

Timing of Fall-Applied Residual Herbicides for Weed Control in No-Till Soybean.

Trial ID: 14-FagerS-ISA-Fall Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Trial Status: Fone-year/final Initiation Date: 11-15-13 Completion Date: 11-1-14	Trial Location City: Murphysboro Country: USA State/Prov.: Illinois IL Postal Code: 62966
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Objectives:
Determine the performance of fall and spring applications of residual herbicides for soybean with the primary focus on residual waterhemp control in spring and summer.

Study Director: Ronald F. Krausz Organization: Belleville Research Center - Southern Illinois Univ Carbondale Address: 2036 Charles Lane City+State/Prov: Belleville, IL Postal Code: 62221 Country: USA	Contacts Title: Researcher/Farm Manager Phone No.: 618-566-4761 E-mail: rkrausz@siu.edu
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Crop 1: GLXMA Glycine max Variety: AG3832 Description: RR2Y	Soybean BBCH Scale: BSOY Planting Date: 5-6-14 Planting Method: SEEDED Planting Rate, Unit: 140000 S/A Depth, Unit: 1 IN Row Spacing, Unit: 30 IN
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Pest 1 Type: W Code: ERICA <i>Conyza canadensis</i> (L.) Crong. Common Name: horseweed Description: glyphosate-resistant marestail Pest 2 Type: W Code: AMATA <i>Amaranthus rudis</i> Sauer Common Name: waterhemp, common Description: glyphosate-resistant waterhemp Pest 3 Type: W Code: TTTTT Common Name: weeds, generally Description: overall weed control	Pest Description
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Treated Plot Width: 6.67 FT Total Plot Width: 10 FT Treated Plot Length: 30 FT Total Plot Length: 30 FT Replications: 3 Untreated Arrangement: NONE control is other than an untreated	Site and Design Site Type: FIELD Experimental Unit: 1 PLOT Tillage Type: NOTILL no-till Study Design: RACOB L Randomized Complete Block (RCB)
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No.	Previous Crop	Year
1.	GLXMA	2013

Maintenance <table border="1"> <thead> <tr> <th>No.</th> <th>Maintenance Product Name</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A</td> </tr> </tbody> </table>	No.	Maintenance Product Name	1.	N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A
No.	Maintenance Product Name			
1.	N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A			

% OM: 1.87 Texture: SIL silt loam pH: 5.5 Soil Name: Alvin CEC: 7.06	Soil Description
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Element	Quantity	Unit
P1	172	LB/A
K	446	LB/A

Overall Moisture Conditions: NORMAL Closest Weather Station: SOUTHERN IL AIRPORT (93810)	Moisture and Weather Conditions Distance, Unit: 3.5 MI
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No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	10-21-13					7	DAY	25	63	F
2.	10-22-13	0.04	IN	RAIN	rain	1	DAY			
3.	10-28-13					7	DAY	30	76	F
4.	10-31-13	2.44	IN	RAIN	rain	4	DAY			
5.	11-4-13					7	DAY	28	65	F
6.	11-6-13	0.51	IN	RAIN	rain	3	DAY			
7.	11-11-13					7	DAY	17	77	F
8.	11-17-13	1.32	IN	RAIN	rain	2	DAY			
9.	11-18-13					7	DAY	16	57	F

