amaranth control on July 29th was the combination of control of the seeded amaranth and the natural redroot pigweed and/or Powell amaranth population in the study area. All evaluations are a visual estimate of percent fresh weight reduction in the treated plot compared to the adjacent untreated strips.

Date of Application	May 7	June 18	July 1
Time of Day	1:45 pm	12:30 pm	10:00 am
Air Temperature (°F)	59	77	76
Relative Humidity (%)	25	29	42
Soil Temp. (°F at 6")	46	67	66
Wind Velocity (mph)	12	2	5
Cloud Cover (%)	80	10	0
Soil Moisture	Good	Good	Good
Quinoa	PRE	2 leaf - 6" tall	6-20 inches tall
Amaranth	PRE	1-4 inches tall	2-8 inches tall
Flax	PRE	1-8 inches tall	5" tall - flowering
Canola	PRE	Cot - 6 leaf	Flowering
Oats	PRE	2-5 leaf(2 tillers)	Jointing
Foxtail millet	PRE	Spike-2 leaf	4-6 leaf(2 tillers)

Experiment continued on next page.

Ethofumesate + Glyphosate, Prosper, 2008. (Continued)

July 15 Evaluation

Treatment*	(Date of Application)	Rate	Quin cntl	Amar cntl	Flax cntl	Cano cntl	Oats cntl	Fomi cntl
		(lb/A)	%	%	%	%	%	%
Untreated Check		0	0	0	0	0	0	0
Ethofumesate (PRE)	(May 7)	3.75	31	98	23	0	65	76
Etho (PRE)	(May 7)	3.75						
Glyt+AMS+P90 (July 1))		1+2.5+0.25%	100	100	100	88	100	100
Etho+AMS+P90	(June 18)	2+2.5+0.25%	71	85	36	23	28	15
Etho+AMS+P90	(June 18)	3+2.5+0.25%	77	94	45	30	48	24
Etho+AMS+P90	(June 18)	3.75+2.5+0.25%	87	98	53	35	60	35
Etho+Glyt+AMS+P90	(June 18)	2+1+2.5+0.25%	100	100	100	100	100	100
Etho+Glyt+AMS+P90	(June 18)	3+1+2.5+0.25%	99	100	100	100	100	100
Etho+Glyt+AMS+P90	(June 18)	3.75+1+2.5+0.25%	99	100	100	100	100	100
Etho+Glyt+AMS+P90	(June 18)	2+1+2.5+0.25%						
Glyt+AMS+P90	(July 1)	1+2.5+0.25%	100	100	100	100	100	100
Etho+Glyt+AMS+P90	(June 18)	3+1+2.5+0.25%						
Glyt+AMS+P90	(July 1)	1+2.5+0.25%	100	100	100	100	100	100
Etho+Glyt+AMS+P90	(June 18)	3.75+1+2.5+0.25%						
Glyt+AMS+P90	(July 1)	1+2.5+0.25%	100	100	100	100	100	100
Glyt+AMS+P90	(June 18)	1+2.5+0.25%	99	93	100	100	100	100
Glyt+AMS+P90	(June 18, July 1)	1+2.5+0.25%	100	100	100	100	100	100
EXP MEAN			83	90	75	70	79	75
C.V. %			5	6	3	3	6	11
LSD 5%			6	7	4	3	7	12
LSD 1%			8	10	5	5	10	16
# OF REPS			4	4	4	4	4	4

* Etho=Ethotron Formulation of ethofumesate; Glyt=Roundup WeatherMAX formulation of glyphosate; AMS=Am-Stik liquid ammonium sulfate from West Central; P90=Premier 90 non-ionic surfactant from West Central.

Experiment continued on next page.

Ethofumesate + Glyphosate, Prosper, 2008. (Continued)

