

MSU Weed Science Research Program

Benefits of Residual Herbicides for Weed Control in No-Till Soybean I

Trial ID: NTS04-07
 Conducted: C-28NW Campus

Study Dir.: Sprague, Powell, Armstrong
 Investigator: Christy Sprague

Date Planted: 5/14/07 **Row Spacing:** 7.5 IN
Variety: Asgrow 2107 **No. of Reps:** 4
Population: 205,000 Seeds/Acre **% OM:** 3.1
Soil Type: Sandy Clay Loam **pH:** 6.2
Plot Size: 10 X 32 FT **Design:** RANDOMIZED COMPLETE BLOCK

Tillage: No-Till
Fertilizer: None at planting

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	TAROF	DANDELION, COMMON	TARAXACUM OFFICINALE WEBER IN WIGGERS
2.	STEME	CHICKWEED, COMMON	STELLARIA MEDIA (L.) VILL./CYR.
3.	ANGR	mainly foxtail species	SETARIA SP.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ELATIOR L.
5.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
6.	ERIST	FLEABANE, ROUGH	ERIGERON STRIGOSUS
7.	ERICA	HORSEWEED	ERIGERON CANADENSIS L.
8.	SOLPT	NIGHTSHADE, EASTERN BLACK	SOLANUM PTYCANTHUM DUNAL
9.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

	A	B	C	D
Application Timing:	7D EPP	MPOST	POST	LPOST
Date Treated:	5/3/07	6/15/07	6/22/07	7/2/07
Time Treated:	12:00 pm	3:00 pm	11:30 am	9:30 am
% Cloud Cover:	0	20	10	0
Air Temp., Unit:	63 F	89 F	72 F	60 F
% Relative Humidity:	25	55	20	60
Wind Speed/Unit/Dir:	6 mph E	4 mph NE	4 mph NW	5 mph E
Soil Temp., Unit:	55 F	89 F	70 F	64 F
Soil/Leaf Surface M:	5 4	5 5	5 5	5 4
Soil Moist (1=w 5=d):	3	5	5	5

Crop Stage at Each Application

	A	B	C	D
Crop Name:	GLXMA	GLXMA	GLXMA	GLXMA
Height (In.):	-	5-7"	7-9"	10-12"
Stage (L):	-	V3	V4-V5	R1

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Weed Stage at Each Application

	A	B	C	D
Weed 1 Name:	TAROF	TAROF	TAROF	TAROF
Height (In.):	3-8"	4-17" dia	3-18" dia	4-16" dia
Stage (L):	flower	many	many	many
Weed 2 Name:	STEME	STEME	STEME	STEME
Height (In.):	6-20" dia	6-12" dia	-	-
Stage (L):	flower	flower	-	-
Weed 3 Name:	ANGR	ANGR	ANGR	ANGR
Height (In.):	1-2"	1/4-12"	1/2-12"	2-16"
Stage (L):	many/flwr	1-4	2-5	2-6
Weed 4 Name:	AMBEL	AMBEL	AMBEL	AMBEL
Height (In.):	1/4"	1/2-10"	1-10"	3-16"
Stage (L):	coty-2	2-many	4-many	many
Weed 5 Name:	CHEAL	CHEAL	CHEAL	CHEAL
Height (In.):	1/4-1/2"	1/2-3"	1-10"	2-16"
Stage (L):	coty-4	4-10	4-many	many
Weed 6 Name:	ERIST	ERIST	ERIST	ERIST
Height (In.):	3-6" dia	-	-	-
Stage (L):	many	-	-	-
Weed 7 Name:	ERICA	ERICA	ERICA	ERICA
Height (In.):	-	4-17"	4-24"	6-16"
Stage (L):	-	many	many	many
Weed 8 Name:	SOLPT	SOLPT	SOLPT	SOLPT
Height (In.):	-	3/4-6"	1/2-10"	1-14"
Stage (L):	-	2-many	2-many	6-many
Weed 9 Name:	ABUTH	ABUTH	ABUTH	ABUTH
Height (In.):	-	-	-	10"
Stage (L):	-	-	-	8

Weed Density (plants/sq. ft.)