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10.	11-21-13	1.08	IN	RAIN	rain	2	DAY			
11.	11-25-13					7	DAY	17	59	F
12.	12-2-13					7	DAY	6	67	F
13.	12-5-13	1.61	IN	RAIN	rain	2	DAY			
14.	12-9-13					7	DAY	0	38	F
15.	12-14-13	0.54	IN	RAIN	rain	2	DAY			
16.	12-16-13					7	DAY	21	64	F
17.	12-20-13	1.5	IN	RAIN	rain	2	DAY			
18.	12-23-13					7	DAY	12	52	F
19.	12-31-13					7	DAY	6	45	F
20.	1-5-14	0.98	IN	RAIN	rain	2	DAY			
21.	1-7-14					7	DAY	-2	52	F
22.	1-9-14	0.59	IN	RAIN	rain	2	DAY			
23.	1-14-14					7	DAY	15	57	F
24.	1-21-14					7	DAY	2	59	F
25.	1-28-14					7	DAY	3	55	F
26.	2-1-14	0.54	IN	RAIN	rain	2	DAY			
27.	2-4-14					7	DAY	1	32	F
28.	2-11-14					7	DAY	3	47	F
29.	2-14-14	0.16	IN	RAIN	rain	1	DAY			
30.	2-17-14	0.09	IN	RAIN	rain	1	DAY			
31.	2-18-14					7	DAY	26	68	F
32.	2-20-14	0.52	IN	RAIN	rain	1	DAY			
33.	2-25-14					7	DAY	10	51	F
34.	3-2-14	0.78	IN	RAIN	rain	1	DAY			
35.	3-4-14					7	DAY	9	52	F
36.	3-11-14					7	DAY	25	73	F
37.	3-16-14	0.61	IN	RAIN	rain	1	DAY			
38.	3-18-14					7	DAY	26	69	F
39.	3-25-14					7	DAY	19	61	F
40.	3-27-14	0.71	IN	RAIN	rain	3	DAY			
41.	4-1-14	3.44	IN	RAIN	rain	4	DAY			
42.	4-1-14					7	DAY	37	70	F
43.	4-7-14	0.64	IN	RAIN	rain	2	DAY			
44.	4-8-14					7	DAY	42	76	F
45.	4-13-14	0.57	IN	RAIN	rain	2	DAY			
46.	4-15-14					7	DAY	31	77	F
47.	4-22-14					7	DAY	41	77	F
48.	4-24-14	1.13	IN	RAIN	rain	2	DAY			
49.	4-27-14	2.02	IN	RAIN	rain	2	DAY			
50.	4-29-14					7	DAY	39	84	F
51.	5-6-14					7	DAY	54	83	F
52.	5-8-14	1.25	IN	RAIN	rain	2	DAY			
53.	5-11-14	0.34	IN	RAIN	rain	1	DAY			
54.	5-13-14	2.53	IN	RAIN	rain	3	DAY			
55.	5-13-14					7	DAY	39	80	F
56.	5-20-14					7	DAY	46	85	F
57.	5-22-14	0.06	IN	RAIN	rain	1	DAY			
58.	5-25-14	0.07	IN	RAIN	rain	2	DAY			
59.	5-27-14					7	DAY	62	88	F
60.	5-30-14	0.09	IN	RAIN	rain	1	DAY			
61.	6-1-14	0.66	IN	RAIN	rain	2	DAY			
62.	6-3-14					7	DAY	64	88	F
63.	6-4-14	0.91	IN	RAIN	rain	1	DAY			
64.	6-7-14	0.32	IN	RAIN	rain	1	DAY			
65.	6-9-14	0.71	IN	RAIN	rain	2	DAY			
66.	6-10-14					7	DAY	51	91	F
67.	6-12-14	0.06	IN	RAIN	rain	1	DAY			
68.	6-17-14					7	DAY	69	93	F
69.	6-24-14	1.69	IN	RAIN	rain	1	DAY			
70.	6-24-14					7	DAY	67	92	F
71.	6-29-14	0.08	IN	RAIN	rain	1	DAY			
72.	7-1-14	0.81	IN	RAIN	rain	1	DAY			
73.	7-1-14					7	DAY	55	90	F
74.	7-8-14	0.15	IN	RAIN	rain	1	DAY			
75.	7-13-14	0.71	IN	RAIN	rain	2	DAY			
76.	7-15-14					7	DAY	54	85	F
77.	7-22-14					7	DAY	56	91	F
78.	7-23-14	0.16	IN	RAIN	rain	1	DAY			
79.	7-29-14					7	DAY	55	87	F
80.	8-5-14	0.13	IN	RAIN	rain	1	DAY			
81.	8-5-14					7	DAY	63	89	F

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82.	8-7-14	1.95	IN	RAIN	rain	3	DAY			
83.	8-11-14	0.19	IN	RAIN	rain	1	DAY			
84.	8-12-14					7	DAY	56	84	F
85.	8-16-14	0.77	IN	RAIN	rain	2	DAY			
86.	8-19-14					7	DAY	66	93	F
87.	8-26-14					7	DAY	68	94	F
88.	8-28-14	0.02	IN	RAIN	rain	1	DAY			
89.	8-30-14	0.49	IN	RAIN	rain	1	DAY			
90.	9-2-14					7	DAY	50	93	F
91.	9-9-14					7	DAY	43	85	F
92.	9-10-14	1.96	IN	RAIN	rain	2	DAY			
93.	9-16-14					7	DAY	43	85	F
94.	9-21-14	0.07	IN	RAIN	rain	1	DAY			
95.	9-23-14					7	DAY	42	86	F
96.	9-30-14					7	DAY	35	86	F
97.	10-2-14	0.52	IN	RAIN	rain	2	DAY			
98.	10-6-14	0.08	IN	RAIN	rain	2	DAY			
99.	10-7-14					7	DAY	45	81	F
100.	10-9-14	0.66	IN	RAIN	rain	4	DAY			
101.	10-13-14	0.98	IN	RAIN	rain	3	DAY			
102.	10-14-14					7	DAY	35	76	F
103.	10-21-14					7	DAY	33	81	F
104.	10-28-14	0.55	IN	RAIN	rain	1	DAY			
105.	10-28-14					7	DAY	22	70	F
106.	11-4-14	0.84	IN	RAIN	rain	1	DAY			
107.	11-4-14					7	DAY	24	69	F
108.	11-11-14					7	DAY	15	60	F