July 29 Evaluation

Treatment*	(Date of Application)	Rate	Quin cntl	Amar cntl	Flax cntl	Cano cntl	Oats cntl	Fomi cntl
		(lb/A)	%	%	%	%	%	%
Untreated Check		0	0	0	0	0	0	0
Ethofumesate (PRE)	(May 7)	3.75	24	96	16	13	65	70
Etho (PRE)	(May 7)	3.75						
Glyt+AMS+P90 (July 1))		1+2.5+0.25%	99	98	100	98	100	100
Etho+AMS+P90	(June 18)	2+2.5+0.25%	61	75	28	16	26	15
Etho+AMS+P90	(June 18)	3+2.5+0.25%	63	80	31	23	54	24
Etho+AMS+P90	(June 18)	3.75+2.5+0.25%	72	88	31	26	62	33
Etho+Glyt+AMS+P90	(June 18)	2+1+2.5+0.25%	97	89	100	100	100	100
Etho+Glyt+AMS+P90	(June 18)	3+1+2.5+0.25%	98	83	100	100	100	100
Etho+Glyt+AMS+P90	(June 18)	3.75+1+2.5+0.25%	100	86	100	100	100	100
Etho+Glyt+AMS+P90	(June 18)	2+1+2.5+0.25%						
Glyt+AMS+P90	(July 1)	1+2.5+0.25%	100	92	100	100	100	100
Etho+Glyt+AMS+P90	(June 18)	3+1+2.5+0.25%						
Glyt+AMS+P90	(July 1)	1+2.5+0.25%	100	97	100	100	100	100
Etho+Glyt+AMS+P90	(June 18)	3.75+1+2.5+0.25%						
Glyt+AMS+P90	(July 1)	1+2.5+0.25%	100	98	100	100	100	100
Glyt+AMS+P90	(June 18)	1+2.5+0.25%	94	66	100	100	100	99
Glyt+AMS+P90	(June 18, July 1)	1+2.5+0.25%	100	93	100	100	100	100
EXP MEAN			79	81	72	70	79	74
C.V. %			8	15	8	4	6	11
LSD 5%			9	18	8	4	7	11
LSD 1%			12	24	11	5	9	15
# OF REPS			4	4	4	4	4	4

* Etho=Ethotron Formulation of ethofumesate; Glyt=Roundup WeatherMAX formulation of glyphosate; AMS=Am-Stik liquid ammonium sulfate from West Central; P90=Premier 90 non-ionic surfactant from West Central.

Summary: This summary is based upon the July 29th evaluation. Since sugarbeets were not planted in this study, emergence of weeds after the last glyphosate application was fairly noticeable and sugarbeet injury could not be evaluated. Ethofumesate plus glyphosate applied on June 18th improved control of the seeded amaranth and redroot pigweed and/or Powell amaranth compared to a single application of glyphosate applied on the same day. Ethofumesate (3.75 lb ai/A) plus glyphosate applied on June 18th provided complete control of quinoa compared to glyphosate applied alone on the same day which only provided 94% control. Ethofumesate did not prove control of flax, canola, oats, and foxtail millet compared to glyphosate applied alone in a single or multiple application.

Control of Roundup Ready crops in Roundup Ready sugarbeet, Prosper, 2008. (Stachler) Roundup Ready sugarbeet was not planted in the study. Roundup Ready canola, soybean and corn were seeded in separate 8 foot wide strips across the herbicide plots on May 7th. All herbicide treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center 6.67 feet of 11 foot wide plots on June 19th and July 1st. On June 19th, the air temperature was 74°F, relative humidity was 39%, six inch soil temperature was 61°F, wind was 4 mph, cloud cover was 5%, soil moisture was good, canola was 4 leaf to 16 inches tall, soybean was 3-6 inches tall and corn was 2-4 leaf (4-8 inches tall). On July 1st, the air temperature was 87°F, relative humidity was 48%, six inch soil temperature was 80°F, wind was 3 mph, cloud cover was 10%, soil moisture was good, canola was flowering, soybean was 4-10 inches tall and corn was 4-7 leaf (8-14 inches tall). Control of Roundup Ready canola, soybean and corn was evaluated on July 2nd, July 15th and July 20th. All evaluations are a visual estimate of percent fresh weight reduction in the treated plot compared to the adjacent untreated strips.