	1	2	3	4	5	6
Date:	7/10/07	7/10/07	7/10/07	7/10/07	7/10/07	7/10/07
Weed Name:	ANGR	AMBEL	CHEAL	STEME	VERPG	ERIST
Density:	9	< 1	< 1	< 1	< 1	< 1
	7	8	9			
Date:	7/10/07	7/10/07	7/10/07			
Weed Name:	TAROF	DAUCA	MELAL			
Density:	1	< 1	< 1			

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI
A	Cub	3.8	AirMix	11003	23"	20"	100"	19	Water	27
B	Cub	3.8	AirMix	11003	28"	20"	100"	19	Water	27
C	Cub	3.8	AirMix	11003	28"	20"	100"	19	Water	27
D	Cub	3.8	AirMix	11003	28"	20"	100"	19	Water	27

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Crop Code							
Rating Data Type	control	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Rating Date	6/18/07	6/18/07	6/18/07	6/22/07	6/22/07	6/22/07	6/22/07
Trt-Eval Interval	46 DA-A	46 DA-A	46 DA-A	50 DA-A	50 DA-A	50 DA-A	50 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A				
1	2,4-D Ester	4	L	1	pt/a	7	EPP A				
1	AMS		WG	17	lb/100 gal	7	EPP A				
2	Canopy	75	WG	3	oz/a	7	EPP A				
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A				
2	2,4-D Ester	4	L	1	pt/a	7	EPP A				
2	AMS		WG	17	lb/100 gal	7	EPP A				
3	Boundary	6.5	EC	1.75	pt/a	7	EPP A				
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A				
3	2,4-D Ester	4	L	1	pt/a	7	EPP A				
3	AMS		WG	17	lb/100 gal	7	EPP A				
4	Untreated										
5	Valor	51	WG	2.5	oz/a	7	EPP A				
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A				
5	2,4-D Ester	4	L	1	pt/a	7	EPP A				
5	AMS		WG	17	lb/100 gal	7	EPP A				
6	Extreme	2.17	L	3	pt/a	7	EPP A				
6	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7	EPP A				
6	2,4-D Ester	4	L	1	pt/a	7	EPP A				
6	Activator 90 NIS		L	0.25	% v/v	7	EPP A				
6	AMS		WG	17	lb/100 gal	7	EPP A				
7	Prowl H2O	3.8	L	2	pt/a	7	EPP A				
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A				
7	2,4-D Ester	4	L	1	pt/a	7	EPP A				
7	AMS		WG	17	lb/100 gal	7	EPP A				
8	Linex	4	L	1	pt/a	7	EPP A				
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A				
8	2,4-D Ester	4	L	1	pt/a	7	EPP A				
8	AMS		WG	17	lb/100 gal	7	EPP A				
9	2,4-D Ester	4	L	1	pt/a	7	EPP A				
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A	0	0	0	
10	2,4-D Ester	4	L	1	pt/a	7	EPP A				
10	AMS		WG	17	lb/100 gal	7	EPP A				
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B				
10	AMS		WG	17	lb/100 gal	MPOS	B				
11	Canopy	75	WG	3	oz/a	7	EPP A	69	96	40	
11	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A				
11	2,4-D Ester	4	L	1	pt/a	7	EPP A				
11	AMS		WG	17	lb/100 gal	7	EPP A				
11	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B				
11	AMS		WG	17	lb/100 gal	MPOS	B				
12	Boundary	6.5	EC	1.75	pt/a	7	EPP A	85	58	43	
12	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A				
12	2,4-D Ester	4	L	1	pt/a	7	EPP A				
12	AMS		WG	17	lb/100 gal	7	EPP A				
12	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B				
12	AMS		WG	17	lb/100 gal	MPOS	B				
13	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B	0	0	0	
13	AMS		WG	17	lb/100 gal	MPOS	B				

