

MSU Weed Science Research Program

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

Trial ID: NTS05-07  
 Conducted: Ionia County

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

**Date Planted:** 5/13/06  
**Variety:** Asgrow 2421V  
**Population:** 191,000 seeds/acre  
**Soil Type:** Loam  
**Plot Size:** 15 X 35 FT  
**Row Spacing:** 7.5 IN  
**No. of Reps:** 4  
**% OM:** 2.7  
**pH:** 5.7  
**Design:** RANDOMIZED COMPLETE BLOCK

**Tillage:** No-Till  
**Fertilizer:** None at Planting

**Crop and Weed Description**

Weed	Code	Common Name	Scientific Name
1.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA
2.	ERICA	HORSEWEED-MARESTAIL	ERIGERON CANADENSIS L.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
4.	ANGR	mainly foxtail species	SETARIA SP.
5.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
6.	TAROF	DANDELION, COMMON	TARAXACUM OFFICINALE WEBER IN WIGGERS
7.	AMARE	PIGWEEED, REDROOT	AMARANTHUS RETROFLEXUS L.
8.	STEME	CHICKWEED, COMMON	STELLARIA MEDIA (L.) VILL./CYR.
9.	CIRVU	THISTLE, BULL	CIRSIIUM VULGARE (SAVI) TEN./AIRY-SHAW
10.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENNSYLVANICUM L.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

**Application Description**

	A	B	C	D
<b>Application Timing:</b>	7D EPP	MPOST	POST	LPOST
<b>Date Treated:</b>	5/3/07	6/15/07	6/23/07	7/2/07
<b>Time Treated:</b>	6:30 pm	10:30 am	10:00 am	4:00 pm
<b>% Cloud Cover:</b>	0	80	80	95
<b>Air Temp., Unit:</b>	64 F	76 F	77 F	85 F
<b>% Relative Humidity:</b>	33	55	61	33
<b>Wind Speed/Unit/Dir:</b>	6 mph E	1 mph S	2 mph SW	4 mph SW
<b>Soil Temp., Unit:</b>	64 F	70 F	71 F	85 F
<b>Soil/Leaf Surface M:</b>	5 5	5 5	5 5	5 5
<b>Soil Moist (1=w 5=d):</b>	4	5	5	5

**Crop Stage at Each Application**

	A	B	C	D
<b>Crop Name:</b>	GLXMA	GLXMA	GLXMA	GLXMA
<b>Height (In.):</b>	-	3-6"	8-10"	13"
<b>Stage (L):</b>	-	V2	V4-V5	R1

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**Weed Stage at Each Application**

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Weed 1 Name:</b>	AMBEL	AMBEL	AMBEL	AMBEL
<b>Height (In.):</b>	1/4-1/2"	1-4"	4-6"	2-12"
<b>Stage (L):</b>	coty-4	2-6	6-12	4-many
<b>Weed 2 Name:</b>	ERICA	ERICA	ERICA	ERICA
<b>Height (In.):</b>	4-6" dia	5-14"	8-26"	6-36"
<b>Stage (L):</b>	many	many	many	many
<b>Weed 3 Name:</b>	CHEAL	CHEAL	CHEAL	CHEAL
<b>Height (In.):</b>	-	1-5"	8"	3-16"
<b>Stage (L):</b>	-	4-8	many	8-many
<b>Weed 4 Name:</b>	ANGR	ANGR	ANGR	ANGR
<b>Height (In.):</b>	-	2-14"	3-12"	3-18"
<b>Stage (L):</b>	-	2-5	2-5	3-6
<b>Weed 5 Name:</b>	ABUTH	ABUTH	ABUTH	ABUTH
<b>Height (In.):</b>	-	2-5"	-	-
<b>Stage (L):</b>	-	2-4	-	-
<b>Weed 6 Name:</b>	TAROF	TAROF	TAROF	TAROF
<b>Height (In.):</b>	3-12" dia	1-12" dia	2-12" dia	6-18" dia
<b>Stage (L):</b>	flower	many	many	many
<b>Weed 7 Name:</b>	AMARE	AMARE	AMARE	AMARE
<b>Height (In.):</b>	-	2"	1-8"	4-24
<b>Stage (L):</b>	-	4	4-10	8-many
<b>Weed 8 Name:</b>	STEME	STEME	STEME	STEME
<b>Height (In.):</b>	6-20" dia	6-12" dia	6-12" dia	-
<b>Stage (L):</b>	flower	flower	flower	-
<b>Weed 9 Name:</b>	CIRVU	CIRVU	CIRVU	CIRVU
<b>Height (In.):</b>	6-18" dia	-	6-24"	-
<b>Stage (L):</b>	many	-	many	-
<b>Weed10 Name:</b>	POLPY	POLPY	POLPY	POLPY
<b>Height (In.):</b>	-	3-7"	4-6"	18-24"
<b>Stage (L):</b>	-	many	many	many