		July 2			July 15			July 20		
Treatment*	Rate	Cano cntl	Soyb cntl	Corn cntl	Cano cntl	Soyb cntl	Corn cntl	Cano cntl	Soyb cntl	Corn cntl
	(lb/A)	%	%	%	%	%	%	%	%	%
Glyt+AMS	1+2.5	0	0	0	0	0	0	0	0	0
Glyt+AMS+Tfsu	1+2.5+0.008	10	15	14	11	43	28	6	31	19
Glyt+AMS+Tfsu+P90	1+2.5+0.008+0.25%	23	23	45	24	58	65	14	39	55
Glyt+AMS+Tfsu+MSO	1+2.5+0.008+1.5%	48	56	80	40	81	81	25	74	69
Glyt+AMS+Tfsu+DestinyHC	1+2.5+0.008+1%	46	45	81	40	76	77	22	71	67
Glyt+AMS+Clpy	1+2.5+0.03	0	81	0	0	87	0	0	95	0
Glyt+AMS+Clpy	1+2.5+0.06	0	89	0	0	100	0	0	100	0
Glyt+AMS+Clpy+P90	1+2.5+0.03+0.25%	0	82	0	0	97	0	0	96	0
Glyt+AMS+Clpy+MSO	1+2.5+0.03+1.5%	3	82	0	1	97	0	0	97	0
Glyt+AMS+Clpy+DestinyHC	1+2.5+0.03+1%	0	82	0	0	97	0	0	99	0
Glyt+AMS+CletM	1+2.5+0.03	0	0	95	0	0	100	0	0	99
Glyt+AMS+CletM	1+2.5+0.06	0	0	98	0	0	100	0	0	96
Glyt+AMS+CletM+P90	1+2.5+0.03+0.25%	0	0	93	0	0	100	0	0	93
Glyt+AMS+CletM+MSO	1+2.5+0.03+1.5%	0	0	96	0	0	100	0	0	96
Glyt+AMS+CletM+DestinyHC	1+2.5+0.03+1%	0	0	95	0	0	100	0	0	96
Glyt+AMS+Quiz-T	1+2.5+0.03	0	0	99	0	0	100	0	0	100
Glyt+AMS+Quiz-T	1+2.5+0.06	0	0	100	0	0	100	0	0	94
Glyt+AMS+Quiz-T+P90	1+2.5+0.03+0.25%	0	0	98	0	0	100	0	0	93
Glyt+AMS+Clet	1+2.5+0.03	0	0	71	0	0	73	0	0	68
Glyt+AMS+Clet	1+2.5+0.06	0	0	94	0	0	100	0	0	97
Glyt+AMS+Clet+P90	1+2.5+0.03+0.25%	0	0	86	0	0	94	0	0	86
Glyt+AMS+De&Ph&Et+Tfsu	1+2.5+0.33+0.008	53	58	33	57	80	63	43	69	40
Glyt+AMS+De&Ph&Et+Tfsu+P90	1+2.5+0.33+0.008+0.25%	47	60	51	44	77	61	28	68	44
Glyt+AMS+De&Ph&Et+Tfsu+MSO	1+2.5+0.33+0.008+1.5%	61	67	75	60	83	81	46	76	67
Glyt+AMS+De&Ph&Et+Tfsu+DestinyHC	1+2.5+0.33+0.008+1%	59	70	70	53	84	75	48	79	60
Untreated Check	0	0	0	0	0	0	0	0	0	0
EXP MEAN		13	31	57	13	41	61	9	38	55
C.V. %		33	19	12	42	8	10	59	11	12
LSD 5%		6	8	10	7	4	8	7	6	9
LSD 1%		8	11	13	10	6	11	10	8	12
# OF REPS		4	4	4	4	4	4	4	4	4

*Glyt=Roundup WeatherMax formulation of glyphosate; Quiz-T=Targa formulation of quizalofop; CletM=Select Max formulation of clethodim; P90=Premier 90 non-ionic surfactant from West Central; MSO=methylated seed oil from Loveland; DestinyHC=methylated seed oil from Winfield; AMS=Am-Stik liquid ammonium sulfate from West Central.

Experiment continued on next page.

Control of Roundup Ready crops in Roundup Ready sugarbeet, Prosper, 2008. (Continued)

Summary: On July 2nd, after the first application, maximum control of all three crops was usually obtained from the addition of MSO with Tfsu (UpBeet) or De&Ph&Et (Progress) plus UpBeet. There was no difference with Stinger rates or adjuvants for control of soybean, although the highest rate provided the greatest control. Quiz-T (Targa) controlled the most corn. Rate and adjuvant was important for improving control of corn with Clet (Select 2EC).

On July 20th, 19 days after the last application, maximum control of canola was obtained with Progress (0.33 lb ai/A) plus UpBeet (0.008 lb ai/A) in combination with MSO, DestinyHC, or no additional adjuvant. The addition of NIS caused a reduction in canola control with this herbicide combination. There was no difference in soybean control based upon Stinger rates or adjuvants, although the highest rate of Stinger provided complete control. The addition of MSO and DestinyHC to UpBeet and Progress plus UpBeet maximized soybean control compared to NIS or no adjuvant, although not to the level of Stinger. There was no difference in control of corn with Targa, Select MAX, and the maximum rate of Select 2EC. However, corn control was reduced when NIS was included with the Select 2EC and further reduced if no adjuvant was included. UpBeet and Progress plus UpBeet in combination with MSO or DestinyHC maximized control of corn compared to NIS and no adjuvant, although not as effective as the ACCase inhibiting herbicides.