Application Description

	A	B	C	D
Application Date:	11-15-13	4-9-14	5-6-14	6-5-14
Appl. Start Time:	11:10	7:30	19:00	17:00
Appl. Stop Time:	12:00	8:10	19:30	17:30
Application Method:	Spray	Spray	Spray	Spray
Application Timing:	FALL	EPP30	PRE	POST
Application Placement:	BROFOL	BROFOL	BROFOL	BROFOL
Applied By:	RJW	LXF	LXF	KLA
Air Temperature, Unit:	53 F	49 F	78 F	77 F
% Relative Humidity:	47	67	46	72
Wind Velocity, Unit:	1 MPH	4 MPH	8 MPH	1 MPH
Wind Direction:	S	W	S	E
Dew Presence (Y/N):	N	Y	N	N
Soil Temperature, Unit:	45 F	46 F	75 F	79 F
Soil Moisture:	NORMAL	NORMAL	NORMAL	NORMAL
% Cloud Cover:	100	0	0	100
Next Moisture Occurred On:	11-16-13	4-13-14	5-8-14	6-7-14
Time to Next Moisture, Unit:	35 HR	4 DAY	2 DAY	50 HR

Crop Stage At Each Application

	A	B	C	D
Crop 1 Code, BBCH Scale:	GLXMA	GLXMA	GLXMA	GLXMA
Stage Scale Used:	DESC	DESC	DESC	DESC
Stage Majority, Percent:	NA	NA	NA	V3
Stage Minimum, Percent:				V3
Stage Maximum, Percent:				V3
Height, Unit:				6 IN
Height Minimum, Maximum:				5 6

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Pest Stage At Each Application				
	A	B	C	D
Pest 1 Code, Type, Scale:	ERICA W	ERICA W	ERICA W	ERICA W
Stage Majority, Percent:	NA	COTY	8	25
Stage Minimum, Percent:		COTY	4	10
Stage Maximum, Percent:		COTY	10	30
Height, Unit:		0.125 IN	1 IN	6 IN
Height Minimum, Maximum:		0.125 0.125	0.5 2	4 10
Density, Unit:		20 FT2	30 FT2	10 FT2
Pest 2 Code, Type, Scale:	AMATA W	AMATA W	AMATA W	AMATA W
Stage Majority, Percent:	NA	COTY	4	12
Stage Minimum, Percent:		COTY	COTY	4
Stage Maximum, Percent:		COTY	6	12
Height, Unit:		0.25 IN	0.5 IN	5 IN
Height Minimum, Maximum:		0.125 0.25	0.25 0.5	2 6
Density, Unit:		5 FT2	20 FT2	10 FT2
Pest 3 Code, Type, Scale:	TTTTT W	TTTTT W	TTTTT W	TTTTT W
Stage Majority, Percent:	NA	NA	NA	NA

Application Equipment				
	A	B	C	D
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer
Equipment Type:	BACSPR	BACSPR	BACSPR	BACSPR
Operation Pressure, Unit:	30 PSI	30 PSI	30 PSI	30 PSI
Nozzle Type:	XR	XR	XR	XR
Nozzle Size:	8002	8002	8002	8002
Boom Length, Unit:	6.67 FT	6.67 FT	6.67 FT	6.67 FT
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA	15 GPA