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Crop Code							
Rating Data Type	control	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Rating Date	6/18/07	6/18/07	6/18/07	6/22/07	6/22/07	6/22/07	6/22/07
Trt-Eval Interval	46 DA-A	46 DA-A	46 DA-A	50 DA-A	50 DA-A	50 DA-A	50 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
24	Extreme	2.17	L	3	pt/a	7 EPP	A	65	50	99	61	55	98	81
24	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7 EPP	A							
24	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
24	Activator 90 NIS		L	0.25	% v/v	7 EPP	A							
24	AMS		WG	17	lb/100 gal	7 EPP	A							
24	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C							
24	AMS		WG	17	lb/100 gal	POST	C							
25	Prowl H2O	3.8	L	2	pt/a	7 EPP	A	10	20	99	43	23	78	63
25	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
25	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
25	AMS		WG	17	lb/100 gal	7 EPP	A							
25	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C							
25	AMS		WG	17	lb/100 gal	POST	C							
26	Linex	4	L	1	pt/a	7 EPP	A	0	60	75	31	40	51	37
26	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
26	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
26	AMS		WG	17	lb/100 gal	7 EPP	A							
26	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C							
26	AMS		WG	17	lb/100 gal	POST	C							
27	2,4-D Ester	4	L	1	pt/a	7 EPP	A	60	60	80	35	43	49	50
27	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C							
27	AMS		WG	17	lb/100 gal	POST	C							
28	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
28	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
28	AMS		WG	17	lb/100 gal	7 EPP	A							
28	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
28	AMS		WG	17	lb/100 gal	LPOS	D							
29	Canopy	75	WG	3	oz/a	7 EPP	A							
29	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
29	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
29	AMS		WG	17	lb/100 gal	7 EPP	A							
29	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
29	AMS		WG	17	lb/100 gal	LPOS	D							
30	Boundary	6.5	EC	1.75	pt/a	7 EPP	A							
30	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
30	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
30	AMS		WG	17	lb/100 gal	7 EPP	A							
30	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
30	AMS		WG	17	lb/100 gal	LPOS	D							
31	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
31	AMS		WG	17	lb/100 gal	LPOS	D							
32	Valor	51	WG	2.5	oz/a	7 EPP	A							
32	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
32	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
32	AMS		WG	17	lb/100 gal	7 EPP	A							
32	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
32	AMS		WG	17	lb/100 gal	LPOS	D							

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Crop Code							
Rating Data Type	control	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Rating Date	6/18/07	6/18/07	6/18/07	6/22/07	6/22/07	6/22/07	6/22/07
Trt-Eval Interval	46 DA-A	46 DA-A	46 DA-A	50 DA-A	50 DA-A	50 DA-A	50 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Grow Stg	Appl Code
33	Extreme	2.17	L	3	pt/a	7 EPP	A
33	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7 EPP	A
33	2,4-D Ester	4	L	1	pt/a	7 EPP	A
33	Activator 90 NIS		L	0.25	% v/v	7 EPP	A
33	AMS		WG	17	lb/100 gal	7 EPP	A
33	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D
33	AMS		WG	17	lb/100 gal	LPOS	D
34	Prowl H2O	3.8	L	2	pt/a	7 EPP	A
34	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
34	2,4-D Ester	4	L	1	pt/a	7 EPP	A
34	AMS		WG	17	lb/100 gal	7 EPP	A
34	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D
34	AMS		WG	17	lb/100 gal	LPOS	D
35	Linex	4	L	1	pt/a	7 EPP	A
35	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
35	2,4-D Ester	4	L	1	pt/a	7 EPP	A
35	AMS		WG	17	lb/100 gal	7 EPP	A
35	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D
35	AMS		WG	17	lb/100 gal	LPOS	D
36	2,4-D Ester	4	L	1	pt/a	7 EPP	A
36	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D
36	AMS		WG	17	lb/100 gal	LPOS	D
37	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
37	2,4-D Ester	4	L	1	pt/a	7 EPP	A
37	AMS		WG	17	lb/100 gal	7 EPP	A
37	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B
37	AMS		WG	17	lb/100 gal	MPOS	B
37	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D
37	AMS		WG	17	lb/100 gal	LPOS	D
38	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B
38	AMS		WG	17	lb/100 gal	MPOS	B
38	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D
38	AMS		WG	17	lb/100 gal	LPOS	D
39	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C
39	AMS		WG	17	lb/100 gal	POST	C
39	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D
39	AMS		WG	17	lb/100 gal	LPOS	D