Timing of tank-mix partners for Roundup Ready Sugarbeet, Prosper, 2008. (Stachler) Roundup Ready sugarbeets were not planted in this study. Quinoa (*Chenopodium quinoa*), amaranth, canola, foxtail millet, flax and oats were seeded in four foot wide strips across the herbicide plots on May 7th. Treatments were applied June 10th, June 18th and July 1st. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center 6.67 feet of 11 foot wide plots. Quinoa, amaranth, flax, canola, oats and foxtail millet control were evaluated July 15 and July 29. Amaranth control on July 29th was the combination of control of the seeded amaranth and the natural redroot pigweed and/or Powell amaranth population in the study area. All evaluations are a visual estimate of percent fresh weight reduction in the treated plot compared to the adjacent untreated strips.

Date of Application	June 10	June 18	July 1
Time of Day	10:00 am	12:30 pm	10:00 am
Air Temperature (°F)	54	77	76
Relative Humidity (%)	51	29	42
Soil Temp. (°F at 6")	54	67	66
Wind Velocity (mph)	9	2	5
Cloud Cover (%)	100	10	0
Soil Moisture	Wet	Good	Good
Quinoa	2-8 leaf	1.5-8 inches tall	10-30 inches tall
Amaranth	Cot-4 leaf	Cot-6 leaf	2-8 inches tall
Flax	3-5 inches tall	2-7 inches tall	5-16" tall - flower
Canola	Cot-6 leaf	6-10 leaf	Flowering
Oats	2-5lf (2 tillers)	3-6 leaf(3 tillers)	Jointing
Foxtail millet	2-3 leaf	2-4 leaf	4-6 leaf(2 tillers)

Summary: Glyt(Roundup WeatherMAX) applied on July 10th and 18th followed by glyt plus Dime (Outlook) provided the greatest control of the seeded amaranth and the natural population of redroot pigweed and/or Powell amaranth. Glyt plus De&Ph&Et (Progress) followed by glyt applied on June 18th and July 1st provided the greatest control of canola. No other tank-mix partner improved or decreased control of any species compared to glyt alone.

Experiment continued on next page.

Timing of tank mix partners for Roundup Ready Sugarbeet, Prosper, 2008. (Continued)

July 15 Evaluation

Treatment*	(Date of Application)	Rate	Amar cntl	Quin cntl	Cano cntl	Flax cntl	Fomi cntl	Oats cntl
		(lb/A)	%	%	%	%	%	%
Glyt+AMS	(June 10, 18, July 1)	0.75+2.9	100	100	93	100	100	100
Glyt+AMS	(June 10, July 1)	0.75+2.9						
Glyt+AMS+Tfsu	(June 18)	0.75+2.9+0.0156	100	100	93	100	100	100
Glyt+AMS+Tfsu+SuperbHC	(June 10)	0.75+2.9+0.0156+1%						
Glyt+AMS	(June 18, July 1)	0.75+2.9	100	100	92	100	100	100
Glyt+AMS+Tfsu+DestinyHC	(June 10)	0.75+2.9+0.0156+1%						
Glyt+AMS	(June 18, July 1)	0.75+2.9	100	100	93	100	100	100
Glyt+AMS	(June 10, July 1)	0.75+2.9						
Glyt+AMS+Clpy	(June 18)	0.75+2.9+0.25	100	100	94	98	100	100
Glyt+AMS	(June 10, 18)	0.75+2.9						
Glyt+AMS+Clpy	(July 1)	0.75+2.9+0.25	100	100	94	100	100	100
Glyt+AMS	(June 10, July 1)	0.75+2.9						
Glyt+AMS+CletM	(June 18)	0.75+2.9+0.07	100	100	96	100	100	100
Glyt+AMS+Etho	(June 10)	0.75+2.9+0.09						
Glyt+AMS	(June 18, July 1)	0.75+2.9	100	100	94	100	100	100
Glyt+AMS+De&Ph&Et	(June 10)	0.75+2.9+0.46						
Glyt+AMS	(June 18, July 1)	0.75+2.9	100	100	96	100	100	100
Glyt+AMS	(June 10, July 1)	0.75+2.9						
Glyt+AMS+MetoM	(June 18)	0.75+2.9+1.25	100	100	93	100	100	100
Glyt+AMS	(June 10, 18)	0.75+2.9						
Glyt+AMS+MetoM	(July 1)	0.75+2.9+1.25	100	100	93	100	100	100
Glyt+AMS	(June 10, July 1)	0.75+2.9						
Glyt+AMS+Dime	(June 18)	0.75+2.9+0.98	100	100	94	100	100	100
Glyt+AMS	(June 10, 18)	0.75+2.9						
Glyt+AMS+Dime	(July 1)	0.75+2.9+0.98	100	100	94	100	100	100
Glyt+AMS	(June 10, July 1)	1+2.9	100	100	94	100	100	100
Untreated Check		0	0	0	0	0	0	0
EXP MEAN			93	93	87	93	93	93
C.V. %			0	0	3	1	0	0
LSD 5%			0	0	4	1	0	0
LSD 1%			0	1	5	2	0	0
# OF REPS			4	4	4	4	4	4

