

Comparison of conventional and no-till weed control options in soybean

Trial ID: NTS04-09 Study Dir.: Sprague, Powell
 Conducted: H-5 Campus Investigator: Christy Sprague

Date Planted: 5/20/09 Row Spacing: 7.5 IN
 Variety: Asgrow 2107 No. of Reps: 4
 Population: 200,000 % OM: 2.3
 Soil Type: Silty Clay Loam pH: 7.0
 Plot Size: 10 X 35 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Field cultivated the conventional tillage strips on 5/12/09 and then on 5/20/09 prior to planting.
 Fertilizer: None

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	POANN	BLUEGRASS, ANNUAL	POA ANNUA L.
2.	TAROF	DANDELION, COMMON	TARAXACUM OFFICINALE
3.	ERICA	HORSEWEED (Marestail)	CONYZA CANADENSIS L.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
5.	ANGR	mainly foxtail species	SETARIA SP.
6.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

	A	B	C	D
Application Timing:	7 EPP	POST	LPOS	R3
Date Treated:	5/12/09	6/23/09	7/13/09	8/4/09
Time Treated:	5:00 pm	11:00 am	11:00 am	3:15 pm
% Cloud Cover:	5	5	5	95
Air Temp., Unit:	74 F	85 F	74 F	85 F
% Relative Humidity:	32	48	68	60
Wind Speed/Unit/Dir:	3 mph S	2 mph W	3 mph W	7 mph SW
Soil Temp., Unit:	67 F	73 F	68 F	77 F
Soil/Leaf Surface M:	5 5	3 5	5 5	5 5
Soil Moist (1=w 5=d):	4	3	5	5

Crop Stage at Each Application

	A	B	C	D
Crop Name:	GLXMA	GLXMA	GLXMA	GLXMA
Height (In.):	-	5	12	24
Stage (L):	-	V2	V4	R3

Weed Stage at Each Application

	A	B	C	D
Weed 1 Name:	POANN	POANN	POANN	POANN
Height (In.):	6	10	-	-
Stage (L):	many	many	-	-
Weed 2 Name:	TAROF	TAROF	TAROF	TAROF
Height (In.):	4-16	14	5 Di am	-
Stage (L):	many	many	10	-
Weed 3 Name:	ERICA	ERICA	ERICA	ERICA
Height (In.):	5	9	-	-
Stage (L):	many	many	-	-
Weed 4 Name:	AMBEL	AMBEL	AMBEL	AMBEL
Height (In.):	2	6	2	-
Stage (L):	2-4	many	4	-
Weed 5 Name:	ANGR	ANGR	ANGR	ANGR
Height (In.):		6	3	-
Stage (L):		4	4	-
Weed 6 Name:	CHEAL	CHEAL	CHEAL	CHEAL
Height (In.):				-
Stage (L):				-

Weed Density (plants/sq. ft.)

Weed Name:	1	2	3	4	5	6
Density:	10	1	<1	20	4	<1

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Appl	Sprayer Type	Speed MPH	Nozzle Type	Application Equipment						
				Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	GPA	Carrier	PSI
A	Cub	3.8	AirMix	11003	25"	20"	100"	19	Water	28
B	Cub	3.8	AirMix	11003	27"	20"	100"	19	Water	28
C	Cub	3.8	AirMix	11003	25"	20"	100"	19	Water	28
D	Cub	3.8	AirMix	11003	32"	20"	100"	19	Water	28