**Application Equipment**

<b>Appl</b>	<b>Sprayer</b>	<b>Speed</b>	<b>Nozzle</b>	<b>Nozzle</b>	<b>Nozzle</b>	<b>Boom</b>				
	<b>Type</b>	<b>MPH</b>	<b>Type</b>	<b>Size</b>	<b>Height</b>	<b>Spacing</b>	<b>Width</b>	<b>GPA</b>	<b>Carrier</b>	<b>PSI</b>
<b>A</b>	Cub	3.8	AirMix	11003	22"	20"	180"	19	water	27
<b>B</b>	Cub	3.8	AirMix	11003	22"	20"	180"	19	water	27
<b>C</b>	Cub	3.8	AirMix	11003	26"	20"	180"	19	water	27
<b>D</b>	Cub	3.8	AirMix	11003	34"	20"	180"	19	water	27

**Comments:** Common ragweed and marestail may be ALS-Resistant.

Previous Crop- Corn. Previous Herbicides- Harness Xtra, 2,4-D Ester, and Roundup.

Soybean variety is Asgrow "Vistive"

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Weed Code	ANGR	SOLPT	AMBEL	POLPE	TAROF	STEME	CHEAL
Crop Code							
Rating Data Type	control	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Rating Date	6/15/07	6/15/07	6/15/07	6/15/07	6/15/07	6/15/07	6/15/07
Trt-Eval Interval	43 DA-A	43 DA-A	43 DA-A	43 DA-A	43 DA-A	43 DA-A	43 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	Lorox	50	DF	1	lb/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	Roundup WeatherMax	4.5	SL	22	fl oz/a	7	EPP A	0	0	0	0	0	0
9	2,4-D Ester	4	L	1	pt/a	7	EPP A						
9	AMS		WG	17	lb/100 gal	7	EPP A						
9	Roundup WeatherMax	4.5	SL	22	fl oz/a		MPOS B						
9	AMS		WG	17	lb/100 gal		MPOS B						
10	Canopy	75	WG	3	oz/a	7	EPP A	99	99	99	99	99	99
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	Boundary	6.5	EC	1.75	pt/a	7	EPP A	97	99	99	99	99	99
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	Roundup WeatherMax	4.5	SL	22	fl oz/a		MPOS B	0	0	0	0	0	0
12	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	6/15/07	6/15/07	6/15/07	6/15/07	6/15/07	6/15/07	6/15/07
Trt-Eval Interval	43 DA-A	43 DA-A	43 DA-A	43 DA-A	43 DA-A	43 DA-A	43 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
13	Valor	51	WG	2.5	oz/a	7 EPP	A	97	99	99	99	99	99
13	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A						
13	2,4-D Ester	4	L	1	pt/a	7 EPP	A						
13	AMS		WG	17	lb/100 gal	7 EPP	A						
13	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B						
13	AMS		WG	17	lb/100 gal	MPOS	B						
14	Extreme	2.17	L	3	pt/a	7 EPP	A	99	99	99	99	99	99
14	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7 EPP	A						
14	2,4-D Ester	4	L	1	pt/a	7 EPP	A						
14	Activator 90 NIS		L	0.25	% v/v	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	Prowl H2O	3.8	L	2	pt/a	7 EPP	A	99	99	99	99	99	99
15	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A						
15	2,4-D Ester	4	L	1	pt/a	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	Lorox	50	DF	1	lb/a	7 EPP	A	98	99	99	99	99	99
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	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	POST	C						
17	AMS		WG	17	lb/100 gal	POST	C						
18	Canopy	75	WG	3	oz/a	7 EPP	A						
18	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A						
18	2,4-D Ester	4	L	1	pt/a	7 EPP	A						
18	AMS		WG	17	lb/100 gal	7 EPP	A						
18	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C						
18	AMS		WG	17	lb/100 gal	POST	C						
19	Boundary	6.5	EC	1.75	pt/a	7 EPP	A						
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	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C						
20	AMS		WG	17	lb/100 gal	POST	C						
21	Valor	51	WG	2.5	oz/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						