LSD (P=.05)	29.8	30.9	32.0	41.4	30.5	27.2	39.0
Standard Deviation	20.4	21.2	22.0	28.4	20.9	18.6	26.6
CV	50.22	48.6	34.01	72.41	55.87	31.91	60.03

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Weed Code	ANGR	AMBEL	CHEAL	SOLPT	ERICA	ABUTH	AMARE
Crop Code							
Rating Data Type	control	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Rating Date	7/15/07	7/15/07	7/15/07	7/15/07	7/15/07	7/15/07	7/15/07
Trt-Eval Interval	73 DA-A	73 DA-A	73 DA-A	73 DA-A	73 DA-A	73 DA-A	73 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
1	2,4-D Ester	4	L	1	pt/a	7 EPP	A
1	AMS		WG	17	lb/100 gal	7 EPP	A
2	Canopy	75	WG	3	oz/a	7 EPP	A
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
2	2,4-D Ester	4	L	1	pt/a	7 EPP	A
2	AMS		WG	17	lb/100 gal	7 EPP	A
3	Boundary	6.5	EC	1.75	pt/a	7 EPP	A
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
3	2,4-D Ester	4	L	1	pt/a	7 EPP	A
3	AMS		WG	17	lb/100 gal	7 EPP	A
4	Untreated						
5	Valor	51	WG	2.5	oz/a	7 EPP	A
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
5	2,4-D Ester	4	L	1	pt/a	7 EPP	A
5	AMS		WG	17	lb/100 gal	7 EPP	A
6	Extreme	2.17	L	3	pt/a	7 EPP	A
6	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7 EPP	A
6	2,4-D Ester	4	L	1	pt/a	7 EPP	A
6	Activator 90 NIS		L	0.25	% v/v	7 EPP	A
6	AMS		WG	17	lb/100 gal	7 EPP	A
7	Prowl H2O	3.8	L	2	pt/a	7 EPP	A
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
7	2,4-D Ester	4	L	1	pt/a	7 EPP	A
7	AMS		WG	17	lb/100 gal	7 EPP	A
8	Linex	4	L	1	pt/a	7 EPP	A
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
8	2,4-D Ester	4	L	1	pt/a	7 EPP	A
8	AMS		WG	17	lb/100 gal	7 EPP	A
9	2,4-D Ester	4	L	1	pt/a	7 EPP	A
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
10	2,4-D Ester	4	L	1	pt/a	7 EPP	A
10	AMS		WG	17	lb/100 gal	7 EPP	A
10	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B
10	AMS		WG	17	lb/100 gal	MPOS	B
11	Canopy	75	WG	3	oz/a	7 EPP	A
11	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
11	2,4-D Ester	4	L	1	pt/a	7 EPP	A
11	AMS		WG	17	lb/100 gal	7 EPP	A
11	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B
11	AMS		WG	17	lb/100 gal	MPOS	B
12	Boundary	6.5	EC	1.75	pt/a	7 EPP	A
12	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
12	2,4-D Ester	4	L	1	pt/a	7 EPP	A
12	AMS		WG	17	lb/100 gal	7 EPP	A
12	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B
12	AMS		WG	17	lb/100 gal	MPOS	B
13	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B
13	AMS		WG	17	lb/100 gal	MPOS	B