*Glyt=Roundup WeatherMAX formulation of glyphosate; CletM=Select Max formulation of clethodim; MetoM=Dual Magnum formulation of S-metolachlor; AMS=Am-Stik liquid ammonium sulfate from West Central; DestinyHC=high surfactant methylated seed oil from Winfield; SuperbHC=high surfactant petroleum oil from Winfield.

Experiment continued on next page.

Timing of tank-mix partners for Roundup Ready Sugarbeet, Prosper, 2008. (Continued)

July 29 Evaluation

Treatment*	(Date of Application)	Rate	Amar cntl	Quin cntl	Cano cntl	Flax cntl	Fomi cntl	Oats cntl
		(lb/A)	%	%	%	%	%	%
Glyt+AMS	(June 10, 18, July 1)	0.75+2.9	97	100	89	100	100	100
Glyt+AMS (June 10, July 1)		0.75+2.9						
Glyt+AMS+Tfsu (June 18)		0.75+2.9+0.0156	98	99	87	100	100	100
Glyt+AMS+Tfsu+SuperbHC (June 10)		0.75+2.9+0.0156+1%						
Glyt+AMS (June 18, July 1)		0.75+2.9	96	100	86	100	100	100
Glyt+AMS+Tfsu+DestinyHC (June 10)		0.75+2.9+0.0156+1%						
Glyt+AMS (June 18, July 1)		0.75+2.9	98	100	87	100	100	100
Glyt+AMS (June 10, July 1)		0.75+2.9						
Glyt+AMS+Clpy (June 18)		0.75+2.9+0.25	97	100	88	100	100	100
Glyt+AMS (June 10, 18)		0.75+2.9						
Glyt+AMS+Clpy (July 1)		0.75+2.9+0.25	99	99	89	100	100	100
Glyt+AMS (June 10, July 1)		0.75+2.9						
Glyt+AMS+CletM (June 18)		0.75+2.9+0.07	97	99	91	100	100	100
Glyt+AMS+Etho (June 10)		0.75+2.9+0.09						
Glyt+AMS (June 18, July 1)		0.75+2.9	98	100	89	100	100	100
Glyt+AMS+De&Ph&Et (June 10)		0.75+2.9+0.46						
Glyt+AMS (June 18, July 1)		0.75+2.9	99	100	93	100	100	100
Glyt+AMS (June 10, July 1)		0.75+2.9						
Glyt+AMS+MetoM (June 18)		0.75+2.9+1.25	99	100	87	100	100	100
Glyt+AMS (June 10, 18)		0.75+2.9						
Glyt+AMS+MetoM (July 1)		0.75+2.9+1.25	99	100	88	100	100	100
Glyt+AMS (June 10, July 1)		0.75+2.9						
Glyt+AMS+Dime (June 18)		0.75+2.9+0.98	99	100	89	100	100	100
Glyt+AMS (June 10, 18)		0.75+2.9						
Glyt+AMS+Dime (July 1)		0.75+2.9+0.98	100	100	89	100	100	100
Glyt+AMS (June 10, July 1)		1+2.9	97	100	88	100	100	100
Untreated Check		0	0	0	0	0	0	0
EXP MEAN			92	93	83	93	93	93
C.V. %			3	1	5	0	0	0
LSD 5%			4	1	6	0	0	0
LSD 1%			6	2	8	0	0	0
# OF REPS			4	4	4	4	4	4

*Glyt=Roundup WeatherMAX formulation of glyphosate; CletM=Select Max formulation of clethodim; MetoM=Dual Magnum formulation of S-metolachlor; AMS=Am-Stik liquid ammonium sulfate from West Central; DestinyHC=high surfactant methylated seed oil from Winfield; SuperbHC=high surfactant petroleum oil from Winfield.

