

MSU Weed Science Research Program

Comparison of fall and spring herbicide programs in no-till soybean

Trial ID: FSB01-10 Study Dir.: Sprague and Powell
Conducted: T-16 North Investigator: Christy Sprague

Date Planted: 5/26/2010 Row Spacing: 7.5 IN
Variety: Asgrow 2108 No. of Reps: 5
Population: 200,000 seeds/acre % OM: 2.9
Soil Type: Clay Loam pH: 6.5
Plot Size: 10 X 35 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: No-till
Fertilizer: None

Crop and Weed Description

Table with 4 columns: Weed, Code, Common Name, Scientific Name. Lists weeds 1-6 and crop 1 (GLXMA SOYBEAN).

Application Description

Table with 3 columns: Application Timing, A, B. Lists details for Fall application on 11/9/2009 and 4/12/2010.

Crop Stage at Each Application

Table with 3 columns: Crop Name, A, B. Shows crop name GLXMA and height/stage at both applications.

Weed Stage at Each Application

Table with 3 columns: Weed Name, A, B. Lists weed names and their stages/heights at both applications.

Weed Density (plants/sq. ft.)

Table with 5 columns: Weed Name, 1, 2, 3, 4, 5. Shows density values for weeds TAROF, LACSE, STEME, ANGR, CHEAL.

Application Equipment

Table with 11 columns: Appl, Sprayer, Speed, Nozzle, Nozzle, Nozzle, Nozzle, Boom, Width, GPA, Carrier, PSI. Lists equipment for applications A and B.

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Comments: Roundup WeatherMax at 22 fl oz/A + AMS at 17 lb/100 gal was applied broadcast to the entire study on June 28, 2010. Injury on July 26 was due to weed competition and the soybean canopy was completely closed.

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Weed Code								STEME	TAROF	STEME	TAROF	CHEAL	GLXMA
Crop Code													
Rating Data Type								control	control	control	control	control	injury
Rating Unit								percent	percent	percent	percent	percent	percent
Rating Date								4/27/2010	4/27/2010	5/20/2010	5/20/2010	5/20/2010	6/9/2010
Trt-Eval Interval								169 DA-A	169 DA-A	192 DA-A	192 DA-A	192 DA-A	212 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	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A	92	64	77	53	0	0
1	2,4-D Ester	4	L	1	pt/a	FALL	A						
1	AMS		WG	17	lb/100 gal	FALL	A						
2	Canopy EX (1.5 oz)							99	92	98	95	99	0
2	Classic	25	WG	1.36	oz/a	FALL	A						
2	Express	50	SG	0.2	oz/a	FALL	A						
2	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
2	2,4-D Ester	4	L	1	pt/a	FALL	A						
2	AMS		WG	17	lb/100 gal	FALL	A						
3	Basis	75	WG	0.5	oz/a	FALL	A	99	76	96	71	96	0
3	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
3	2,4-D Ester	4	L	1	pt/a	FALL	A						
3	AMS		WG	17	lb/100 gal	FALL	A						
4	Valor	51	WG	2	oz/a	FALL	A	99	94	99	91	99	13
4	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
4	2,4-D Ester	4	L	1	pt/a	FALL	A						
4	AMS		WG	17	lb/100 gal	FALL	A						
5	Sharpen	2.85	L	1	oz/a	FALL	A	79	68	72	50	78	0
5	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
5	AMS		WG	17	lb/100 gal	FALL	A						
6	Canopy EX (1.5 oz)							99	93	98	96	99	0
6	Classic	25	WG	1.36	oz/a	FALL	A						
6	Express	50	SG	0.2	oz/a	FALL	A						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
6	Sharpen	2.85	L	1	oz/a	FALL	A						
6	AMS		WG	17	lb/100 gal	FALL	A						
7	Basis	75	WG	0.5	oz/a	FALL	A	99	78	96	67	95	0
7	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
7	Sharpen	2.85	L	1	oz/a	FALL	A						
7	AMS		WG	17	lb/100 gal	FALL	A						
8	Classic	25	WG	1.36	oz/a	FALL	A	99	91	96	93	99	0
8	Express	50	SG	0.2	oz/a	FALL	A						
8	2,4-D Ester	4	L	1	pt/a	FALL	A						
8	AMS		WG	17	lb/100 gal	FALL	A						
9	Untreated							0	0	0	0	0	0
10	Envive (3.5 oz)							79	74	96	99	99	0
10	Classic	25	WG	1.28	oz/a	30 EPP	B						
10	Harmony SG	50	SG	0.2	oz/a	30 EPP	B						
10	Valor	51	WG	2	oz/a	30 EPP	B						
10	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP	B						
10	2,4-D Ester	4	L	1	pt/a	30 EPP	B						
10	AMS		WG	17	lb/100 gal	30 EPP	B						
11	Envive (3.5 oz)							75	74	96	99	99	0
11	Classic	25	WG	1.28	oz/a	30 EPP	B						
11	Harmony SG	50	SG	0.2	oz/a	30 EPP	B						
11	Valor	51	WG	2	oz/a	30 EPP	B						
11	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP	B						
11	Sharpen	2.85	L	1	oz/a	30 EPP	B						
11	AMS		WG	17	lb/100 gal	30 EPP	B						