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Weed Code								POAAN	TAROF	THLAR	ERICA	ANGR	CHEAL	AMBEL	GLXMA
Crop Code								GLXMA							GLXMA
Rating Data Type								injury	control	control	control	control	control	control	injury
Rating Unit								percent	percent	percent	percent	percent	percent	percent	percent
Rating Date								6/12/09	6/12/09	6/12/09	6/12/09	6/12/09	6/12/09	6/12/09	7/7/09
Trt-Eval Interval								31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	14 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code								
1	Conventional Tillage							3	92	94	99	99	0	0	0
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B								
1	AMS		WG	17	lb/100 gal	POST	B								
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	C								
1	AMS		WG	17	lb/100 gal	LPOS	C								
2	Conventional Tillage							3	94	97	99	99	0	0	0
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B								
2	AMS		WG	17	lb/100 gal	POST	B								
3	Conventional Tillage							0	96	96	99	99	0	0	0
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B								
3	AMS		WG	17	lb/100 gal	POST	B								
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	C								
3	AMS		WG	17	lb/100 gal	LPOS	C								
3	Headline	2.09	L	6	fl oz/a	R3	D								
3	Activator 90		L	0.25	% v/v	R3	D								
4	Conventional Tillage							0	95	97	99	99	0	0	0
4	Untreated														
5	No-Tillage							0	99	95	99	99	99	99	0
5	Extreme	2.17	L	3	pt/a	7 EPP	A								
5	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A								
5	Activator 90		L	0.25	% v/v	7 EPP	A								
5	AMS		WG	17	lb/100 gal	7 EPP	A								
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B								
5	AMS		WG	17	lb/100 gal	POST	B								
6	No-Tillage							3	99	95	99	99	7	99	99
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A								
6	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A								
6	AMS		WG	17	lb/100 gal	7 EPP	A								
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B								
6	AMS		WG	17	lb/100 gal	POST	B								
7	No-Tillage							3	98	95	97	99	96	99	99
7	Extreme	2.17	L	3	pt/a	7 EPP	A								
7	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A								
7	Activator 90		L	0.25	% v/v	7 EPP	A								
7	AMS		WG	17	lb/100 gal	7 EPP	A								
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B								
7	AMS		WG	17	lb/100 gal	POST	B								
7	Headline	2.09	L	6	fl oz/a	R3	D								
7	Activator 90		L	0.25	% v/v	R3	D								
8	No-Tillage							0	0	0	0	0	0	0	0
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B								
8	AMS		WG	17	lb/100 gal	POST	B								
LSD (P=.05)								6.0	6.8	5.6	2.7	0.0	6.5	0.0	0.0
Standard Deviation								4.0	4.5	3.7	1.8	0.0	4.3	0.0	0.0
CV								296.13	5.38	4.46	2.11	0.0	17.0	0.0	0.0

