

MSU Weed Science Research Program

Control of Common Lambsquarters in No-till Roundup Ready Soybean

Trial ID: NTS02-06
 Conducted: T-16N

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Date Planted: 5/8/2006 **Row Spacing:** 30 IN
Variety: Asgrow 2107 **No. of Reps:** 5
Population: 158,000 seeds/acre **% OM:** 2.8
Soil Type: Clay Loam **pH:** 6.8
Plot Size: 10 X 45 FT **Design:** RANDOMIZED COMPLETE BLOCK

Tillage: No-Till into corn stubble
Fertilizer: None

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	VERPG	SPEEDWELL, PURSLANE	VERONICA PEREGRINA L.
2.	TAROF	DANDELION, COMMON	TARAXACUM OFFICINALE WEBER IN WIGGERS
3.	MELAL	COCKLE, WHITE	MELANDRIUM ALBUM (MILL.) GARCKE
4.	CERAR	CHICKWEED, FIELD	CERASTIUM ARVENSE L.
5.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
6.	SONOL	SOWTHISTLE, ANNUAL	SONCHUS OLERACEUS L.
7.	ERIPH	FLEABANE, DAISY	ERIGERON PHILADELPHICUS L.
8.	AMAPO	AMARANTH, POWELL	AMARANTHUS POWELLII S.WATS.
9.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENSYLVANICUM L.
10.	ANGR	Annual grass	mainly foxtail, panicum
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

	A	B	C	D
Application Timing:	7d EPP	E.Post	M.Post	L.Post
Date Treated:	5/1/2006	6/14/2006	6/16/2006	7/6/2006
Time Treated:	4:35 pm	9:00 am	11:30 am	9:45 am
% Cloud Cover:	95	5	90	0
Air Temp., Unit:	69 F	62 F	80 F	72 F
% Relative Humidity:	39	63	38	40
Wind Speed/Unit/Dir:	10 mph E	4 mph E	5 mph SW	4 mph N
Soil Temp., Unit:	64 F	62 F	64 F	66 F
Soil/Leaf Surface M:	5 5	5 5	5 5	5 5
Soil Moist (1=w 5=d):	5	5	5	5

Crop Stage at Each Application

	A	B	C	D
Crop Name:	GLXMA	GLXMA	GLXMA	GLXMA
Height (In.):	-	4-6"	4"-7"	16-17"
Stage (L):	-	2 tri	2-3 tri	R 1

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Weed Stage at Each Application

	A	B	C	D
Weed 1 Name:	VERPG	VERPG	VERPG	VERPG
Height (In.):	4"-9"	1-3"	1"-3"	-
Stage (L):	flowering	flowering	flowering	-
Weed 2 Name:	TAROF	TAROF	TAROF	TAROF
Height (In.):	4"-8"	2-14"	-	-
Stage (L):	rosette	flowering	-	-
Weed 3 Name:	MELAL	MELAL	MELAL	MELAL
Height (In.):	3"-4"	-	-	-
Stage (L):	rosette	-	-	-
Weed 4 Name:	CERAR	CERAR	CERAR	CERAR
Height (In.):	5"-13"	-	-	-
Stage (L):	flowering	-	-	-
Weed 5 Name:	CHEAL	CHEAL	CHEAL	CHEAL
Height (In.):	.5-1.5"	1-4"	1-5"	1-3"
Stage (L):	2-6	4-16	many	4-8
Weed 6 Name:	SONOL	SONOL	SONOL	SONOL
Height (In.):	6"-10"	-	-	-
Stage (L):	rosette	-	-	-
Weed 7 Name:	ERIPH	ERIPH	ERIPH	ERIPH
Height (In.):	5"	4-7"	-	-
Stage (L):	rosette	bolt	-	-
Weed 8 Name:	AMAPO	AMAPO	AMAPO	AMAPO
Height (In.):	-	1-3"	1"-3"	-
Stage (L):	-	4-8	4-8	-
Weed 9 Name:	POLPY	POLPY	POLPY	POLPY
Height (In.):	-	1-3"	-	-
Stage (L):	-	1-6	-	-
Weed10 Name:	ANGR	ANGR	ANGR	ANGR
Height (In.):	-	-	1"-3"	1.5-3""
Stage (L):	-	-	3-5	2-4

Weed Density (plants/sq. ft.)

