

MSU Weed Science Research Program

Comparison of commercial herbicide programs in no-till soybean

Trial ID: NTS01-11 Study Dir.: Sprague, Powell
Conducted: C-13E Crops Investigator: Christy Sprague

Date Planted: 5/31/2011 Row Spacing: 7.5 IN
Variety: Asgrow 2330 No. of Reps: 4
Population: 200,000 % OM: 3.7
Soil Type: Silt Loam pH: 6.9
Plot Size: 10 X 30 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: No-tilled into standing corn stubble
Fertilizer: None at planting

Crop and Weed Description

Table with 4 columns: Weed, Code, Common Name, Scientific Name. Lists weeds 1-12 and crop 1 (GLXMA SOYBEAN).

Application Description

Table with 4 columns: Application Timing, Date Treated, Time Treated, % Cloud Cover, Air Temp., Unit, % Relative Humidity, Wind Speed/Unit/Dir, Soil Temp., Unit, Soil/Leaf Surface M, Soil Moist (1=w 5=d).

Crop Stage at Each Application

Table with 4 columns: Crop Name, Height (In.), Stage (L).

Weed Stage at Each Application

Table with 4 columns: Weed Name, Height (In.), Stage (L).

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		Weed Density (plants/sq. ft.)								
		1	2	3	4	5	6	7	8	9
<b>Weed Name:</b>	TAROF	STEME	DAUCA	MELAL	ERICA	ANGR	CAPBU	ERIST	CHEAL	
<b>Density:</b>	2	2.5	<1	<1	<1	<1	<1	<1	<1	<1

Application Equipment											
Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom				
	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI	
<b>A</b>	Cub	3.8	AirMix	11003	24"	20"	100"	19	Water	28	
<b>B</b>	Cub	3.8	AirMix	11003	26"	20"	100"	19	Water	28	
<b>C</b>	Cub	3.8	AirMix	11003	26"	20"	100"	19	Water	28	

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Weed Code								TAROF	LAMAM	ERIST	STEME	CAPBP	DAUCA
Crop Code								control	control	control	control	control	control
Rating Data Type								percent	percent	percent	percent	percent	percent
Rating Unit								5/23/2011	5/23/2011	5/23/2011	5/23/2011	5/23/2011	5/23/2011
Rating Date								14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A
Trt-Eval Interval								0	0	0	0	0	0
# Subsamples, Dec.								0	0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	Canopy	75	WG	2.25	oz/a	7 EPP	A	57	87	94	57	55	63
1	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
1	Herbimax (COC)		L	1	% v/v	7 EPP	A						
1	Abundit Extra	3	SL	1	qt/a	POST	B						
1	AMS		WG	17	lb/100 gal	POST	B						
2	Envive	41.3	WG	2.5	oz/a	7 EPP	A	93	96	96	81	86	98
2	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
2	Herbimax (COC)		L	1	% v/v	7 EPP	A						
2	Abundit Extra	3	SL	1	qt/a	POST	B						
2	AMS		WG	17	lb/100 gal	POST	B						
3	Valor XLT	40.3	WG	3	oz/a	7 EPP	A	99	94	94	98	86	97
3	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
3	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
3	AMS		WG	17	lb/100 gal	7 EPP	A						
3	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
3	AMS		WG	17	lb/100 gal	POST	B						
4	OpTill	68	WG	2	oz/a	7 EPP	A	98	85	99	99	83	75
4	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
4	MSO		L	1	% v/v	7 EPP	A						
4	AMS		WG	17	lb/100 gal	7 EPP	A						
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
4	AMS		WG	17	lb/100 gal	POST	B						
5	Verdict	5.57	L	5	fl oz/a	7 EPP	A	99	78	99	97	83	79
5	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
5	MSO		L	1	% v/v	7 EPP	A						
5	AMS		WG	17	lb/100 gal	7 EPP	A						
5	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
5	AMS		WG	17	lb/100 gal	POST	B						
6	Verdict	5.57	L	5	fl oz/a	7 EPP	A	98	68	98	96	89	80
6	Prowl H2O	3.8	L	2	pt/a	7 EPP	A						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
6	MSO		L	1	% v/v	7 EPP	A						
6	AMS		WG	17	lb/100 gal	7 EPP	A						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
6	AMS		WG	17	lb/100 gal	POST	B						
7	Untreated							0	0	0	0	0	0
8	Boundary	6.5	L	1.75	pt/a	7 EPP	A	71	99	99	99	97	98
8	Gramoxone Inteon	2	L	2.5	pt/a	7 EPP	A						
8	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
8	Herbimax (COC)		L	1	% v/v	7 EPP	A						
8	Flexstar GT 3.5	3.5	L	3.5	pt/a	POST	B						
8	Activator 90		L	0.25	% v/v	POST	B						
8	AMS		WG	8.5	lb/100 gal	POST	B						
9	Prefix	5.29	L	2	pt/a	7 EPP	A	90	98	99	98	97	93
9	Gramoxone Inteon	2	L	3	pt/a	7 EPP	A						
9	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
9	Herbimax (COC)		L	1	% v/v	7 EPP	A						
9	Touchdown Total	4	SL	24	fl oz/a	POST	B						
9	AMS		WG	8.5	lb/100 gal	POST	B						