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Crop Code							
Rating Data Type	control	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Rating Date	7/15/07	7/15/07	7/15/07	7/15/07	7/15/07	7/15/07	7/15/07
Trt-Eval Interval	73 DA-A	73 DA-A	73 DA-A	73 DA-A	73 DA-A	73 DA-A	73 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code
14	Valor	51	WG	2.5	oz/a	7 EPP	A
14	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
14	2,4-D Ester	4	L	1	pt/a	7 EPP	A
14	AMS		WG	17	lb/100 gal	7 EPP	A
14	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B
14	AMS		WG	17	lb/100 gal	MPOS	B
15	Extreme	2.17	L	3	pt/a	7 EPP	A
15	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7 EPP	A
15	2,4-D Ester	4	L	1	pt/a	7 EPP	A
15	Activator 90 NIS		L	0.25	% v/v	7 EPP	A
15	AMS		WG	17	lb/100 gal	7 EPP	A
15	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B
15	AMS		WG	17	lb/100 gal	MPOS	B
16	Prowl H2O	3.8	L	2	pt/a	7 EPP	A
16	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
16	2,4-D Ester	4	L	1	pt/a	7 EPP	A
16	AMS		WG	17	lb/100 gal	7 EPP	A
16	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B
16	AMS		WG	17	lb/100 gal	MPOS	B
17	Linex	4	L	1	pt/a	7 EPP	A
17	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
17	2,4-D Ester	4	L	1	pt/a	7 EPP	A
17	AMS		WG	17	lb/100 gal	7 EPP	A
17	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B
17	AMS		WG	17	lb/100 gal	MPOS	B
18	2,4-D Ester	4	L	1	pt/a	7 EPP	A
18	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B
18	AMS		WG	17	lb/100 gal	MPOS	B
19	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
19	2,4-D Ester	4	L	1	pt/a	7 EPP	A
19	AMS		WG	17	lb/100 gal	7 EPP	A
19	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C
19	AMS		WG	17	lb/100 gal	POST	C
20	Canopy	75	WG	3	oz/a	7 EPP	A
20	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
20	2,4-D Ester	4	L	1	pt/a	7 EPP	A
20	AMS		WG	17	lb/100 gal	7 EPP	A
20	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C
20	AMS		WG	17	lb/100 gal	POST	C
21	Boundary	6.5	EC	1.75	pt/a	7 EPP	A
21	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
21	2,4-D Ester	4	L	1	pt/a	7 EPP	A
21	AMS		WG	17	lb/100 gal	7 EPP	A
21	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C
21	AMS		WG	17	lb/100 gal	POST	C
22	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C
22	AMS		WG	17	lb/100 gal	POST	C
23	Valor	51	WG	2.5	oz/a	7 EPP	A
23	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
23	2,4-D Ester	4	L	1	pt/a	7 EPP	A
23	AMS		WG	17	lb/100 gal	7 EPP	A
23	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C
23	AMS		WG	17	lb/100 gal	POST	C