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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	6/15/07	6/15/07	6/15/07	6/15/07	6/15/07	6/15/07	6/15/07
Trt-Eval Interval	43 DA-A	43 DA-A	43 DA-A	43 DA-A	43 DA-A	43 DA-A	43 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code
22	Extreme	2.17	L	3	pt/a	7 EPP	A
22	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7 EPP	A
22	2,4-D Ester	4	L	1	pt/a	7 EPP	A
22	Activator 90 NIS		L	0.25	% v/v	7 EPP	A
22	AMS		WG	17	lb/100 gal	7 EPP	A
22	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C
22	AMS		WG	17	lb/100 gal	POST	C
23	Prowl H2O	3.8	L	2	pt/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
24	Lorox	50	DF	1	lb/a	7 EPP	A
24	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
24	2,4-D Ester	4	L	1	pt/a	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	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	LPOS	D
25	AMS		WG	17	lb/100 gal	LPOS	D
26	Canopy	75	WG	3	oz/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	LPOS	D
26	AMS		WG	17	lb/100 gal	LPOS	D
27	Boundary	6.5	EC	1.75	pt/a	7 EPP	A
27	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
27	2,4-D Ester	4	L	1	pt/a	7 EPP	A
27	AMS		WG	17	lb/100 gal	7 EPP	A
27	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D
27	AMS		WG	17	lb/100 gal	LPOS	D
28	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D
28	AMS		WG	17	lb/100 gal	LPOS	D
29	Valor	51	WG	2.5	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	Extreme	2.17	L	3	pt/a	7 EPP	A
30	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7 EPP	A
30	2,4-D Ester	4	L	1	pt/a	7 EPP	A
30	Activator 90 NIS		L	0.25	% v/v	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

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Rating Unit	percent	percent	percent	percent	percent	percent	percent
Rating Date	6/15/07	6/15/07	6/15/07	6/15/07	6/15/07	6/15/07	6/15/07
Trt-Eval Interval	43 DA-A	43 DA-A	43 DA-A	43 DA-A	43 DA-A	43 DA-A	43 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code
31	Prowl H2O	3.8	L	2	pt/a	7 EPP	A
31	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
31	2,4-D Ester	4	L	1	pt/a	7 EPP	A
31	AMS		WG	17	lb/100 gal	7 EPP	A
31	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D
31	AMS		WG	17	lb/100 gal	LPOS	D
32	Lorox	50	DF	1	lb/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
33	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A
33	2,4-D Ester	4	L	1	pt/a	7 EPP	A
33	AMS		WG	17	lb/100 gal	7 EPP	A
33	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B
33	AMS		WG	17	lb/100 gal	MPOS	B
33	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D
33	AMS		WG	17	lb/100 gal	LPOS	D
34	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B
34	AMS		WG	17	lb/100 gal	MPOS	B
34	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C
34	AMS		WG	17	lb/100 gal	POST	C
35	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B
35	AMS		WG	17	lb/100 gal	MPOS	B
35	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D
35	AMS		WG	17	lb/100 gal	LPOS	D
36	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C
36	AMS		WG	17	lb/100 gal	POST	C
36	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D
36	AMS		WG	17	lb/100 gal	LPOS	D

LSD (P=.05)	3.0	0.0	0.8	0.0	0.0	0.0	0.5
Standard Deviation	2.0	0.0	0.5	0.0	0.0	0.0	0.4
CV	2.78	0.0	0.72	0.0	0.0	0.0	0.48