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Weed Code	TAROF	LAMAM	ERIST	STEME	CAPBP	DAUCA
Crop Code						
Rating Data Type	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent
Rating Date	5/23/2011	5/23/2011	5/23/2011	5/23/2011	5/23/2011	5/23/2011
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A
# Subsamples, Dec.	0	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	TAROF	LAMAM	ERIST	STEME	CAPBP	DAUCA
10	Extreme	2.17	L	3	pt/a	7 EPP	A	40	63	99	66	50	75
10	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
10	Activator 90		L	0.25	% v/v	7 EPP	A						
10	AMS		WG	17	lb/100 gal	7 EPP	A						
10	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
10	AMS		WG	17	lb/100 gal	POST	B						
11	Authority First	70	WG	3.2	oz/a	7 EPP	A	51	70	91	70	54	62
11	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
11	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
11	AMS		WG	17	lb/100 gal	7 EPP	A						
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
11	AMS		WG	17	lb/100 gal	POST	B						
12	Authority First	70	WG	3.2	oz/a	7 EPP	A	65	74	93	84	59	63
12	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
12	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
12	AMS		WG	17	lb/100 gal	7 EPP	A						
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
12	Warrant	3	L	3	pt/a	POST	B						
12	AMS		WG	17	lb/100 gal	POST	B						
13	Authority First	70	WG	6.45	oz/a	7 EPP	A	82	90	95	80	68	87
13	Dual II Magnum	7.64	L	1	pt/a	7 EPP	A						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
13	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
13	AMS		WG	17	lb/100 gal	7 EPP	A						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
13	Cadet	0.91	L	0.6	fl oz/a	POST	B						
13	AMS		WG	17	lb/100 gal	POST	B						
14	Authority MTZ	45	WG	14	oz/a	7 EPP	A	81	99	99	98	88	87
14	Dual II Magnum	7.64	L	1	pt/a	7 EPP	A						
14	Gramoxone Inteon	2	SL	2	pt/a	7 EPP	A						
14	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
14	Herbimax (COC)		L	1	% v/v	7 EPP	A						
14	AMS		WG	17	lb/100 gal	7 EPP	A						
14	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
14	Cadet	0.91	L	0.6	fl oz/a	POST	B						
14	AMS		WG	17	lb/100 gal	POST	B						
15	Ignite	2.34	L	36	fl oz/a	7 EPP	A	70	74	99	98	70	80
15	AMS		WG	8.5	lb/100 gal	7 EPP	A						
15	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
15	AMS		WG	17	lb/100 gal	POST	B						
16	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A	23	60	81	58	48	50
16	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
16	AMS		WG	17	lb/100 gal	7 EPP	A						
16	Roundup PowerMax	4.5	SL	44	fl oz/a	LPOS	C						
16	AMS		WG	17	lb/100 gal	LPOS	C						
LSD (P=.05)								19.4	17.3	8.7	19.4	18.5	24.8
Standard Deviation								13.6	12.1	6.1	13.6	12.9	17.4
CV								19.42	15.73	6.83	17.04	18.68	23.45