MSU Weed Science Research Program

Benefits of Residual Herbicides for Weed Control in No-Till Soybean I

Trial ID: NTS04-07
 Conducted: C-28NW Campus

Study Dir.: Sprague, Powell, Armstrong
 Investigator: Christy Sprague

Weed Code	ANGR	AMBEL	CHEAL	SOLPT	ERICA	ABUTH	AMARE
Crop Code							
Rating Data Type	control	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Rating Date	7/15/07	7/15/07	7/15/07	7/15/07	7/15/07	7/15/07	7/15/07
Trt-Eval Interval	73 DA-A	73 DA-A	73 DA-A	73 DA-A	73 DA-A	73 DA-A	73 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
24	Extreme	2.17	L	3	pt/a	7	EPP A						
24	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7	EPP A						
24	2,4-D Ester	4	L	1	pt/a	7	EPP A						
24	Activator 90 NIS		L	0.25	% v/v	7	EPP A						
24	AMS		WG	17	lb/100 gal	7	EPP A						
24	Roundup WeatherMax	4.5	SL	22	fl oz/a		POST C						
24	AMS		WG	17	lb/100 gal		POST C						
25	Prowl H2O	3.8	L	2	pt/a	7	EPP A						
25	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A						
25	2,4-D Ester	4	L	1	pt/a	7	EPP A						
25	AMS		WG	17	lb/100 gal	7	EPP A						
25	Roundup WeatherMax	4.5	SL	22	fl oz/a		POST C						
25	AMS		WG	17	lb/100 gal		POST C						
26	Linex	4	L	1	pt/a	7	EPP A						
26	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A						
26	2,4-D Ester	4	L	1	pt/a	7	EPP A						
26	AMS		WG	17	lb/100 gal	7	EPP A						
26	Roundup WeatherMax	4.5	SL	22	fl oz/a		POST C						
26	AMS		WG	17	lb/100 gal		POST C						
27	2,4-D Ester	4	L	1	pt/a	7	EPP A						
27	Roundup WeatherMax	4.5	SL	22	fl oz/a		POST C						
27	AMS		WG	17	lb/100 gal		POST C						
28	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A	3	21	23	32	33	33
28	2,4-D Ester	4	L	1	pt/a	7	EPP A						
28	AMS		WG	17	lb/100 gal	7	EPP A						
28	Roundup WeatherMax	4.5	SL	22	fl oz/a		LPOS D						
28	AMS		WG	17	lb/100 gal		LPOS D						
29	Canopy	75	WG	3	oz/a	7	EPP A	43	79	99	30	97	99
29	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A						
29	2,4-D Ester	4	L	1	pt/a	7	EPP A						
29	AMS		WG	17	lb/100 gal	7	EPP A						
29	Roundup WeatherMax	4.5	SL	22	fl oz/a		LPOS D						
29	AMS		WG	17	lb/100 gal		LPOS D						
30	Boundary	6.5	EC	1.75	pt/a	7	EPP A	69	18	35	23	71	74
30	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A						
30	2,4-D Ester	4	L	1	pt/a	7	EPP A						
30	AMS		WG	17	lb/100 gal	7	EPP A						
30	Roundup WeatherMax	4.5	SL	22	fl oz/a		LPOS D						
30	AMS		WG	17	lb/100 gal		LPOS D						
31	Roundup WeatherMax	4.5	SL	22	fl oz/a		LPOS D	38	15	50	10	50	50
31	AMS		WG	17	lb/100 gal		LPOS D						
32	Valor	51	WG	2.5	oz/a	7	EPP A	59	58	86	73	96	99
32	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A						
32	2,4-D Ester	4	L	1	pt/a	7	EPP A						
32	AMS		WG	17	lb/100 gal	7	EPP A						
32	Roundup WeatherMax	4.5	SL	22	fl oz/a		LPOS D						
32	AMS		WG	17	lb/100 gal		LPOS D						