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Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing						GLXMA 11-1-14 Moisture Percent	GLXMA 11-1-14 Test wt. lb/bu	GLXMA 11-1-14 Yield bu/A	ERICA-HR 4-9-14 Control Percent 145 DA-A	AMATA-HR 4-9-14 Control Percent 145 DA-A
Trt-Eval Interval									0 DA-B	0 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code		
1	AUTHORITY XL	70 WG		0.175 lb ai/a	4 oz/a		FALL	A	14.3 a	57.2 a
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a	44 fl oz/a		FALL	A	33 bc	99 a
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	1 pt/a		FALL	A		97 b
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		FALL	A		
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		POST	D		
2	AUTHORITY XL	70 WG		0.35 lb ai/a	8 oz/a		FALL	A	14.6 a	57.0 a
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a	44 fl oz/a		FALL	A	38 abc	99 a
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	1 pt/a		FALL	A		98 a
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		FALL	A		
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		POST	D		
3	VALOR XLT	40.3 WG		0.0756 lb ai/a	3 oz/a		FALL	A	15.2 a	56.4 a
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a	44 fl oz/a		FALL	A	41 abc	99 a
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	1 pt/a		FALL	A		98 ab
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		FALL	A		
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		POST	D		
4	VALOR XLT	40.3 WG		0.101 lb ai/a	4 oz/a		FALL	A	14.3 a	57.2 a
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a	44 fl oz/a		FALL	A	40 abc	99 a
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	1 pt/a		FALL	A		99 a
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		FALL	A		
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		POST	D		
5	AUTHORITY XL	70 WG		0.0875 lb ai/a	2 oz/a		FALL	A	14.1 a	57.3 a
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a	44 fl oz/a		FALL	A	43 ab	99 a
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	1 pt/a		FALL	A		98 ab
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		FALL	A		
	AUTHORITY XL	70 WG		0.0875 lb ai/a	2 oz/a		EPP30	B		
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a	44 fl oz/a		EPP30	B		
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	1 pt/a		EPP30	B		
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		EPP30	B		
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		POST	D		
6	VALOR XLT	40.3 WG		0.0378 lb ai/a	1.5 oz/a		FALL	A	14.2 a	57.2 a
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a	44 fl oz/a		FALL	A	44 a	99 a
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	1 pt/a		FALL	A		98 a
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		FALL	A		
	VALOR XLT	40.3 WG		0.0378 lb ai/a	1.5 oz/a		EPP30	B		
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a	44 fl oz/a		EPP30	B		
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	1 pt/a		EPP30	B		
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		EPP30	B		
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		POST	D		
7	AUTHORITY XL	70 WG		0.0875 lb ai/a	2 oz/a		FALL	A	14.1 a	57.3 a
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a	44 fl oz/a		FALL	A	47 a	99 a
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	1 pt/a		FALL	A		98 ab
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		FALL	A		
	AUTHORITY XL	70 WG		0.0875 lb ai/a	2 oz/a		PRE	C		
	GRAMOXONE 2 SL	2 SL		1 lb ai/a	64 fl oz/a		PRE	C		
	COC (PRIME OIL)	100 SL		1 % v/v	1 % v/v		PRE	C		
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		PRE	C		
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v		POST	D		

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.
Missing data estimates are included in columns: Average=5

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Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing						GLXMA 11-1-14 Moisture Percent	GLXMA 11-1-14 Test wt. lb/bu	GLXMA 11-1-14 Yield bu/A	ERICA-HR 4-9-14 Control Percent 145 DA-A	AMATA-HR 4-9-14 Control Percent 145 DA-A
Trt-Eval Interval									0 DA-B	0 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code		
8	VALOR XLT	40.3	WG	0.0378 lb ai/a	1.5 oz/a		FALL	A	14.1 a	57.3 a
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a		FALL	A	38 abc	99 a
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a		FALL	A		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		FALL	A		
	VALOR XLT	40.3	WG	0.0378 lb ai/a	1.5 oz/a		PRE	C		
	GRAMOXONE 2 SL	2	SL	1 lb ai/a	64 fl oz/a		PRE	C		
	COC (PRIME OIL)	100	SL	1 % v/v	1 % v/v		PRE	C		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		PRE	C		
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		POST	D		
9	AUTHORITY XL	70	WG	0.0875 lb ai/a	2 oz/a		EPP30	B	14.2 a	57.2 a
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a		EPP30	B	42 abc	
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a		EPP30	B		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		EPP30	B		
	AUTHORITY XL	70	WG	0.0875 lb ai/a	2 oz/a		PRE	C		
	GRAMOXONE 2 SL	2	SL	1 lb ai/a	64 fl oz/a		PRE	C		
	COC (PRIME OIL)	100	SL	1 % v/v	1 % v/v		PRE	C		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		PRE	C		
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		POST	D		
10	VALOR XLT	40.3	WG	0.0378 lb ai/a	1.5 oz/a		EPP30	B	14.1 a	57.3 a
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a		EPP30	B	42 abc	
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a		EPP30	B		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		EPP30	B		
	VALOR XLT	40.3	WG	0.0378 lb ai/a	1.5 oz/a		PRE	C		
	GRAMOXONE 2 SL	2	SL	1 lb ai/a	64 fl oz/a		PRE	C		
	COC (PRIME OIL)	100	SL	1 % v/v	1 % v/v		PRE	C		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		PRE	C		
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		POST	D		
11	AUTHORITY XL	70	WG	0.175 lb ai/a	4 oz/a		EPP30	B	14.9 a	56.7 a
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a		EPP30	B	45 a	
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a		EPP30	B		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		EPP30	B		
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		POST	D		
12	AUTHORITY XL	70	WG	0.35 lb ai/a	8 oz/a		EPP30	B	16.3 a	56.1 a
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a		EPP30	B	43 ab	
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a		EPP30	B		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		EPP30	B		
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		POST	D		
13	VALOR XLT	40.3	WG	0.0756 lb ai/a	3 oz/a		EPP30	B	14.6 a	56.9 a
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a		EPP30	B	39 abc	
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a		EPP30	B		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		EPP30	B		
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		POST	D		
14	VALOR XLT	40.3	WG	0.101 lb ai/a	4 oz/a		EPP30	B	15.5 a	56.0 a
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a		EPP30	B	48 a	
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a		EPP30	B		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		EPP30	B		
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		POST	D		
15	AUTHORITY XL	70	WG	0.175 lb ai/a	4 oz/a		PRE	C	14.0 a	57.3 a
	GRAMOXONE 2 SL	2	SL	1 lb ai/a	64 fl oz/a		PRE	C	38 abc	
	COC (PRIME OIL)	100	SL	1 % v/v	1 % v/v		PRE	C		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		PRE	C		
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		POST	D		