Means followed by same letter do not significantly differ (P=.05, LSD)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Weed Code								POAAN	MELAL	N.T.Weed	N.T.Weed	TAROF	ERICA
Crop Code										overall	overall		
Rating Data Type								control	control	control	control	control	control
Rating Unit								percent	percent	percent	percent	percent	percent
Rating Date								5/23/2011	5/23/2011	6/9/2011	6/27/2011	6/27/2011	6/27/2011
Trt-Eval Interval								14 DA-A	14 DA-A	31 DA-A	49 DA-A	49 DA-A	49 DA-A
# Subsamples, Dec.								0	0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	Canopy	75	WG	2.25	oz/a	7 EPP	A	70	82	72	86	98	99
1	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
1	Herbimax (COC)		L	1	% v/v	7 EPP	A						
1	Abundit Extra	3	SL	1	qt/a	POST	B						
1	AMS		WG	17	lb/100 gal	POST	B						
2	Envive	41.3	WG	2.5	oz/a	7 EPP	A	76	89	68	66	98	99
2	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
2	Herbimax (COC)		L	1	% v/v	7 EPP	A						
2	Abundit Extra	3	SL	1	qt/a	POST	B						
2	AMS		WG	17	lb/100 gal	POST	B						
3	Valor XLT	40.3	WG	3	oz/a	7 EPP	A	99	91	94	98	98	99
3	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
3	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
3	AMS		WG	17	lb/100 gal	7 EPP	A						
3	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
3	AMS		WG	17	lb/100 gal	POST	B						
4	OpTill	68	WG	2	oz/a	7 EPP	A	98	75	78	74	83	99
4	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
4	MSO		L	1	% v/v	7 EPP	A						
4	AMS		WG	17	lb/100 gal	7 EPP	A						
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
4	AMS		WG	17	lb/100 gal	POST	B						
5	Verdict	5.57	L	5	fl oz/a	7 EPP	A	98	98	81	90	70	99
5	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
5	MSO		L	1	% v/v	7 EPP	A						
5	AMS		WG	17	lb/100 gal	7 EPP	A						
5	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
5	AMS		WG	17	lb/100 gal	POST	B						
6	Verdict	5.57	L	5	fl oz/a	7 EPP	A	98	86	73	85	80	99
6	Prowl H2O	3.8	L	2	pt/a	7 EPP	A						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
6	MSO		L	1	% v/v	7 EPP	A						
6	AMS		WG	17	lb/100 gal	7 EPP	A						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
6	AMS		WG	17	lb/100 gal	POST	B						
7	Untreated							0	0	0	0	0	0
8	Boundary	6.5	L	1.75	pt/a	7 EPP	A	99	96	86	94	80	99
8	Gramoxone Inteon	2	L	2.5	pt/a	7 EPP	A						
8	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
8	Herbimax (COC)		L	1	% v/v	7 EPP	A						
8	Flexstar GT 3.5	3.5	L	3.5	pt/a	POST	B						
8	Activator 90		L	0.25	% v/v	POST	B						
8	AMS		WG	8.5	lb/100 gal	POST	B						
9	Prefix	5.29	L	2	pt/a	7 EPP	A	99	84	85	96	89	99
9	Gramoxone Inteon	2	L	3	pt/a	7 EPP	A						
9	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
9	Herbimax (COC)		L	1	% v/v	7 EPP	A						
9	Touchdown Total	4	SL	24	fl oz/a	POST	B						
9	AMS		WG	8.5	lb/100 gal	POST	B						

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								POAAN	MELAL	N.T.Weed overall	N.T.Weed overall	TAROF	ERICA
								control percent	control percent	control percent	control percent	control percent	control percent
								5/23/2011	5/23/2011	6/9/2011	6/27/2011	6/27/2011	6/27/2011
								14 DA-A	14 DA-A	31 DA-A	49 DA-A	49 DA-A	49 DA-A
								0	0	0	0	0	0
# Subsamples, Dec.													
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
10	Extreme	2.17	L	3	pt/a	7 EPP	A	98	82	87	97	97	99
10	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
10	Activator 90		L	0.25	% v/v	7 EPP	A						
10	AMS		WG	17	lb/100 gal	7 EPP	A						
10	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
10	AMS		WG	17	lb/100 gal	POST	B						
11	Authority First	70	WG	3.2	oz/a	7 EPP	A	98	80	82	92	94	99
11	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
11	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
11	AMS		WG	17	lb/100 gal	7 EPP	A						
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
11	AMS		WG	17	lb/100 gal	POST	B						
12	Authority First	70	WG	3.2	oz/a	7 EPP	A	97	77	82	94	96	99
12	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
12	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
12	AMS		WG	17	lb/100 gal	7 EPP	A						
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
12	Warrant	3	L	3	pt/a	POST	B						
12	AMS		WG	17	lb/100 gal	POST	B						
13	Authority First	70	WG	6.45	oz/a	7 EPP	A	97	85	87	95	97	99
13	Dual II Magnum	7.64	L	1	pt/a	7 EPP	A						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
13	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
13	AMS		WG	17	lb/100 gal	7 EPP	A						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
13	Cadet	0.91	L	0.6	fl oz/a	POST	B						
13	AMS		WG	17	lb/100 gal	POST	B						
14	Authority MTZ	45	WG	14	oz/a	7 EPP	A	99	77	77	89	82	99
14	Dual II Magnum	7.64	L	1	pt/a	7 EPP	A						
14	Gramoxone Inteon	2	SL	2	pt/a	7 EPP	A						
14	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
14	Herbimax (COC)		L	1	% v/v	7 EPP	A						
14	AMS		WG	17	lb/100 gal	7 EPP	A						
14	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
14	Cadet	0.91	L	0.6	fl oz/a	POST	B						
14	AMS		WG	17	lb/100 gal	POST	B						
15	Ignite	2.34	L	36	fl oz/a	7 EPP	A	82	67	48	60	61	90
15	AMS		WG	8.5	lb/100 gal	7 EPP	A						
15	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
15	AMS		WG	17	lb/100 gal	POST	B						
16	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A	97	90	71	91	95	99
16	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
16	AMS		WG	17	lb/100 gal	7 EPP	A						
16	Roundup PowerMax	4.5	SL	44	fl oz/a	LPOS	C						
16	AMS		WG	17	lb/100 gal	LPOS	C						
LSD (P=.05)								13.1	21.6	13.0	15.9	14.8	3.8
Standard Deviation								9.1	15.1	9.1	11.1	10.4	2.6
CV								10.43	19.23	12.5	13.66	12.59	2.85