	1	2	3	4	5	6
Date:	7/21/2006	7/21/2006	7/21/2006	7/21/2006	7/21/2006	7/21/2006
Weed Name:	CHEAL	ABUTH	ANGR	AMBEL	SOLPT	POLPY
Density:	2	<1	3	1	<1	1
	7	8				
Date:	7/21/2006	7/21/2006				
Weed Name:	AMARE	LACSE				
Density:	1	<1				

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom				
A	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI	
A	Cub	3.8	AirMix	11003	20"	20"	100"	19	water	27	
B	Cub	3.8	AirMix	11003	22"	20"	100"	19	water	27	
C	Cub	3.8	AirMix	11003	22"	20"	100"	19	water	27	
D	Cub	3.8	AirMix	11003	29"	20"	100"	19	water	27	

Comments: Previous Crop: Corn. Previous Herbicide: Roundup, Distinct.

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Weed Code						CHEAL	ANGR		DIGSA	CHEAL	AMAPO	ANGR
Crop Code								GLXMA				
Rating Data Type						control	control	injury	control	control	control	control
Rating Unit						percent	percent	percent	percent	percent	percent	percent
Rating Date						6/14/2006	6/14/2006	6/29/2006	6/29/2006	6/29/2006	6/29/2006	7/14/2006
Trt-Eval Interval						44 DA-A	44 DA-A	59 DA-A	59 DA-A	59 DA-A	59 DA-A	74 DA-A
Trt No.	Treatment Name	Form Conc	Rate	Unit	Grow Stg	Appl Code						
1	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	42	61	2	96	96	99
1	2,4-D Ester	4	1	pt/a	7 EPP	A						99
1	AMS		17	lb/100 gal	7 EPP	A						
1	Roundup OriginalMAX	4.5	22	fl oz/a	MPOS	C						
1	AMS		17	lb/100 gal	MPOS	C						
1	Roundup OriginalMAX	4.5	22	fl oz/a	LPOS	D						
1	AMS		17	lb/100 gal	LPOS	D						
2	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	46	74	12	98	97	99
2	2,4-D Ester	4	1	pt/a	7 EPP	A						92
2	AMS		17	lb/100 gal	7 EPP	A						
2	Roundup OriginalMAX	4.5	22	fl oz/a	EPOS	B						
2	Raptor	1	4	fl oz/a	EPOS	B						
2	AMS		17	lb/100 gal	EPOS	B						
3	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	99	98	2	99	99	99
3	2,4-D Ester	4	1	pt/a	7 EPP	A						97
3	AMS		17	lb/100 gal	7 EPP	A						
3	Valor	51	2	oz/a	7 EPP	A						
3	Roundup OriginalMAX	4.5	22	fl oz/a	MPOS	C						
3	AMS		17	lb/100 gal	MPOS	C						
4	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	99	97	9	99	99	99
4	2,4-D Ester	4	1	pt/a	7 EPP	A						96
4	AMS		17	lb/100 gal	7 EPP	A						
4	Valor	51	2	oz/a	7 EPP	A						
4	Roundup OriginalMAX	4.5	22	fl oz/a	EPOS	B						
4	Raptor	1	4	fl oz/a	EPOS	B						
4	AMS		17	lb/100 gal	EPOS	B						
5	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	97	98	10	95	99	99
5	2,4-D Ester	4	1	pt/a	7 EPP	A						90
5	AMS		17	lb/100 gal	7 EPP	A						
5	Valor	51	2	oz/a	7 EPP	A						
5	Raptor	1	4	fl oz/a	EPOS	B						
5	Activator 90		0.25	% v/v	EPOS	B						
5	AMS		17	lb/100 gal	EPOS	B						
6	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	99	98	2	99	99	99
6	2,4-D Ester	4	1	pt/a	7 EPP	A						96
6	AMS		17	lb/100 gal	7 EPP	A						
6	Prowl H2O	3.8	2	pt/a	7 EPP	A						
6	Valor	51	2	oz/a	7 EPP	A						
6	Roundup OriginalMAX	4.5	22	fl oz/a	MPOS	C						
6	AMS		17	lb/100 gal	MPOS	C						
7	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	97	93	1	99	98	99
7	2,4-D Ester	4	1	pt/a	7 EPP	A						92
7	AMS		17	lb/100 gal	7 EPP	A						
7	Prowl H2O	3.8	2	pt/a	7 EPP	A						
7	Roundup OriginalMAX	4.5	22	fl oz/a	MPOS	C						
7	AMS		17	lb/100 gal	MPOS	C						
8	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	95	92	6	93	96	99
8	2,4-D Ester	4	1	pt/a	7 EPP	A						87
8	AMS		17	lb/100 gal	7 EPP	A						
8	Prowl H2O	3.8	2	pt/a	7 EPP	A						
8	Raptor	1	4	fl oz/a	EPOS	B						
8	Activator 90		0.25	% v/v	EPOS	B						
8	AMS		17	lb/100 gal	EPOS	B						