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Weed Code				STEME	TAROF	STEME	TAROF	CHEAL	GLXMA				
Crop Code				control	control	control	control	control	injury				
Rating Data Type				percent	percent	percent	percent	percent	percent				
Rating Unit				4/27/2010	4/27/2010	5/20/2010	5/20/2010	5/20/2010	6/9/2010				
Rating Date				169 DA-A	169 DA-A	192 DA-A	192 DA-A	192 DA-A	212 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						
12	Valor	51	WG	2	oz/a	30 EPP	B	75	73	89	88	99	0
12	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP	B						
12	2,4-D Ester	4	L	1	pt/a	30 EPP	B						
12	AMS		WG	17	lb/100 gal	30 EPP	B						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP	B	74	67	97	84	99	0
13	Sharpen	2.85	L	1	oz/a	30 EPP	B						
13	AMS		WG	17	lb/100 gal	30 EPP	B						
14	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP	B	65	63	93	84	99	0
14	2,4-D Ester	4	L	1	pt/a	30 EPP	B						
14	AMS		WG	17	lb/100 gal	30 EPP	B						
LSD (P=.05)								6.8	13.6	6.7	13.8	6.4	2.9
Standard Deviation								5.4	10.7	5.3	10.9	5.1	2.3
CV								6.67	14.91	6.15	14.25	6.15	243.16