Adjuvants and combinations with PowerMax, Prosper, 2008. (Stachler) Roundup Ready sugarbeets were not seeded in the study. Quinoa (*Chenopodium quinoa*), amaranth, canola, foxtail millet, flax and oats were seeded in four foot wide strips across the herbicide plots May 7th. Treatments were applied June 19th and July 2nd. All treatments were applied in 17 gpa water at 40 psi through 8002 nozzles to the center 6.67 feet of 11 foot wide plots. Quinoa, flax and canola were evaluated July 2nd, July 15th and July 29th. Amaranth, foxtail millet and oats were evaluated July 15th and July 29th. All evaluations are a visual estimate of percent fresh weight reduction in the treated plot compared to the adjacent untreated strips.

Date of Application	**June 19**	**July 2**
Time of Day	10:30 am	8:30 am
Air Temperature (°F)	74	66
Relative Humidity (%)	39	41
Soil Temp. (°F at 6")	61	67
Wind Velocity (mph)	4	11
Cloud Cover (%)	5	5
Soil Moisture	Good	Good
Quinoa	2.8 inches tall	20-30 inches tall
Amaranth	2-4 leaf	2-8 inches tall
Flax	2-10 inches tall	20-24 inches tall (flowering)
Canola	4 leaf - 15 inches tall	Flowering
Oats	3-6 leaf (3 tillers)	Jointing
Foxtail millet	3-5 leaf (1-4.5 inches tall)	4-6 leaf (3 tillers)

Experiment continued on next page.

Adjuvants and combinations with PowerMax, Prosper, 2008. (Continued)

July 2 Evaluation

Treatment*	(Date of Application)	Rate	Cano cntl	Flax cntl	Quin cntl
		(lb/A)	%	%	%
Untreated Check		0	0	0	0
Glyt+AMS	(June 19, July 2)	0.77+2.9	86	82	81
Glyt+AMS+Etho	(June 19)	0.77+2.9+0.375			
Glyt+AMS	(July 2)	0.77+2.9	99	90	81
Glyt+AMS+Etho	(June 19)	0.77+2.9+1.5			
Glyt+AMS	(July 2)	0.77+2.9	99	92	89
Glyt+AMS+Etho	(June 19, July 2)	0.77+2.9+0.188	97	92	92
Glyt+AMS	(June 19)	0.77+2.9			
Glyt+AMS+Etho	(July 2)	0.77+2.9+0.375	95	85	86
Glyt+AMS+Etho	(June 19)	0.77+2.9+3.75			
Glyt+AMS	(July 2)	0.77+2.9	98	96	92
Glyt+AMS+Tfsu	(June 19, July 2)	0.77+2.9+0.008	90	87	92
Glyt+AMS+Tfsu+DestinyHC	(June 19,July 2)	0.77+2.9+0.008+1.5%	95	95	86
Glyt+Tfsu+ClassActNG	(June 19, July 2)	0.77+0.008+2.5%	90	89	95
Glyt+Tfsu+SuperbHC+ClassActNG	(June 19, July 2)	0.77+0.008+0.5%+2.5%	90	92	99
Glyt+Tfsu+AG5006+ClassActNG	(June 19, July 2)	0.77+0.008+0.5%+2.5%	80	86	99
Glyt+Tfsu+AG5006+ClassActNG+AG2013	(June 19, July 2)	0.77+0.008+0.5%+2.5%+0.032G	80	92	91
Glyt	(June 19, July 2)	0.77	70	80	80
Glyt+NPakAMS	(June 19, July 2)	0.77+2.5%	87	87	92
Glyt+ClassActNG	(June 19, July 2)	0.77+2.5%	87	88	100
Glyt+ClassActNG+AG2013	(June 19, July 2)	0.77+2.5%+0.032G	84	88	100
Glyt+Alliance	(June 19, July 2)	0.77+1.25%	83	89	95
Glyt+Placement ProPak	(June 19, July 2)	0.77+1%	74	78	96
Glyt+AG7043	(June 19, July 2)	0.77+1%	66	73	94
Glyt+Clpy+ClassActNG	(June 19, July 2)	0.77+0.03+2.5%	83	87	100
Glyt+Clpy+ClassActNG+AG02013	(June 19, July 2)	0.77+0.03+2.5%+0.032G	78	83	100
Glyt+CletM+ClassActNG	(June 19, July 2)	0.77+0.03+2.5%	82	83	99
Glyt+CletM+SuperbHC+ClassActNG	(June 19, July 2)	0.77+0.03+0.5%+2.5%	80	76	100
Glyt+CletM+AG5006+ClassActNG	(June 19, July 2)	0.77+0.03+0.5%+2.5%	81	79	98
Glyt+CletM+AG5006+ClassActNG+AG2013	(June 19, July 2)	0.77+0.03+0.5%+2.5%+0.02G	73	78	91
EXP MEAN			82	82	89
C.V. %			8	8	7
LSD 5%			9	9	9
LSD 1%			13	12	12
# OF REPS			4	4	4