Means followed by same letter do not significantly differ (P=.05, LSD)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Weed Code								MELAL	STEME	ANGR	CHEAL	GLXMA	GLXMA
Crop Code													
Rating Data Type								control	control	control	control	injury	injury
Rating Unit								percent	percent	percent	percent	percent	percent
Rating Date								6/27/2011	6/27/2011	6/27/2011	6/27/2011	7/6/2011	7/12/2011
Trt-Eval Interval								49 DA-A	49 DA-A	49 DA-A	49 DA-A	58 DA-A	64 DA-A
# Subsamples, Dec.								0	0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	Canopy	75	WG	2.25	oz/a	7 EPP	A	76	70	99	99	4	0
1	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
1	Herbimax (COC)		L	1	% v/v	7 EPP	A						
1	Abundit Extra	3	SL	1	qt/a	POST	B						
1	AMS		WG	17	lb/100 gal	POST	B						
2	Envive	41.3	WG	2.5	oz/a	7 EPP	A	87	32	99	99	6	0
2	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
2	Herbimax (COC)		L	1	% v/v	7 EPP	A						
2	Abundit Extra	3	SL	1	qt/a	POST	B						
2	AMS		WG	17	lb/100 gal	POST	B						
3	Valor XLT	40.3	WG	3	oz/a	7 EPP	A	97	99	99	99	0	0
3	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
3	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
3	AMS		WG	17	lb/100 gal	7 EPP	A						
3	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
3	AMS		WG	17	lb/100 gal	POST	B						
4	OpTill	68	WG	2	oz/a	7 EPP	A	68	99	96	99	0	0
4	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
4	MSO		L	1	% v/v	7 EPP	A						
4	AMS		WG	17	lb/100 gal	7 EPP	A						
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
4	AMS		WG	17	lb/100 gal	POST	B						
5	Verdict	5.57	L	5	fl oz/a	7 EPP	A	94	99	92	93	0	1
5	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
5	MSO		L	1	% v/v	7 EPP	A						
5	AMS		WG	17	lb/100 gal	7 EPP	A						
5	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
5	AMS		WG	17	lb/100 gal	POST	B						
6	Verdict	5.57	L	5	fl oz/a	7 EPP	A	89	94	99	94	1	0
6	Prowl H2O	3.8	L	2	pt/a	7 EPP	A						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
6	MSO		L	1	% v/v	7 EPP	A						
6	AMS		WG	17	lb/100 gal	7 EPP	A						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
6	AMS		WG	17	lb/100 gal	POST	B						
7	Untreated							0	0	0	0	0	0
8	Boundary	6.5	L	1.75	pt/a	7 EPP	A	98	99	99	77	18	7
8	Gramoxone Inteon	2	L	2.5	pt/a	7 EPP	A						
8	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
8	Herbimax (COC)		L	1	% v/v	7 EPP	A						
8	Flexstar GT 3.5	3.5	L	3.5	pt/a	POST	B						
8	Activator 90		L	0.25	% v/v	POST	B						
8	AMS		WG	8.5	lb/100 gal	POST	B						
9	Prefix	5.29	L	2	pt/a	7 EPP	A	96	96	99	93	1	0
9	Gramoxone Inteon	2	L	3	pt/a	7 EPP	A						
9	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
9	Herbimax (COC)		L	1	% v/v	7 EPP	A						
9	Touchdown Total	4	SL	24	fl oz/a	POST	B						
9	AMS		WG	8.5	lb/100 gal	POST	B						