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								GLXMA	TAROF	STEME	LACTU	CHEAL	OVERALL
Crop Code								injury	control	control	control	control	WEED
Rating Data Type								percent	percent	percent	percent	percent	control
Rating Unit								6/25/2010	6/25/2010	6/25/2010	6/25/2010	6/25/2010	percent
Rating Date								228 DA-A	228 DA-A	228 DA-A	228 DA-A	228 DA-A	6/25/2010
Trt-Eval Interval								0	0	0	0	0	228 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	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A	0	42	53	0	0	28
1	2,4-D Ester	4	L	1	pt/a	FALL	A						
1	AMS		WG	17	lb/100 gal	FALL	A						
2	Canopy EX (1.5 oz)							0	84	97	99	99	87
2	Classic	25	WG	1.36	oz/a	FALL	A						
2	Express	50	SG	0.2	oz/a	FALL	A						
2	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
2	2,4-D Ester	4	L	1	pt/a	FALL	A						
2	AMS		WG	17	lb/100 gal	FALL	A						
3	Basis	75	WG	0.5	oz/a	FALL	A	0	60	91	99	56	62
3	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
3	2,4-D Ester	4	L	1	pt/a	FALL	A						
3	AMS		WG	17	lb/100 gal	FALL	A						
4	Valor	51	WG	2	oz/a	FALL	A	12	88	99	99	71	85
4	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
4	2,4-D Ester	4	L	1	pt/a	FALL	A						
4	AMS		WG	17	lb/100 gal	FALL	A						
5	Sharpen	2.85	L	1	oz/a	FALL	A	0	36	56	0	0	28
5	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
5	AMS		WG	17	lb/100 gal	FALL	A						
6	Canopy EX (1.5 oz)							0	89	99	99	99	90
6	Classic	25	WG	1.36	oz/a	FALL	A						
6	Express	50	SG	0.2	oz/a	FALL	A						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
6	Sharpen	2.85	L	1	oz/a	FALL	A						
6	AMS		WG	17	lb/100 gal	FALL	A						
7	Basis	75	WG	0.5	oz/a	FALL	A	0	59	94	99	79	69
7	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
7	Sharpen	2.85	L	1	oz/a	FALL	A						
7	AMS		WG	17	lb/100 gal	FALL	A						
8	Classic	25	WG	1.36	oz/a	FALL	A	0	84	98	99	99	89
8	Express	50	SG	0.2	oz/a	FALL	A						
8	2,4-D Ester	4	L	1	pt/a	FALL	A						
8	AMS		WG	17	lb/100 gal	FALL	A						
9	Untreated							0	0	0	0	0	0
10	Envive (3.5 oz)							0	96	96	99	99	96
10	Classic	25	WG	1.28	oz/a	30 EPP	B						
10	Harmony SG	50	SG	0.2	oz/a	30 EPP	B						
10	Valor	51	WG	2	oz/a	30 EPP	B						
10	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP	B						
10	2,4-D Ester	4	L	1	pt/a	30 EPP	B						
10	AMS		WG	17	lb/100 gal	30 EPP	B						
11	Envive (3.5 oz)							0	95	99	99	99	97
11	Classic	25	WG	1.28	oz/a	30 EPP	B						
11	Harmony SG	50	SG	0.2	oz/a	30 EPP	B						
11	Valor	51	WG	2	oz/a	30 EPP	B						
11	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP	B						
11	Sharpen	2.85	L	1	oz/a	30 EPP	B						
11	AMS		WG	17	lb/100 gal	30 EPP	B						

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Crop Code															
Rating Data Type															
Rating Unit															
Rating Date															
Trt-Eval Interval															
# Subsamples, Dec.															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	GLXMA injury percent	TAROF control percent	STEME control percent	LACTU control percent	CHEAL control percent	OVERALL WEED control percent		
12	Valor	51	WG	2	oz/a	30 EPP B	0	6/25/2010	6/25/2010	6/25/2010	6/25/2010	6/25/2010	6/25/2010		
12	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP B	0	228 DA-A	228 DA-A	228 DA-A	228 DA-A	228 DA-A	228 DA-A		
12	2,4-D Ester	4	L	1	pt/a	30 EPP B	0	0	0	0	0	0	0		
12	AMS		WG	17	lb/100 gal	30 EPP B	0	0	0	0	0	0	0		
13	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP B	0	62	96	96	96	91	71		
13	Sharpen	2.85	L	1	oz/a	30 EPP B	0								
13	AMS		WG	17	lb/100 gal	30 EPP B	0								
14	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP B	0	71	94	94	99	77	77		
14	2,4-D Ester	4	L	1	pt/a	30 EPP B	0								
14	AMS		WG	17	lb/100 gal	30 EPP B	0								
LSD (P=.05)								3.1	11.5	7.6	2.7	15.9	11.1		
Standard Deviation								2.5	9.1	6.0	1.9	12.6	8.8		
CV								285.97	13.58	7.19	2.41	18.28	12.86		