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Weed Code		CHEAL	AMARE	ABUTH	ERICA	ANGR	GLXMA	GLXMA						
Crop Code		control	control	control	control	control	moisture	yield						
Rating Data Type		percent	percent	percent	percent	percent	percent	bu/acre						
Rating Unit		7/26/07	7/26/07	7/26/07	7/26/07	7/26/07	10/22/07	10/22/07						
Rating Date		84 DA-A	84 DA-A	84 DA-A	84 DA-A	84 DA-A	172 DA-A	at 13% M						
Trt-Eval Interval														
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	94	89	78	99	75	11.1	49.5
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	99	99	93	99	82	11.0	52.8
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	92	98	60	99	92	11.1	46.5
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							90	84	78	23	79	11.6	33.2
5	Valor	51	WG	2.5	oz/a	7 EPP	A	99	98	76	99	76	10.8	50.7
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	99	99	99	99	99	10.6	47.2
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	92	88	75	99	85	10.8	47.5
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	Lorox	50	DF	1	lb/a	7 EPP	A	90	82	59	93	87	11.1	44.7
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	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A	99	99	99	99	99	10.7	42.2
9	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
9	AMS		WG	17	lb/100 gal	7 EPP	A							
9	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B							
9	AMS		WG	17	lb/100 gal	MPOS	B							
10	Canopy	75	WG	3	oz/a	7 EPP	A	99	99	99	99	99	10.7	44.1
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	Boundary	6.5	EC	1.75	pt/a	7 EPP	A	99	99	99	99	99	10.7	44.8
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	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B	99	99	99	99	99	10.9	43.4
12	AMS		WG	17	lb/100 gal	MPOS	B							

MSU Weed Science Research Program

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

Trial ID: NTS05-07  
 Conducted: Ionia County

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

Weed Code		CHEAL	AMARE	ABUTH	ERICA	ANGR	GLXMA	GLXMA						
Crop Code		control	control	control	control	control	moisture	yield						
Rating Data Type		percent	percent	percent	percent	percent	percent	bu/acre						
Rating Unit		7/26/07	7/26/07	7/26/07	7/26/07	7/26/07	10/22/07	10/22/07						
Rating Date		84 DA-A	84 DA-A	84 DA-A	84 DA-A	84 DA-A	172 DA-A	at 13% M						
Trt-Eval Interval														
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
13	Valor	51	WG	2.5	oz/a	7 EPP	A	99	99	99	99	99	10.8	49.3
13	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
13	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
13	AMS		WG	17	lb/100 gal	7 EPP	A							
13	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B							
13	AMS		WG	17	lb/100 gal	MPOS	B							
14	Extreme	2.17	L	3	pt/a	7 EPP	A	99	99	99	99	99	10.9	45.1
14	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7 EPP	A							
14	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
14	Activator 90 NIS		L	0.25	% v/v	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	Prowl H2O	3.8	L	2	pt/a	7 EPP	A	99	99	99	99	99	11.1	46.0
15	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
15	2,4-D Ester	4	L	1	pt/a	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	Lorox	50	DF	1	lb/a	7 EPP	A	99	99	99	99	99	10.9	47.6
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	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A	99	99	99	99	99	11.0	50.6
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	POST	C							
17	AMS		WG	17	lb/100 gal	POST	C							
18	Canopy	75	WG	3	oz/a	7 EPP	A	99	99	99	99	99	10.6	46.3
18	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
18	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
18	AMS		WG	17	lb/100 gal	7 EPP	A							
18	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C							
18	AMS		WG	17	lb/100 gal	POST	C							
19	Boundary	6.5	EC	1.75	pt/a	7 EPP	A	99	99	99	99	99	10.9	50.4
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	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C	99	99	99	99	99	8.3	42.3
20	AMS		WG	17	lb/100 gal	POST	C							
21	Valor	51	WG	2.5	oz/a	7 EPP	A	99	99	99	99	99	10.5	51.3
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							