Southern Illinois University

Timing of Fall-Applied Residual Herbicides for Weed Control in No-Till Soybean.

Trial ID: 14-FagerS-ISA-Fall Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval						GLXMA 11-1-14 Moisture Percent	GLXMA 11-1-14 Test wt. lb/bu	GLXMA 11-1-14 Yield bu/A	ERICA-HR 4-9-14 Control Percent 145 DA-A	AMATA-HR 4-9-14 Control Percent 145 DA-A
Trt-Eval Interval									0 DA-B	0 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code		
16	AUTHORITY XL	70	WG	0.35 lb ai/a	8 oz/a		PRE	C	14.9 a	56.8 a
	GRAMOXONE 2 SL	2	SL	1 lb ai/a	64 fl oz/a		PRE	C		
	COC (PRIME OIL)	100	SL	1 % v/v	1 % v/v		PRE	C		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		PRE	C		
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		POST	D		
17	VALOR XLT	40.3	WG	0.0756 lb ai/a	3 oz/a		PRE	C	14.2 a	56.5 a
	GRAMOXONE 2 SL	2	SL	1 lb ai/a	64 fl oz/a		PRE	C		
	COC (PRIME OIL)	100	SL	1 % v/v	1 % v/v		PRE	C		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		PRE	C		
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		POST	D		
18	VALOR XLT	40.3	WG	0.101 lb ai/a	4 oz/a		PRE	C	14.1 a	57.3 a
	GRAMOXONE 2 SL	2	SL	1 lb ai/a	64 fl oz/a		PRE	C		
	COC (PRIME OIL)	100	SL	1 % v/v	1 % v/v		PRE	C		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		PRE	C		
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a		POST	D		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		POST	D		
19	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a		FALL	A	14.4 a	57.1 a
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a		FALL	A		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		FALL	A		
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a		POST	D		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		POST	D		
20	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a		EPP30	B	14.0 a	57.4 a
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a		EPP30	B		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		EPP30	B		
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a		POST	D		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		POST	D		
21	GRAMOXONE 2 SL	2	SL	1 lb ai/a	64 fl oz/a		PRE	C	14.1 a	57.3 a
	COC (PRIME OIL)	100	SL	1 % v/v	1 % v/v		PRE	C		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		PRE	C		
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a		POST	D		
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v		POST	D		
LSD (P= 05)						1.91	1.49	11.3	0.8	1.4
Standard Deviation						1.16	0.90	6.8	0.5	0.8
CV						7.98	1.59	17.23	0.46	0.93
Replicate F						3.959	4.456	1.533	0.182	0.170
Replicate Prob(F)						0.0270	0.0179	0.2318	0.8355	0.8450
Treatment F						0.761	0.633	3.032	14.227	4905.958
Treatment Prob(F)						0.7400	0.8633	0.0027	0.0001	0.0001

Southern Illinois University

Timing of Fall-Applied Residual Herbicides for Weed Control in No-Till Soybean.