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Crop Code													
Rating Data Type						control	control	injury	control	control	control	control	
Rating Unit						percent	percent	percent	percent	percent	percent	percent	
Rating Date						6/14/2006	6/14/2006	6/29/2006	6/29/2006	6/29/2006	6/29/2006	7/14/2006	
Trt-Eval Interval						44 DA-A	44 DA-A	59 DA-A	59 DA-A	59 DA-A	59 DA-A	74 DA-A	
Trt No.	Treatment Name	Form Conc	Rate	Unit	Grow Stg	Appl Code							
9	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	99	96	12	97	99	99	
9	2,4-D Ester	4	1	pt/a	7 EPP	A						90	
9	AMS		17	lb/100 gal	7 EPP	A							
9	Canopy	75	3	oz/a	7 EPP	A							
9	Roundup OriginalMAX	4.5	22	fl oz/a	EPOS	B							
9	Harmony GT(50%)	50	0.12	oz/a	EPOS	B							
9	AMS		17	lb/100 gal	EPOS	B							
10	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	98	99	1	99	99	99	
10	2,4-D Ester	4	1	pt/a	7 EPP	A						94	
10	AMS		17	lb/100 gal	7 EPP	A							
10	Boundary	6.5	2	pt/a	7 EPP	A							
10	Roundup OriginalMAX	4.5	22	fl oz/a	MPOS	C							
10	AMS		17	lb/100 gal	MPOS	C							
11	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	41	59	15	98	95	99	
11	2,4-D Ester	4	1	pt/a	7 EPP	A						86	
11	AMS		17	lb/100 gal	7 EPP	A							
11	Roundup OriginalMAX	4.5	22	fl oz/a	EPOS	B							
11	Harmony GT(50%)	50	0.12	oz/a	EPOS	B							
11	AMS		17	lb/100 gal	EPOS	B							
12	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	32	57	1	99	98	99	
12	2,4-D Ester	4	1	pt/a	7 EPP	A						90	
12	AMS		17	lb/100 gal	7 EPP	A							
12	Roundup OriginalMAX	4.5	22	fl oz/a	EPOS	B							
12	Basagran	4	1	qt/a	EPOS	B							
12	AMS		17	lb/100 gal	EPOS	B							
13	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	61	75	11	98	98	99	
13	2,4-D Ester	4	1	pt/a	7 EPP	A						88	
13	AMS		17	lb/100 gal	7 EPP	A							
13	Roundup OriginalMAX	4.5	22	fl oz/a	EPOS	B							
13	Resource	0.86	8	fl oz/a	EPOS	B							
13	AMS		17	lb/100 gal	EPOS	B							
14	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	47	72	0	0	0	0	
14	2,4-D Ester	4	1	pt/a	7 EPP	A						0	
14	AMS		17	lb/100 gal	7 EPP	A							
14	Untreated												
LSD (P=.05)							23.4	14.5	4.8	2.9	2.6	0.0	5.4
Standard Deviation							18.5	11.4	3.8	2.3	2.1	0.0	4.3
CV							24.6	13.68	63.03	2.56	2.29	0.0	4.99

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Weed Code	CHEAL		
Crop Code		GLXMA	GLXMA
Rating Data Type	control	moisture	yield
Rating Unit	percent	percent	bu/acre
Rating Date	7/14/2006	10/6/2006	10/6/2006
Trt-Eval Interval	74 DA-A	158 DA-A	at 13% M