Experiment continued on next page.

Adjuvants and combinations with PowerMax, Prosper, 2008. (Continued)

July 15 Evaluation

Treatment*	(Date of Application)	Rate	Amar cntl	Quin cntl	Cano cntl	Flax cntl	Fxmi cntl	Oats cntl
		(lb/A)	%	%	%	%	%	%
Untreated Check		0	0	0	0	0	0	0
Glyt+AMS	(June 19, July 2)	0.77+2.9	100	90	90	89	100	100
Glyt+AMS+Etho	(June 19)	0.77+2.9+0.375						
Glyt+AMS	(July 2)	0.77+2.9	100	96	97	97	100	100
Glyt+AMS+Etho	(June 19)	0.77+2.9+1.5						
Glyt+AMS	(July 2)	0.77+2.9	100	99	97	97	100	100
Glyt+AMS+Etho	(June 19, July 2)	0.77+2.9+0.188	100	99	99	97	100	100
Glyt+AMS	(June 19)	0.77+2.9						
Glyt+AMS+Etho	(July 2)	0.77+2.9+0.375	100	96	94	93	100	100
Glyt+AMS+Etho	(June 19)	0.77+2.9+3.75						
Glyt+AMS	(July 2)	0.77+2.9	100	100	97	98	100	100
Glyt+AMS+Tfsu	(June 19, July 2)	0.77+2.9+0.008	100	99	92	95	100	100
Glyt+AMS+Tfsu+DestinyHC	(June 19,July 2)	0.77+2.9+0.008+1.5%	100	98	97	100	100	100
Glyt+Tfsu+ClassActNG	(June 19, July 2)	0.77+0.008+2.5%	100	99	94	96	100	100
Glyt+Tfsu+SuperbHC+ClassActNG	(June 19, July 2)	0.77+0.008+0.5%+2.5%	100	100	90	95	100	100
Glyt+Tfsu+AG5006+ClassActNG	(June 19, July 2)	0.77+0.008+0.5%+2.5%	100	100	86	96	100	100
Glyt+Tfsu+AG5006+ClassActNG+AG2013	(June 19, July 2)	0.77+0.008+0.5%+2.5%+0.032G	100	97	85	93	100	100
Glyt	(June 19, July 2)	0.77	100	92	78	86	100	100
Glyt+NPakAMS	(June 19, July 2)	0.77+2.5%	100	97	88	98	100	100
Glyt+ClassActNG	(June 19, July 2)	0.77+2.5%	100	100	87	93	100	100
Glyt+ClassActNG+AG2013	(June 19, July 2)	0.77+2.5%+0.032G	100	100	91	99	100	100
Glyt+Alliance	(June 19, July 2)	0.77+1.25%	100	100	87	96	100	100
Glyt+Placement ProPak	(June 19, July 2)	0.77+1%	100	99	84	89	100	100
Glyt+AG7043	(June 19, July 2)	0.77+1%	100	98	74	85	100	100
Glyt+Clpy+ClassActNG	(June 19, July 2)	0.77+0.03+2.5%	100	100	86	95	100	100
Glyt+Clpy+ClassActNG+AG02013	(June 19, July 2)	0.77+0.03+2.5%+0.032G	100	100	82	91	100	100
Glyt+CletM+ClassActNG	(June 19, July 2)	0.77+0.03+2.5%	100	100	85	96	100	100
Glyt+CletM+SuperbHC+ClassActNG	(June 19, July 2)	0.77+0.03+0.5%+2.5%	100	100	85	92	100	100
Glyt+CletM+AG5006+ClassActNG	(June 19, July 2)	0.77+0.03+0.5%+2.5%	100	100	89	92	100	100
Glyt+CletM+AG5006+ClassActNG+AG2013	(June 19, July 2)	0.77+0.03+0.5%+2.5%+0.02G	100	99	81	87	100	100
EXP MEAN			96	94	85	90	96	96
C.V. %			0	3	5	5	0	0
LSD 5%			0	5	6	6	0	0
LSD 1%			0	6	8	8	0	0
# OF REPS			4	4	4	4	4	4

Experiment continued on next page.