Trial ID: 14-FagerS-ISA-Fall Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing						ERICA-HR	AMATA-HR	TTTTT	ERICA-HR	AMATA-HR	TTTTT
Trt-Eval Interval						5-6-14 Control Percen 27 DA-B	5-6-14 Control Percen 27 DA-B	5-6-14 Control Percent 27 DA-B	6-5-14 Control Percen 30 DA-C	6-5-14 Control Percen 30 DA-C	6-5-14 Control Percen 30 DA-C
						0 DA-C	0 DA-C	0 DA-C	0 DA-D	0 DA-D	0 DA-D
Trt	Treatment No. Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate	Other Rate	Growth Stage	Appl Code		
1	AUTHORITY XL	70	WG	0.175 lb ai/a	4 oz/a	FALL	A				
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a	FALL	A				
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a	FALL	A				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	FALL	A				
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a	POST	D				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	POST	D				
99 a											
0 e											
0 e											
85 ab											
0 g											
3 g											
2	AUTHORITY XL	70	WG	0.35 lb ai/a	8 oz/a	FALL	A				
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a	FALL	A				
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a	FALL	A				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	FALL	A				
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a	POST	D				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	POST	D				
99 a											
3 e											
3 e											
98 a											
0 g											
0 g											
3	VALOR XLT	40.3	WG	0.0756 lb ai/a	3 oz/a	FALL	A				
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a	FALL	A				
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a	FALL	A				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	FALL	A				
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a	POST	D				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	POST	D				
98 ab											
0 e											
0 e											
85 ab											
0 g											
3 g											
4	VALOR XLT	40.3	WG	0.101 lb ai/a	4 oz/a	FALL	A				
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a	FALL	A				
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a	FALL	A				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	FALL	A				
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a	POST	D				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	POST	D				
99 a											
7 e											
7 e											
95 a											
0 g											
0 g											
5	AUTHORITY XL	70	WG	0.0875 lb ai/a	2 oz/a	FALL	A				
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a	FALL	A				
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a	FALL	A				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	FALL	A				
	AUTHORITY XL	70	WG	0.0875 lb ai/a	2 oz/a	EPP30	B				
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a	EPP30	B				
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a	EPP30	B				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	EPP30	B				
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a	POST	D				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	POST	D				
99 a											
83 d											
83 d											
99 a											
18 efg											
18 efg											
6	VALOR XLT	40.3	WG	0.0378 lb ai/a	1.5 oz/a	FALL	A				
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a	FALL	A				
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a	FALL	A				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	FALL	A				
	VALOR XLT	40.3	WG	0.0378 lb ai/a	1.5 oz/a	EPP30	B				
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a	EPP30	B				
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a	EPP30	B				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	EPP30	B				
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a	POST	D				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	POST	D				
99 a											
81 d											
81 d											
99 a											
12 g											
12 g											
7	AUTHORITY XL	70	WG	0.0875 lb ai/a	2 oz/a	FALL	A				
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44 fl oz/a	FALL	A				
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1 pt/a	FALL	A				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	FALL	A				
	AUTHORITY XL	70	WG	0.0875 lb ai/a	2 oz/a	PRE	C				
	GRAMOXONE 2 SL	2	SL	1 lb ai/a	64 fl oz/a	PRE	C				
	COC (PRIME OIL)	100	SL	1 % v/v	1 % v/v	PRE	C				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	PRE	C				
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22 fl oz/a	POST	D				
	N-PAK AMS	100	SL	2.5 % v/v	2.5 % v/v	POST	D				
96 b											
0 e											
0 e											
97 a											
37 de											
38 d											

Southern Illinois University

Timing of Fall-Applied Residual Herbicides for Weed Control in No-Till Soybean.