Means followed by same letter do not significantly differ (P=.05, LSD)
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Weed Code								GLXMA	TAROF	ANGR	CHEAL	GLXMA	GLXMA
Crop Code								injury	control	control	control	moisture	yield
Rating Data Type								percent	percent	percent	percent	percent	bu/acre
Rating Unit								7/26/2010	7/26/2010	7/26/2010	7/26/2010	10/11/2010	10/11/2010
Rating Date								259 DA-A	259 DA-A	259 DA-A	259 DA-A	336 DA-A	at 13% M
Trt-Eval Interval								0	0	0	0	1	1
# Subsamples, Dec.								0	0	0	0	1	1
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A	8	97	99	99	10.5	46.8
1	2,4-D Ester	4	L	1	pt/a	FALL	A						
1	AMS		WG	17	lb/100 gal	FALL	A						
2	Canopy EX (1.5 oz)							0	99	99	99	10.3	62.8
2	Classic	25	WG	1.36	oz/a	FALL	A						
2	Express	50	SG	0.2	oz/a	FALL	A						
2	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
2	2,4-D Ester	4	L	1	pt/a	FALL	A						
2	AMS		WG	17	lb/100 gal	FALL	A						
3	Basis	75	WG	0.5	oz/a	FALL	A	1	99	99	99	10.5	45.8
3	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
3	2,4-D Ester	4	L	1	pt/a	FALL	A						
3	AMS		WG	17	lb/100 gal	FALL	A						
4	Valor	51	WG	2	oz/a	FALL	A	9	97	99	99	10.3	48.4
4	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
4	2,4-D Ester	4	L	1	pt/a	FALL	A						
4	AMS		WG	17	lb/100 gal	FALL	A						
5	Sharpen	2.85	L	1	oz/a	FALL	A	8	99	99	99	10.4	45.0
5	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
5	AMS		WG	17	lb/100 gal	FALL	A						
6	Canopy EX (1.5 oz)							0	99	99	99	10.3	48.5
6	Classic	25	WG	1.36	oz/a	FALL	A						
6	Express	50	SG	0.2	oz/a	FALL	A						
6	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
6	Sharpen	2.85	L	1	oz/a	FALL	A						
6	AMS		WG	17	lb/100 gal	FALL	A						
7	Basis	75	WG	0.5	oz/a	FALL	A	3	99	99	99	10.5	61.9
7	Roundup PowerMax	4.5	SL	22	fl oz/a	FALL	A						
7	Sharpen	2.85	L	1	oz/a	FALL	A						
7	AMS		WG	17	lb/100 gal	FALL	A						
8	Classic	25	WG	1.36	oz/a	FALL	A	0	99	99	99	10.6	45.7
8	Express	50	SG	0.2	oz/a	FALL	A						
8	2,4-D Ester	4	L	1	pt/a	FALL	A						
8	AMS		WG	17	lb/100 gal	FALL	A						
9	Untreated							31	77	99	99	10.6	38.8
10	Envive (3.5 oz)							0	99	99	99	10.1	41.8
10	Classic	25	WG	1.28	oz/a	30 EPP	B						
10	Harmony SG	50	SG	0.2	oz/a	30 EPP	B						
10	Valor	51	WG	2	oz/a	30 EPP	B						
10	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP	B						
10	2,4-D Ester	4	L	1	pt/a	30 EPP	B						
10	AMS		WG	17	lb/100 gal	30 EPP	B						
11	Envive (3.5 oz)							0	99	99	99	10.1	55.0
11	Classic	25	WG	1.28	oz/a	30 EPP	B						
11	Harmony SG	50	SG	0.2	oz/a	30 EPP	B						
11	Valor	51	WG	2	oz/a	30 EPP	B						
11	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP	B						
11	Sharpen	2.85	L	1	oz/a	30 EPP	B						
11	AMS		WG	17	lb/100 gal	30 EPP	B						

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Rating Unit													
Rating Date													
Trt-Eval Interval													
# Subsamples, Dec.													

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code		TAROF	ANGR	CHEAL	GLXMA moisture percent	GLXMA yield bu/acre at 13% M	
12	Valor	51	WG	2	oz/a	30 EPP	B	1	99	99	99	10.2	54.5	
12	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP	B							
12	2,4-D Ester	4	L	1	pt/a	30 EPP	B							
12	AMS		WG	17	lb/100 gal	30 EPP	B							
13	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP	B	0	99	99	99	10.2	48.1	
13	Sharpen	2.85	L	1	oz/a	30 EPP	B							
13	AMS		WG	17	lb/100 gal	30 EPP	B							
14	Roundup PowerMax	4.5	SL	22	fl oz/a	30 EPP	B	0	99	99	99	10.0	51.0	
14	2,4-D Ester	4	L	1	pt/a	30 EPP	B							
14	AMS		WG	17	lb/100 gal	30 EPP	B							
LSD (P=.05)									6.4	4.3	0.0	0.0	0.51	13.33
Standard Deviation									5.1	3.4	0.0	0.0	0.40	10.43
CV									116.22	3.5	0.0	0.0	3.83	21.03

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.