MSU Weed Science Research Program

Comparison of commercial herbicide programs in no-till soybean

Trial ID: NTS01-11 Study Dir.: Sprague, Powell  
 Conducted: C-13E Crops Investigator: Christy Sprague

Weed Code								MELAL	STEME	ANGR	CHEAL	GLXMA	GLXMA
Crop Code													
Rating Data Type								control	control	control	control	injury	injury
Rating Unit								percent	percent	percent	percent	percent	percent
Rating Date								6/27/2011	6/27/2011	6/27/2011	6/27/2011	7/6/2011	7/12/2011
Trt-Eval Interval								49 DA-A	49 DA-A	49 DA-A	49 DA-A	58 DA-A	64 DA-A
# Subsamples, Dec.								0	0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
10	Extreme	2.17	L	3	pt/a	7 EPP	A	97	99	99	93	0	0
10	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
10	Activator 90		L	0.25	% v/v	7 EPP	A						
10	AMS		WG	17	lb/100 gal	7 EPP	A						
10	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
10	AMS		WG	17	lb/100 gal	POST	B						
11	Authority First	70	WG	3.2	oz/a	7 EPP	A	95	98	80	99	0	1
11	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
11	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
11	AMS		WG	17	lb/100 gal	7 EPP	A						
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
11	AMS		WG	17	lb/100 gal	POST	B						
12	Authority First	70	WG	3.2	oz/a	7 EPP	A	95	97	87	99	0	3
12	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
12	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
12	AMS		WG	17	lb/100 gal	7 EPP	A						
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
12	Warrant	3	L	3	pt/a	POST	B						
12	AMS		WG	17	lb/100 gal	POST	B						
13	Authority First	70	WG	6.45	oz/a	7 EPP	A	93	97	99	99	18	11
13	Dual II Magnum	7.64	L	1	pt/a	7 EPP	A						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
13	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
13	AMS		WG	17	lb/100 gal	7 EPP	A						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
13	Cadet	0.91	L	0.6	fl oz/a	POST	B						
13	AMS		WG	17	lb/100 gal	POST	B						
14	Authority MTZ	45	WG	14	oz/a	7 EPP	A	96	99	99	99	18	11
14	Dual II Magnum	7.64	L	1	pt/a	7 EPP	A						
14	Gramoxone Inteon	2	SL	2	pt/a	7 EPP	A						
14	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
14	Herbimax (COC)		L	1	% v/v	7 EPP	A						
14	AMS		WG	17	lb/100 gal	7 EPP	A						
14	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
14	Cadet	0.91	L	0.6	fl oz/a	POST	B						
14	AMS		WG	17	lb/100 gal	POST	B						
15	Ignite	2.34	L	36	fl oz/a	7 EPP	A	96	88	93	75	10	0
15	AMS		WG	8.5	lb/100 gal	7 EPP	A						
15	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
15	AMS		WG	17	lb/100 gal	POST	B						
16	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A	97	99	91	93	1	0
16	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
16	AMS		WG	17	lb/100 gal	7 EPP	A						
16	Roundup PowerMax	4.5	SL	44	fl oz/a	LPOS	C						
16	AMS		WG	17	lb/100 gal	LPOS	C						
LSD (P=.05)								23.4	18.0	15.6	16.2	4.2	1.5
Standard Deviation								16.4	12.6	10.9	11.3	2.9	1.0
CV								19.05	14.79	12.25	12.86	61.61	49.04

Means followed by same letter do not significantly differ (P=.05, LSD)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

MSU Weed Science Research Program

Comparison of commercial herbicide programs in no-till soybean

Trial ID: NTS01-11 Study Dir.: Sprague, Powell  
 Conducted: C-13E Crops Investigator: Christy Sprague