Trial ID: 14-FagerS-ISA-Fall Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing							ERICA-HR	AMATA-HR	TTTTT	ERICA-HR	AMATA-HR	TTTTT		
Trt-Eval Interval							5-6-14 Control Percen 27 DA-B	5-6-14 Control Percen 27 DA-B	5-6-14 Control Percent 27 DA-B	6-5-14 Control Percen 30 DA-C	6-5-14 Control Percen 30 DA-C	6-5-14 Control Percen 30 DA-C		
							0 DA-C	0 DA-C	0 DA-C	0 DA-D	0 DA-D	0 DA-D		
Trt	Treatment No. Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
8	VALOR XLT ROUNDUP POWERMAX 2,4-D LV 4 N-PAK AMS VALOR XLT GRAMOXONE 2 SL COC (PRIME OIL) N-PAK AMS ROUNDUP POWERMAX N-PAK AMS	40.3 WG 4.5 SL 3.8 EC 100 SL 40.3 WG 2 SL 100 SL 100 SL 4.5 SL 100 SL	WG SL EC SL WG SL SL SL SL SL	0.0378 lb ai/a 1.55 lb ae/a 0.475 lb ae/a 2.5 % v/v 0.0378 lb ai/a 1 lb ai/a 1 % v/v 2.5 % v/v 0.77 lb ae/a 2.5 % v/v	1.5 oz/a 44 fl oz/a 1 pt/a 2.5 % v/v 1.5 oz/a 64 fl oz/a 1 % v/v 2.5 % v/v 22 fl oz/a 2.5 % v/v	FALL A FALL A FALL A FALL A PRE C PRE C PRE C PRE C POST D POST D			99 a	0 e	0 e	99 a	33 def	35 de
9	AUTHORITY XL ROUNDUP POWERMAX 2,4-D LV 4 N-PAK AMS AUTHORITY XL GRAMOXONE 2 SL COC (PRIME OIL) N-PAK AMS ROUNDUP POWERMAX N-PAK AMS	70 WG 4.5 SL 3.8 EC 100 SL 70 WG 2 SL 100 SL 100 SL 4.5 SL 100 SL	WG SL EC SL WG SL SL SL SL SL	0.0875 lb ai/a 1.55 lb ae/a 0.475 lb ae/a 2.5 % v/v 0.0875 lb ai/a 1 lb ai/a 1 % v/v 2.5 % v/v 0.77 lb ae/a 2.5 % v/v	2 oz/a 44 fl oz/a 1 pt/a 2.5 % v/v 2 oz/a 64 fl oz/a 1 % v/v 2.5 % v/v 22 fl oz/a 2.5 % v/v	EPP30 B EPP30 B EPP30 B EPP30 B PRE C PRE C PRE C PRE C POST D POST D			99 a	89 bcd	89 bcd	99 a	62 bc	62 bc
10	VALOR XLT ROUNDUP POWERMAX 2,4-D LV 4 N-PAK AMS VALOR XLT GRAMOXONE 2 SL COC (PRIME OIL) N-PAK AMS ROUNDUP POWERMAX N-PAK AMS	40.3 WG 4.5 SL 3.8 EC 100 SL 40.3 WG 2 SL 100 SL 100 SL 4.5 SL 100 SL	WG SL EC SL WG SL SL SL SL SL	0.0378 lb ai/a 1.55 lb ae/a 0.475 lb ae/a 2.5 % v/v 0.0378 lb ai/a 1 lb ai/a 1 % v/v 2.5 % v/v 0.77 lb ae/a 2.5 % v/v	1.5 oz/a 44 fl oz/a 1 pt/a 2.5 % v/v 1.5 oz/a 64 fl oz/a 1 % v/v 2.5 % v/v 22 fl oz/a 2.5 % v/v	EPP30 B EPP30 B EPP30 B EPP30 B PRE C PRE C PRE C PRE C POST D POST D			99 a	88 cd	88 cd	99 a	42 cd	43 cd
11	AUTHORITY XL ROUNDUP POWERMAX 2,4-D LV 4 N-PAK AMS ROUNDUP POWERMAX N-PAK AMS	70 WG 4.5 SL 3.8 EC 100 SL 4.5 SL 100 SL	WG SL EC SL SL SL	0.175 lb ai/a 1.55 lb ae/a 0.475 lb ae/a 2.5 % v/v 0.77 lb ae/a 2.5 % v/v	4 oz/a 44 fl oz/a 1 pt/a 2.5 % v/v 22 fl oz/a 2.5 % v/v	EPP30 B EPP30 B EPP30 B EPP30 B POST D POST D			99 a	97 ab	97 ab	99 a	18 efg	18 efg
12	AUTHORITY XL ROUNDUP POWERMAX 2,4-D LV 4 N-PAK AMS ROUNDUP POWERMAX N-PAK AMS	70 WG 4.5 SL 3.8 EC 100 SL 4.5 SL 100 SL	WG SL EC SL SL SL	0.35 lb ai/a 1.55 lb ae/a 0.475 lb ae/a 2.5 % v/v 0.77 lb ae/a 2.5 % v/v	8 oz/a 44 fl oz/a 1 pt/a 2.5 % v/v 22 fl oz/a 2.5 % v/v	EPP30 B EPP30 B EPP30 B EPP30 B POST D POST D			99 a	99 a	99 a	99 a	78 ab	78 ab
13	VALOR XLT ROUNDUP POWERMAX 2,4-D LV 4 N-PAK AMS ROUNDUP POWERMAX N-PAK AMS	40.3 WG 4.5 SL 3.8 EC 100 SL 4.5 SL 100 SL	WG SL EC SL SL SL	0.0756 lb ai/a 1.55 lb ae/a 0.475 lb ae/a 2.5 % v/v 0.77 lb ae/a 2.5 % v/v	3 oz/a 44 fl oz/a 1 pt/a 2.5 % v/v 22 fl oz/a 2.5 % v/v	EPP30 B EPP30 B EPP30 B EPP30 B POST D POST D			99 a	96 abc	96 abc	99 a	13 fg	15 fg
14	VALOR XLT ROUNDUP POWERMAX 2,4-D LV 4 N-PAK AMS ROUNDUP POWERMAX N-PAK AMS	40.3 WG 4.5 SL 3.8 EC 100 SL 4.5 SL 100 SL	WG SL EC SL SL SL	0.101 lb ai/a 1.55 lb ae/a 0.475 lb ae/a 2.5 % v/v 0.77 lb ae/a 2.5 % v/v	4 oz/a 44 fl oz/a 1 pt/a 2.5 % v/v 22 fl oz/a 2.5 % v/v	EPP30 B EPP30 B EPP30 B EPP30 B POST D POST D			99 a	97 ab	97 ab	99 a	12 g	10 g
15	AUTHORITY XL GRAMOXONE 2 SL COC (PRIME OIL) N-PAK AMS ROUNDUP POWERMAX N-PAK AMS	70 WG 2 SL 100 SL 100 SL 4.5 SL 100 SL	WG SL SL SL SL SL	0.175 lb ai/a 1 lb ai/a 1 % v/v 2.5 % v/v 0.77 lb ae/a 2.5 % v/v	4 oz/a 64 fl oz/a 1 % v/v 2.5 % v/v 22 fl oz/a 2.5 % v/v	PRE C PRE C PRE C PRE C POST D POST D					75 b	80 ab	65 ab	