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Weed Code	ANGR	CHEAL	AMBEL	TAROF	NOTILL WEEDS	GLXMA	ANGR	CHEAL	AMBEL
Crop Code									
Rating Data Type	control	control	control	control	control	injury	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent	percent	percent
Rating Date	7/7/09	7/7/09	7/7/09	7/7/09	7/24/09	7/24/09	7/24/09	7/24/09	7/24/09
Trt-Eval Interval	14 DA-B	14 DA-B	14 DA-B	14 DA-B	31 DA-B	31 DA-B	31 DA-B	31 DA-B	31 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	ANGR	CHEAL	AMBEL	TAROF	NOTILL WEEDS	GLXMA	ANGR	CHEAL	AMBEL
1	Conventional Tillage							98	99	99	98	99	0	99	99	99
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B									
1	AMS		WG	17	lb/100 gal	POST	B									
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	C									
1	AMS		WG	17	lb/100 gal	LPOS	C									
2	Conventional Tillage							97	99	99	98	99	0	93	99	99
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B									
2	AMS		WG	17	lb/100 gal	POST	B									
3	Conventional Tillage							98	99	99	99	99	0	99	99	99
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B									
3	AMS		WG	17	lb/100 gal	POST	B									
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	C									
3	AMS		WG	17	lb/100 gal	LPOS	C									
3	Headline	2.09	L	6	fl oz/a	R3	D									
3	Activator 90		L	0.25	% v/v	R3	D									
4	Conventional Tillage							0	0	0	0	99	0	0	0	0
4	Untreated															
5	No-Tillage							98	99	99	89	99	0	98	99	99
5	Extreme	2.17	L	3	pt/a	7 EPP	A									
5	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A									
5	Activator 90		L	0.25	% v/v	7 EPP	A									
5	AMS		WG	17	lb/100 gal	7 EPP	A									
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B									
5	AMS		WG	17	lb/100 gal	POST	B									
6	No-Tillage							96	99	99	99	99	0	95	99	99
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A									
6	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A									
6	AMS		WG	17	lb/100 gal	7 EPP	A									
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B									
6	AMS		WG	17	lb/100 gal	POST	B									
7	No-Tillage							93	99	99	69	99	0	94	99	99
7	Extreme	2.17	L	3	pt/a	7 EPP	A									
7	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A									
7	Activator 90		L	0.25	% v/v	7 EPP	A									
7	AMS		WG	17	lb/100 gal	7 EPP	A									
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B									
7	AMS		WG	17	lb/100 gal	POST	B									
7	Headline	2.09	L	6	fl oz/a	R3	D									
7	Activator 90		L	0.25	% v/v	R3	D									
8	No-Tillage							97	99	99	68	97	0	98	99	99
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B									
8	AMS		WG	17	lb/100 gal	POST	B									
LSD (P=.05)								6.4	0.6	0.6	24.4	1.4	0.0	6.8	0.0	0.0
Standard Deviation								4.3	0.4	0.4	16.3	0.9	0.0	4.5	0.0	0.0
CV								5.04	0.47	0.47	21.02	0.95	0.0	5.35	0.0	0.0

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Weed Code
 Crop Code
 Rating Data Type
 Rating Unit
 Rating Date
 Trt-Eval Interval

GLXMA GLXMA
 moisture yield
 percent bu/acre
 10/14/09 10/14/09
 155 DA-A at 13% M

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code		
1	Conventional Tillage							14.6	57.6
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B		
1	AMS		WG	17	lb/100 gal	POST	B		
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	C		
1	AMS		WG	17	lb/100 gal	LPOS	C		
2	Conventional Tillage							14.5	57.6
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B		
2	AMS		WG	17	lb/100 gal	POST	B		
3	Conventional Tillage							15.6	62.5
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B		
3	AMS		WG	17	lb/100 gal	POST	B		
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	C		
3	AMS		WG	17	lb/100 gal	LPOS	C		
3	Headline	2.09	L	6	fl oz/a	R3	D		
3	Activator 90		L	0.25	% v/v	R3	D		
4	Conventional Tillage							15.7	44.5
4	Untreated								
5	No-Tillage							15.1	52.3
5	Extreme	2.17	L	3	pt/a	7 EPP	A		
5	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A		
5	Activator 90		L	0.25	% v/v	7 EPP	A		
5	AMS		WG	17	lb/100 gal	7 EPP	A		
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B		
5	AMS		WG	17	lb/100 gal	POST	B		
6	No-Tillage							15.6	53.4
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A		
6	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A		
6	AMS		WG	17	lb/100 gal	7 EPP	A		
6	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B		
6	AMS		WG	17	lb/100 gal	POST	B		
7	No-Tillage							17.0	59.7
7	Extreme	2.17	L	3	pt/a	7 EPP	A		
7	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A		
7	Activator 90		L	0.25	% v/v	7 EPP	A		
7	AMS		WG	17	lb/100 gal	7 EPP	A		
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B		
7	AMS		WG	17	lb/100 gal	POST	B		
7	Headline	2.09	L	6	fl oz/a	R3	D		
7	Activator 90		L	0.25	% v/v	R3	D		
8	No-Tillage							15.0	55.5
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B		
8	AMS		WG	17	lb/100 gal	POST	B		
LSD (P=.05)								1.98	15.18
Standard Deviation								1.35	10.32
CV								8.76	18.64