Weed Code								ERICA	TAROF	ERIST	ANGR	CHEAL	AMBEL
Crop Code													
Rating Data Type								control	control	control	control	control	control
Rating Unit								percent	percent	percent	percent	percent	percent
Rating Date								7/12/2011	7/12/2011	7/12/2011	7/12/2011	7/12/2011	7/12/2011
Trt-Eval Interval								64 DA-A	64 DA-A	64 DA-A	64 DA-A	64 DA-A	64 DA-A
# Subsamples, Dec.								0	0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	Canopy	75	WG	2.25	oz/a	7 EPP	A	99	99	99	99	99	99
1	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
1	Herbimax (COC)		L	1	% v/v	7 EPP	A						
1	Abundit Extra	3	SL	1	qt/a	POST	B						
1	AMS		WG	17	lb/100 gal	POST	B						
2	Envive	41.3	WG	2.5	oz/a	7 EPP	A	99	99	99	99	99	99
2	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
2	Herbimax (COC)		L	1	% v/v	7 EPP	A						
2	Abundit Extra	3	SL	1	qt/a	POST	B						
2	AMS		WG	17	lb/100 gal	POST	B						
3	Valor XLT	40.3	WG	3	oz/a	7 EPP	A	99	98	99	99	99	99
3	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
3	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
3	AMS		WG	17	lb/100 gal	7 EPP	A						
3	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
3	AMS		WG	17	lb/100 gal	POST	B						
4	OpTill	68	WG	2	oz/a	7 EPP	A	99	96	99	99	99	98
4	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
4	MSO		L	1	% v/v	7 EPP	A						
4	AMS		WG	17	lb/100 gal	7 EPP	A						
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
4	AMS		WG	17	lb/100 gal	POST	B						
5	Verdict	5.57	L	5	fl oz/a	7 EPP	A	99	95	99	99	99	99
5	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
5	MSO		L	1	% v/v	7 EPP	A						
5	AMS		WG	17	lb/100 gal	7 EPP	A						
5	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
5	AMS		WG	17	lb/100 gal	POST	B						
6	Verdict	5.57	L	5	fl oz/a	7 EPP	A	99	90	99	99	99	99
6	Prowl H2O	3.8	L	2	pt/a	7 EPP	A						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
6	MSO		L	1	% v/v	7 EPP	A						
6	AMS		WG	17	lb/100 gal	7 EPP	A						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
6	AMS		WG	17	lb/100 gal	POST	B						
7	Untreated							0	0	0	0	0	0
8	Boundary	6.5	L	1.75	pt/a	7 EPP	A	99	98	99	99	99	99
8	Gramoxone Inteon	2	L	2.5	pt/a	7 EPP	A						
8	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
8	Herbimax (COC)		L	1	% v/v	7 EPP	A						
8	Flexstar GT 3.5	3.5	L	3.5	pt/a	POST	B						
8	Activator 90		L	0.25	% v/v	POST	B						
8	AMS		WG	8.5	lb/100 gal	POST	B						
9	Prefix	5.29	L	2	pt/a	7 EPP	A	99	97	99	99	99	99
9	Gramoxone Inteon	2	L	3	pt/a	7 EPP	A						
9	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
9	Herbimax (COC)		L	1	% v/v	7 EPP	A						
9	Touchdown Total	4	SL	24	fl oz/a	POST	B						
9	AMS		WG	8.5	lb/100 gal	POST	B						

MSU Weed Science Research Program

Comparison of commercial herbicide programs in no-till soybean

Trial ID: NTS01-11 Study Dir.: Sprague, Powell  
 Conducted: C-13E Crops Investigator: Christy Sprague

Weed Code	ERICA	TAROF	ERIST	ANGR	CHEAL	AMBEL
Crop Code						
Rating Data Type	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent
Rating Date	7/12/2011	7/12/2011	7/12/2011	7/12/2011	7/12/2011	7/12/2011
Trt-Eval Interval	64 DA-A	64 DA-A	64 DA-A	64 DA-A	64 DA-A	64 DA-A
# Subsamples, Dec.	0	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	ERICA	TAROF	ERIST	ANGR	CHEAL	AMBEL
10	Extreme	2.17	L	3	pt/a	7 EPP	A	99	98	99	99	99	99
10	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
10	Activator 90		L	0.25	% v/v	7 EPP	A						
10	AMS		WG	17	lb/100 gal	7 EPP	A						
10	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
10	AMS		WG	17	lb/100 gal	POST	B						
11	Authority First	70	WG	3.2	oz/a	7 EPP	A	99	97	99	99	99	97
11	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
11	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
11	AMS		WG	17	lb/100 gal	7 EPP	A						
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
11	AMS		WG	17	lb/100 gal	POST	B						
12	Authority First	70	WG	3.2	oz/a	7 EPP	A	99	96	99	99	99	99
12	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
12	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
12	AMS		WG	17	lb/100 gal	7 EPP	A						
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
12	Warrant	3	L	3	pt/a	POST	B						
12	AMS		WG	17	lb/100 gal	POST	B						
13	Authority First	70	WG	6.45	oz/a	7 EPP	A	99	98	99	99	99	99
13	Dual II Magnum	7.64	L	1	pt/a	7 EPP	A						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
13	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
13	AMS		WG	17	lb/100 gal	7 EPP	A						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
13	Cadet	0.91	L	0.6	fl oz/a	POST	B						
13	AMS		WG	17	lb/100 gal	POST	B						
14	Authority MTZ	45	WG	14	oz/a	7 EPP	A	99	90	99	99	99	99
14	Dual II Magnum	7.64	L	1	pt/a	7 EPP	A						
14	Gramoxone Inteon	2	SL	2	pt/a	7 EPP	A						
14	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
14	Herbimax (COC)		L	1	% v/v	7 EPP	A						
14	AMS		WG	17	lb/100 gal	7 EPP	A						
14	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
14	Cadet	0.91	L	0.6	fl oz/a	POST	B						
14	AMS		WG	17	lb/100 gal	POST	B						
15	Ignite	2.34	L	36	fl oz/a	7 EPP	A	99	81	99	99	99	99
15	AMS		WG	8.5	lb/100 gal	7 EPP	A						
15	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
15	AMS		WG	17	lb/100 gal	POST	B						
16	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A	99	53	99	95	99	86
16	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
16	AMS		WG	17	lb/100 gal	7 EPP	A						
16	Roundup PowerMax	4.5	SL	44	fl oz/a	LPOS	C						
16	AMS		WG	17	lb/100 gal	LPOS	C						