## MSU Weed Science Research Program

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

Trial ID: NTS05-07  
 Conducted: Ionia County

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

Weed Code		CHEAL	AMARE	ABUTH	ERICA	ANGR	GLXMA	GLXMA						
Crop Code		control	control	control	control	control	moisture	yield						
Rating Data Type		percent	percent	percent	percent	percent	percent	bu/acre						
Rating Unit		7/26/07	7/26/07	7/26/07	7/26/07	7/26/07	10/22/07	10/22/07						
Rating Date		84 DA-A	84 DA-A	84 DA-A	84 DA-A	84 DA-A	172 DA-A	at 13% M						
Trt-Eval Interval														
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
22	Extreme	2.17	L	3	pt/a	7 EPP	A	99	99	99	99	99	10.6	52.6
22	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7 EPP	A							
22	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
22	Activator 90 NIS		L	0.25	% v/v	7 EPP	A							
22	AMS		WG	17	lb/100 gal	7 EPP	A							
22	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C							
22	AMS		WG	17	lb/100 gal	POST	C							
23	Prowl H2O	3.8	L	2	pt/a	7 EPP	A	99	99	99	99	99	10.2	47.9
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							
24	Lorox	50	DF	1	lb/a	7 EPP	A	99	99	99	99	99	10.7	50.8
24	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
24	2,4-D Ester	4	L	1	pt/a	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	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A	99	99	99	99	99	10.8	46.4
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	LPOS	D							
25	AMS		WG	17	lb/100 gal	LPOS	D							
26	Canopy	75	WG	3	oz/a	7 EPP	A	99	99	99	99	99	10.6	46.2
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	LPOS	D							
26	AMS		WG	17	lb/100 gal	LPOS	D							
27	Boundary	6.5	EC	1.75	pt/a	7 EPP	A	99	99	99	99	99	10.8	44.7
27	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
27	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
27	AMS		WG	17	lb/100 gal	7 EPP	A							
27	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
27	AMS		WG	17	lb/100 gal	LPOS	D							
28	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D	99	99	97	90	99	11.7	32.8
28	AMS		WG	17	lb/100 gal	LPOS	D							
29	Valor	51	WG	2.5	oz/a	7 EPP	A	99	99	99	99	99	10.6	49.7
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	Extreme	2.17	L	3	pt/a	7 EPP	A	99	99	99	99	99	10.8	47.6
30	Roundup WeatherMax	4.5	SL	5.5	fl oz/a	7 EPP	A							
30	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
30	Activator 90 NIS		L	0.25	% v/v	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							

MSU Weed Science Research Program

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

Trial ID: NTS05-07  
 Conducted: Ionia County

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

Weed Code		CHEAL	AMARE	ABUTH	ERICA	ANGR	GLXMA	GLXMA						
Crop Code		control	control	control	control	control	moisture	yield						
Rating Data Type		percent	percent	percent	percent	percent	percent	bu/acre						
Rating Unit		7/26/07	7/26/07	7/26/07	7/26/07	7/26/07	10/22/07	10/22/07						
Rating Date		84 DA-A	84 DA-A	84 DA-A	84 DA-A	84 DA-A	172 DA-A	at 13% M						
Trt-Eval Interval														
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
31	Prowl H2O	3.8	L	2	pt/a	7 EPP	A	99	99	99	99	99	8.0	37.8
31	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A							
31	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
31	AMS		WG	17	lb/100 gal	7 EPP	A							
31	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
31	AMS		WG	17	lb/100 gal	LPOS	D							
32	Lorox	50	DF	1	lb/a	7 EPP	A	99	99	87	99	99	11.0	46.2
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							
33	Roundup WeatherMax	4.5	SL	22	fl oz/a	7 EPP	A	99	99	99	99	99	10.8	48.7
33	2,4-D Ester	4	L	1	pt/a	7 EPP	A							
33	AMS		WG	17	lb/100 gal	7 EPP	A							
33	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B							
33	AMS		WG	17	lb/100 gal	MPOS	B							
33	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
33	AMS		WG	17	lb/100 gal	LPOS	D							
34	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B	99	99	99	99	99	10.6	45.1
34	AMS		WG	17	lb/100 gal	MPOS	B							
34	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C							
34	AMS		WG	17	lb/100 gal	POST	C							
35	Roundup WeatherMax	4.5	SL	22	fl oz/a	MPOS	B	99	99	99	99	99	10.7	45.8
35	AMS		WG	17	lb/100 gal	MPOS	B							
35	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
35	AMS		WG	17	lb/100 gal	LPOS	D							
36	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	C	99	99	99	99	99	10.7	42.6
36	AMS		WG	17	lb/100 gal	POST	C							
36	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	D							
36	AMS		WG	17	lb/100 gal	LPOS	D							
LSD (P=.05)								4.4	6.7	16.3	4.4	12.5	1.74	9.51
Standard Deviation								3.2	4.8	11.6	3.2	8.9	1.24	6.79
CV								3.24	4.88	12.4	3.29	9.32	11.62	14.72