Trt No.	Treatment Name	Form Conc	Rate	Unit	Grow Stg	Appl Code			
1	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	99	13.6	68.3
1	2,4-D Ester	4	1	pt/a	7 EPP	A			
1	AMS		17	lb/100 gal	7 EPP	A			
1	Roundup OriginalMAX	4.5	22	fl oz/a	MPOS	C			
1	AMS		17	lb/100 gal	MPOS	C			
1	Roundup OriginalMAX	4.5	22	fl oz/a	LPOS	D			
1	AMS		17	lb/100 gal	LPOS	D			
2	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	98	13.7	67.4
2	2,4-D Ester	4	1	pt/a	7 EPP	A			
2	AMS		17	lb/100 gal	7 EPP	A			
2	Roundup OriginalMAX	4.5	22	fl oz/a	EPOS	B			
2	Raptor	1	4	fl oz/a	EPOS	B			
2	AMS		17	lb/100 gal	EPOS	B			
3	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	98	13.6	68.9
3	2,4-D Ester	4	1	pt/a	7 EPP	A			
3	AMS		17	lb/100 gal	7 EPP	A			
3	Valor	51	2	oz/a	7 EPP	A			
3	Roundup OriginalMAX	4.5	22	fl oz/a	MPOS	C			
3	AMS		17	lb/100 gal	MPOS	C			
4	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	99	13.5	67.7
4	2,4-D Ester	4	1	pt/a	7 EPP	A			
4	AMS		17	lb/100 gal	7 EPP	A			
4	Valor	51	2	oz/a	7 EPP	A			
4	Roundup OriginalMAX	4.5	22	fl oz/a	EPOS	B			
4	Raptor	1	4	fl oz/a	EPOS	B			
4	AMS		17	lb/100 gal	EPOS	B			
5	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	99	13.6	67.3
5	2,4-D Ester	4	1	pt/a	7 EPP	A			
5	AMS		17	lb/100 gal	7 EPP	A			
5	Valor	51	2	oz/a	7 EPP	A			
5	Raptor	1	4	fl oz/a	EPOS	B			
5	Activator 90		0.25	% v/v	EPOS	B			
5	AMS		17	lb/100 gal	EPOS	B			
6	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	99	13.6	68.3
6	2,4-D Ester	4	1	pt/a	7 EPP	A			
6	AMS		17	lb/100 gal	7 EPP	A			
6	Prowl H2O	3.8	2	pt/a	7 EPP	A			
6	Valor	51	2	oz/a	7 EPP	A			
6	Roundup OriginalMAX	4.5	22	fl oz/a	MPOS	C			
6	AMS		17	lb/100 gal	MPOS	C			
7	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	95	13.7	65.9
7	2,4-D Ester	4	1	pt/a	7 EPP	A			
7	AMS		17	lb/100 gal	7 EPP	A			
7	Prowl H2O	3.8	2	pt/a	7 EPP	A			
7	Roundup OriginalMAX	4.5	22	fl oz/a	MPOS	C			
7	AMS		17	lb/100 gal	MPOS	C			
8	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	97	13.6	67.3
8	2,4-D Ester	4	1	pt/a	7 EPP	A			
8	AMS		17	lb/100 gal	7 EPP	A			
8	Prowl H2O	3.8	2	pt/a	7 EPP	A			
8	Raptor	1	4	fl oz/a	EPOS	B			
8	Activator 90		0.25	% v/v	EPOS	B			
8	AMS		17	lb/100 gal	EPOS	B			

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Crop Code		GLXMA	GLXMA
Rating Data Type	control	moisture	yield
Rating Unit	percent	percent	bu/acre
Rating Date	7/14/2006	10/6/2006	10/6/2006
Trt-Eval Interval	74 DA-A	158 DA-A	at 13% M

Trt No.	Treatment Name	Form Conc	Rate	Unit	Grow Stg	Appl Code			
9	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	99	13.7	68.5
9	2,4-D Ester	4	1	pt/a	7 EPP	A			
9	AMS		17	lb/100 gal	7 EPP	A			
9	Canopy	75	3	oz/a	7 EPP	A			
9	Roundup OriginalMAX	4.5	22	fl oz/a	EPOS	B			
9	Harmony GT(50%)	50	0.12	oz/a	EPOS	B			
9	AMS		17	lb/100 gal	EPOS	B			
10	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	93	13.6	67.7
10	2,4-D Ester	4	1	pt/a	7 EPP	A			
10	AMS		17	lb/100 gal	7 EPP	A			
10	Boundary	6.5	2	pt/a	7 EPP	A			
10	Roundup OriginalMAX	4.5	22	fl oz/a	MPOS	C			
10	AMS		17	lb/100 gal	MPOS	C			
11	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	90	13.6	68.2
11	2,4-D Ester	4	1	pt/a	7 EPP	A			
11	AMS		17	lb/100 gal	7 EPP	A			
11	Roundup OriginalMAX	4.5	22	fl oz/a	EPOS	B			
11	Harmony GT(50%)	50	0.12	oz/a	EPOS	B			
11	AMS		17	lb/100 gal	EPOS	B			
12	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	94	13.7	68.6
12	2,4-D Ester	4	1	pt/a	7 EPP	A			
12	AMS		17	lb/100 gal	7 EPP	A			
12	Roundup OriginalMAX	4.5	22	fl oz/a	EPOS	B			
12	Basagran	4	1	qt/a	EPOS	B			
12	AMS		17	lb/100 gal	EPOS	B			
13	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	91	13.5	66.2
13	2,4-D Ester	4	1	pt/a	7 EPP	A			
13	AMS		17	lb/100 gal	7 EPP	A			
13	Roundup OriginalMAX	4.5	22	fl oz/a	EPOS	B			
13	Resource	0.86	8	fl oz/a	EPOS	B			
13	AMS		17	lb/100 gal	EPOS	B			
14	Roundup OriginalMAX	4.5	22	fl oz/a	7 EPP	A	0	14.8	39.0
14	2,4-D Ester	4	1	pt/a	7 EPP	A			
14	AMS		17	lb/100 gal	7 EPP	A			
14	Untreated								

LSD (P=.05)	3.3	0.39	5.38
Standard Deviation	2.6	0.31	4.25
CV	2.92	2.26	6.47