Adjuvants and combinations with PowerMax, Prosper, 2008. (Continued)

July 29 Evaluation

Treatment*	(Date of Application)	Rate	Amar cntl	Quin cntl	Cano cntl	Flax cntl	Fxmi cntl	Oats cntl
		(lb/A)	%	%	%	%	%	%
Untreated Check		0	0	0	0	0	0	0
Glyt+AMS (June 19, July 2)		0.77+2.9	100	93	92	97	100	100
Glyt+AMS+Etho (June 19) Glyt+AMS (July 2)		0.77+2.9+0.375 0.77+2.9	100	98	97	100	100	100
Glyt+AMS+Etho (June 19) Glyt+AMS (July 2)		0.77+2.9+1.5 0.77+2.9	100	100	98	100	100	100
Glyt+AMS+Etho (June 19, July 2)		0.77+2.9+0.188	100	100	98	100	100	100
Glyt+AMS (June 19) Glyt+AMS+Etho (July 2)		0.77+2.9 0.77+2.9+0.375	100	100	96	100	100	100
Glyt+AMS+Etho (June 19) Glyt+AMS (July 2)		0.77+2.9+3.75 0.77+2.9	100	100	98	100	100	100
Glyt+AMS+Tfsu (June 19, July 2)		0.77+2.9+0.008	100	100	94	100	100	100
Glyt+AMS+Tfsu+DestinyHC (June 19,July 2)		0.77+2.9+0.008+1.5%	100	100	97	100	100	100
Glyt+Tfsu+ClassActNG (June 19, July 2)		0.77+0.008+2.5%	100	100	94	100	100	100
Glyt+Tfsu+SuperbHC+ClassActNG (June 19, July 2)		0.77+0.008+0.5%+2.5%	100	100	91	99	100	100
Glyt+Tfsu+AG5006+ClassActNG (June 19, July 2)		0.77+0.008+0.5%+2.5%	100	100	90	100	100	100
Glyt+Tfsu+AG5006+ClassActNG+AG2013 (June 19, July 2)		0.77+0.008+0.5%+2.5%+0.032G	100	100	86	100	100	100
Glyt (June 19, July 2)		0.77	100	96	84	92	100	100
Glyt+NPakAMS (June 19, July 2)		0.77+2.5%	100	98	90	100	100	100
Glyt+ClassActNG (June 19, July 2)		0.77+2.5%	100	100	88	100	100	100
Glyt+ClassActNG+AG2013(June 19, July 2)		0.77+2.5%+0.032G	100	100	89	99	100	100
Glyt+Alliance (June 19, July 2)		0.77+1.25%	100	100	90	100	100	100
Glyt+Placement ProPak (June 19, July 2)		0.77+1%	100	100	85	94	100	100
Glyt+AG7043 (June 19, July 2)		0.77+1%	100	99	80	95	100	100
Glyt+Clpy+ClassActNG (June 19, July 2)		0.77+0.03+2.5%	100	100	89	100	100	100
Glyt+Clpy+ClassActNG+AG02013 (June 19, July 2)		0.77+0.03+2.5%+0.032G	100	100	87	96	100	100
Glyt+CletM+ClassActNG (June 19, July 2)		0.77+0.03+2.5%	100	100	89	100	100	100
Glyt+CletM+SuperbHC+ClassActNG (June 19, July 2)		0.77+0.03+0.5%+2.5%	100	99	89	99	100	100
Glyt+CletM+AG5006+ClassActNG (June 19, July 2)		0.77+0.03+0.5%+2.5%	100	100	89	100	100	100
Glyt+CletM+AG5006+ClassActNG+AG2013 (June 19, July 2)		0.77+0.03+0.5%+2.5%+0.02G	100	99	85	98	100	100
EXP MEAN			96	95	87	95	96	96
C.V. %			0	2	3	3	0	0
LSD 5%			0	3	4	4	0	0
LSD 1%			0	4	6	5	0	0
# OF REPS			4	4	4	4	4	4