MSU Weed Science Research Program

Benefits of Residual Herbicides for Weed Control in No-Till Soybean I

Trial ID: NTS04-07
 Conducted: C-28NW Campus

Study Dir.: Sprague, Powell, Armstrong
 Investigator: Christy Sprague

Weed Code	ANGR	AMBEL	CHEAL	SOLPT	ERICA	ABUTH	AMARE
Crop Code							
Rating Data Type	control	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Rating Date	7/15/07	7/15/07	7/15/07	7/15/07	7/15/07	7/15/07	7/15/07
Trt-Eval Interval	73 DA-A	73 DA-A	73 DA-A	73 DA-A	73 DA-A	73 DA-A	73 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
33	Extreme	2.17	L	3	pt/a	7 EPP	A	43	35	50	45	49	50	50
33	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7 EPP	A							
33	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
33	Activator 90 NIS		L	0.25	% v/v	7 EPP	A							
33	AMS		WG	17	lb/100 gal	7 EPP	A							
33	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
33	AMS		WG	17	lb/100 gal	LPOS	D							
34	Prowl H2O	3.8	L	2	pt/a	7 EPP	A	59	36	65	59	73	74	74
34	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
34	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
34	AMS		WG	17	lb/100 gal	7 EPP	A							
34	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
34	AMS		WG	17	lb/100 gal	LPOS	D							
35	Linex	4	L	1	pt/a	7 EPP	A	19	40	45	20	74	74	74
35	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
35	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
35	AMS		WG	17	lb/100 gal	7 EPP	A							
35	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
35	AMS		WG	17	lb/100 gal	LPOS	D							
36	2,4-D Ester	4	L	1	pt/a	7 EPP	A	55	58	85	99	68	99	99
36	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
36	AMS		WG	17	lb/100 gal	LPOS	D							
37	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
37	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
37	AMS		WG	17	lb/100 gal	7 EPP	A							
37	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B							
37	AMS		WG	17	lb/100 gal	MPOS	B							
37	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
37	AMS		WG	17	lb/100 gal	LPOS	D							
38	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B							
38	AMS		WG	17	lb/100 gal	MPOS	B							
38	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
38	AMS		WG	17	lb/100 gal	LPOS	D							
39	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C							
39	AMS		WG	17	lb/100 gal	POST	C							
39	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
39	AMS		WG	17	lb/100 gal	LPOS	D							
LSD (P=.05)								44.6	30.3	50.2	48.3	64.9	66.3	64.7
Standard Deviation								30.3	20.6	33.9	32.5	43.7	44.4	43.4
CV								70.75	51.65	56.99	74.99	64.55	61.37	60.36

MSU Weed Science Research Program

Benefits of Residual Herbicides for Weed Control in No-Till Soybean I

Trial ID: NTS04-07
 Conducted: C-28NW Campus

Study Dir.: Sprague, Powell, Armstrong
 Investigator: Christy Sprague

Weed Code		ANGR		AMBEL		ABUTH		ERICA		SOLPT		GLXMA	GLXMA	
Crop Code												moisture	yield	
Rating Data Type		control		control		control		control		control		percent	bu/acre	
Rating Unit		7/23/07		7/23/07		7/23/07		7/23/07		7/23/07		10/24/07	10/24/07	
Rating Date		81 DA-A		81 DA-A		81 DA-A		81 DA-A		81 DA-A		174 DA-A	at 13% M	
Trt-Eval Interval														
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
24	Extreme	2.17	L	3	pt/a	7 EPP	A	92	99	99	99	99	14.2	55.8
24	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7 EPP	A							
24	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
24	Activator 90 NIS		L	0.25	% v/v	7 EPP	A							
24	AMS		WG	17	lb/100 gal	7 EPP	A							
24	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C							
24	AMS		WG	17	lb/100 gal	POST	C							
25	Prowl H2O	3.8	L	2	pt/a	7 EPP	A	86	97	99	99	99	14.6	54.2
25	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
25	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
25	AMS		WG	17	lb/100 gal	7 EPP	A							
25	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C							
25	AMS		WG	17	lb/100 gal	POST	C							
26	Linex	4	L	1	pt/a	7 EPP	A	92	94	99	99	99	14.7	58.0
26	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
26	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
26	AMS		WG	17	lb/100 gal	7 EPP	A							
26	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C							
26	AMS		WG	17	lb/100 gal	POST	C							
27	2,4-D Ester	4	L	1	pt/a	7 EPP	A	96	99	99	99	99	14.4	46.7
27	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C							
27	AMS		WG	17	lb/100 gal	POST	C							
28	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A	99	99	99	99	99	14.9	47.6
28	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
28	AMS		WG	17	lb/100 gal	7 EPP	A							
28	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
28	AMS		WG	17	lb/100 gal	LPOS	D							
29	Canopy	75	WG	3	oz/a	7 EPP	A	99	99	99	99	99	14.3	50.3
29	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
29	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
29	AMS		WG	17	lb/100 gal	7 EPP	A							
29	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
29	AMS		WG	17	lb/100 gal	LPOS	D							
30	Boundary	6.5	EC	1.75	pt/a	7 EPP	A	99	96	99	99	99	14.5	43.2
30	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
30	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
30	AMS		WG	17	lb/100 gal	7 EPP	A							
30	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
30	AMS		WG	17	lb/100 gal	LPOS	D							
31	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D	99	99	99	99	99	15.0	35.3
31	AMS		WG	17	lb/100 gal	LPOS	D							
32	Valor	51	WG	2.5	oz/a	7 EPP	A	99	99	99	99	99	14.2	49.5
32	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
32	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
32	AMS		WG	17	lb/100 gal	7 EPP	A							
32	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
32	AMS		WG	17	lb/100 gal	LPOS	D							