LSD (P=.05)	0.0	6.4	0.0	2.4	0.0	3.7
Standard Deviation	0.0	4.5	0.0	1.7	0.0	2.6
CV	0.0	5.19	0.0	1.79	0.0	2.85

Means followed by same letter do not significantly differ (P=.05, LSD)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

MSU Weed Science Research Program

Comparison of commercial herbicide programs in no-till soybean

Trial ID: NTS01-11 Study Dir.: Sprague, Powell  
 Conducted: C-13E Crops Investigator: Christy Sprague

Weed Code								ERICA	ERIST	ANGR	CHEAL	AMBEL	GLXMA
Crop Code													
Rating Data Type								control	control	control	control	control	yield
Rating Unit								percent	percent	percent	percent	percent	bu/acre
Rating Date								9/6/2011	9/6/2011	9/6/2011	7/12/2011	9/6/2011	10/31/2011
Trt-Eval Interval								61 DA-C	61 DA-C	61 DA-C	64 DA-A	61 DA-C	at 13% M
# Subsamples, Dec.								0	0	0	0	0	1
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	Canopy	75	WG	2.25	oz/a	7 EPP	A	96	99	99	99	98	70.3
1	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
1	Herbimax (COC)		L	1	% v/v	7 EPP	A						
1	Abundit Extra	3	SL	1	qt/a	POST	B						
1	AMS		WG	17	lb/100 gal	POST	B						
2	Envive	41.3	WG	2.5	oz/a	7 EPP	A	99	99	99	99	99	71.1
2	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
2	Herbimax (COC)		L	1	% v/v	7 EPP	A						
2	Abundit Extra	3	SL	1	qt/a	POST	B						
2	AMS		WG	17	lb/100 gal	POST	B						
3	Valor XLT	40.3	WG	3	oz/a	7 EPP	A	99	99	99	99	99	70.7
3	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
3	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
3	AMS		WG	17	lb/100 gal	7 EPP	A						
3	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
3	AMS		WG	17	lb/100 gal	POST	B						
4	OpTill	68	WG	2	oz/a	7 EPP	A	99	99	99	99	99	70.1
4	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
4	MSO		L	1	% v/v	7 EPP	A						
4	AMS		WG	17	lb/100 gal	7 EPP	A						
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
4	AMS		WG	17	lb/100 gal	POST	B						
5	Verdict	5.57	L	5	fl oz/a	7 EPP	A	99	99	99	99	99	74.0
5	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
5	MSO		L	1	% v/v	7 EPP	A						
5	AMS		WG	17	lb/100 gal	7 EPP	A						
5	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
5	AMS		WG	17	lb/100 gal	POST	B						
6	Verdict	5.57	L	5	fl oz/a	7 EPP	A	99	99	99	99	99	70.6
6	Prowl H2O	3.8	L	2	pt/a	7 EPP	A						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
6	MSO		L	1	% v/v	7 EPP	A						
6	AMS		WG	17	lb/100 gal	7 EPP	A						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
6	AMS		WG	17	lb/100 gal	POST	B						
7	Untreated							0	0	0	0	0	28.5
8	Boundary	6.5	L	1.75	pt/a	7 EPP	A	99	99	99	99	99	69.6
8	Gramoxone Inteon	2	L	2.5	pt/a	7 EPP	A						
8	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
8	Herbimax (COC)		L	1	% v/v	7 EPP	A						
8	Flexstar GT 3.5	3.5	L	3.5	pt/a	POST	B						
8	Activator 90		L	0.25	% v/v	POST	B						
8	AMS		WG	8.5	lb/100 gal	POST	B						
9	Prefix	5.29	L	2	pt/a	7 EPP	A	99	99	99	99	99	72.6
9	Gramoxone Inteon	2	L	3	pt/a	7 EPP	A						
9	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
9	Herbimax (COC)		L	1	% v/v	7 EPP	A						
9	Touchdown Total	4	SL	24	fl oz/a	POST	B						
9	AMS		WG	8.5	lb/100 gal	POST	B						