MSU Weed Science Research Program

Benefits of Residual Herbicides for Weed Control in No-Till Soybean I

Trial ID: NTS04-07
 Conducted: C-28NW Campus

Study Dir.: Sprague, Powell, Armstrong
 Investigator: Christy Sprague

Weed Code		Crop Code		Rating Data Type		Rating Unit		Rating Date		Trt-Eval Interval		ANGR	AMBEL	ABUTH	ERICA	SOLPT	GLXMA	GLXMA
				control		control		control		control		control	control	control	control	control	moisture	yield
				percent		percent		percent		percent		percent	percent	percent	percent	percent	percent	bu/acre
				7/23/07		7/23/07		7/23/07		7/23/07		7/23/07	7/23/07	7/23/07	7/23/07	7/23/07	10/24/07	10/24/07
				81 DA-A		81 DA-A		81 DA-A		81 DA-A		81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	174 DA-A	at 13% M
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code											
33	Extreme	2.17	L	3	pt/a	7 EPP	A	99	99	99	99	99	99	99	99	99	14.2	50.5
33	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7 EPP	A											
33	2,4-D Ester	4	L	1	pt/a	7 EPP	A											
33	Activator 90 NIS		L	0.25	% v/v	7 EPP	A											
33	AMS		WG	17	lb/100 gal	7 EPP	A											
33	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D											
33	AMS		WG	17	lb/100 gal	LPOS	D											
34	Prowl H2O	3.8	L	2	pt/a	7 EPP	A	99	99	99	99	99	99	99	99	99	14.4	53.9
34	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A											
34	2,4-D Ester	4	L	1	pt/a	7 EPP	A											
34	AMS		WG	17	lb/100 gal	7 EPP	A											
34	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D											
34	AMS		WG	17	lb/100 gal	LPOS	D											
35	Linex	4	L	1	pt/a	7 EPP	A	99	99	99	99	99	99	99	99	99	14.3	50.6
35	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A											
35	2,4-D Ester	4	L	1	pt/a	7 EPP	A											
35	AMS		WG	17	lb/100 gal	7 EPP	A											
35	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D											
35	AMS		WG	17	lb/100 gal	LPOS	D											
36	2,4-D Ester	4	L	1	pt/a	7 EPP	A	99	99	99	99	99	99	99	99	99	14.6	45.1
36	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D											
36	AMS		WG	17	lb/100 gal	LPOS	D											
37	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A	99	99	99	99	99	99	99	99	99	14.3	66.0
37	2,4-D Ester	4	L	1	pt/a	7 EPP	A											
37	AMS		WG	17	lb/100 gal	7 EPP	A											
37	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B											
37	AMS		WG	17	lb/100 gal	MPOS	B											
37	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D											
37	AMS		WG	17	lb/100 gal	LPOS	D											
38	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B	99	99	99	99	99	99	99	99	99	14.3	36.6
38	AMS		WG	17	lb/100 gal	MPOS	B											
38	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D											
38	AMS		WG	17	lb/100 gal	LPOS	D											
39	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C	99	99	99	99	99	99	99	99	99	14.6	34.1
39	AMS		WG	17	lb/100 gal	POST	C											
39	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D											
39	AMS		WG	17	lb/100 gal	LPOS	D											
LSD (P=.05)								30.3	19.9	14.9	7.0	21.1	1.95	17.27				
Standard Deviation								21.7	14.2	10.7	5.0	15.1	1.39	12.34				
CV								27.03	16.95	11.03	5.17	15.97	9.38	27.18				