MSU Weed Science Research Program

Comparison of commercial herbicide programs in no-till soybean

Trial ID: NTS01-11 Study Dir.: Sprague, Powell  
 Conducted: C-13E Crops Investigator: Christy Sprague

Weed Code								ERICA	ERIST	ANGR	CHEAL	AMBEL	GLXMA
Crop Code													
Rating Data Type								control	control	control	control	control	yield
Rating Unit								percent	percent	percent	percent	percent	bu/acre
Rating Date								9/6/2011	9/6/2011	9/6/2011	7/12/2011	9/6/2011	10/31/2011
Trt-Eval Interval								61 DA-C	61 DA-C	61 DA-C	64 DA-A	61 DA-C	at 13% M
# Subsamples, Dec.								0	0	0	0	0	1
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
10	Extreme	2.17	L	3	pt/a	7 EPP	A	99	99	99	99	99	69.2
10	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
10	Activator 90		L	0.25	% v/v	7 EPP	A						
10	AMS		WG	17	lb/100 gal	7 EPP	A						
10	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
10	AMS		WG	17	lb/100 gal	POST	B						
11	Authority First	70	WG	3.2	oz/a	7 EPP	A	99	99	99	99	99	76.3
11	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
11	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
11	AMS		WG	17	lb/100 gal	7 EPP	A						
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
11	AMS		WG	17	lb/100 gal	POST	B						
12	Authority First	70	WG	3.2	oz/a	7 EPP	A	99	99	99	99	99	73.9
12	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
12	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
12	AMS		WG	17	lb/100 gal	7 EPP	A						
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
12	Warrant	3	L	3	pt/a	POST	B						
12	AMS		WG	17	lb/100 gal	POST	B						
13	Authority First	70	WG	6.45	oz/a	7 EPP	A	99	99	99	99	99	67.5
13	Dual II Magnum	7.64	L	1	pt/a	7 EPP	A						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A						
13	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
13	AMS		WG	17	lb/100 gal	7 EPP	A						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
13	Cadet	0.91	L	0.6	fl oz/a	POST	B						
13	AMS		WG	17	lb/100 gal	POST	B						
14	Authority MTZ	45	WG	14	oz/a	7 EPP	A	99	99	99	99	99	71.1
14	Dual II Magnum	7.64	L	1	pt/a	7 EPP	A						
14	Gramoxone Inteon	2	SL	2	pt/a	7 EPP	A						
14	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
14	Herbimax (COC)		L	1	% v/v	7 EPP	A						
14	AMS		WG	17	lb/100 gal	7 EPP	A						
14	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
14	Cadet	0.91	L	0.6	fl oz/a	POST	B						
14	AMS		WG	17	lb/100 gal	POST	B						
15	Ignite	2.34	L	36	fl oz/a	7 EPP	A	99	99	99	99	99	69.4
15	AMS		WG	8.5	lb/100 gal	7 EPP	A						
15	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
15	AMS		WG	17	lb/100 gal	POST	B						
16	Roundup PowerMax	4.5	SL	22	fl oz/a	7 EPP	A	99	99	99	97	99	66.8
16	2,4-D Ester	3.8	L	1	pt/a	7 EPP	A						
16	AMS		WG	17	lb/100 gal	7 EPP	A						
16	Roundup PowerMax	4.5	SL	44	fl oz/a	LPOS	C						
16	AMS		WG	17	lb/100 gal	LPOS	C						
LSD (P=.05)								2.5	0.0	0.0	1.6	0.7	6.21
Standard Deviation								1.8	0.0	0.0	1.1	0.5	4.34
CV								1.89	0.0	0.0	1.21	0.54	6.37

Means followed by same letter do not significantly differ (P=.05, LSD)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.