Southern Illinois University

Timing of Fall-Applied Residual Herbicides for Weed Control in No-Till Soybean.

Trial ID: 14-FagerS-ISA-Fall Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing					ERICA-HR 5-6-14 Control Percen 27 DA-B	AMATA-HR 5-6-14 Control Percen 27 DA-B	TTTTT 5-6-14 Control Percent 27 DA-B	ERICA-HR 6-5-14 Control Percen 30 DA-C	AMATA-HR 6-5-14 Control Percen 30 DA-C	TTTTT 6-5-14 Control Percen 30 DA-C
Trt-Eval Interval					0 DA-C	0 DA-C	0 DA-C	0 DA-D	0 DA-D	0 DA-D
Trt Treatment No. Name	Form Form Conc Type	Rate Unit	Other O her Rate Rate	Growth Appl Stage Code						
16 AUTHORITY XL GRAMOXONE 2 SL COC (PRIME OIL) N-PAK AMS ROUNDUP POWERMAX N-PAK AMS	70 WG 2 SL 100 SL 100 SL 4.5 SL 100 SL	0.35 lb ai/a 1 lb ai/a 1 % v/v 2.5 % v/v 0.77 lb ae/a 2.5 % v/v	8 oz/a 64 fl oz/a 1 % v/v 2.5 % v/v 22 fl oz/a 2.5 % v/v	PRE C PRE C PRE C PRE C POST D POST D				88 ab	87 a	82 a
17 VALOR XLT GRAMOXONE 2 SL COC (PRIME OIL) N-PAK AMS ROUNDUP POWERMAX N-PAK AMS	40.3 WG 2 SL 100 SL 100 SL 4.5 SL 100 SL	0.0756 lb ai/a 1 lb ai/a 1 % v/v 2.5 % v/v 0.77 lb ae/a 2.5 % v/v	3 oz/a 64 fl oz/a 1 % v/v 2.5 % v/v 22 fl oz/a 2.5 % v/v	PRE C PRE C PRE C PRE C POST D POST D				77 b	43 cd	40 d
18 VALOR XLT GRAMOXONE 2 SL COC (PRIME OIL) N-PAK AMS ROUNDUP POWERMAX N-PAK AMS	40.3 WG 2 SL 100 SL 100 SL 4.5 SL 100 SL	0.101 lb ai/a 1 lb ai/a 1 % v/v 2.5 % v/v 0.77 lb ae/a 2.5 % v/v	4 oz/a 64 fl oz/a 1 % v/v 2.5 % v/v 22 fl oz/a 2.5 % v/v	PRE C PRE C PRE C PRE C POST D POST D				83 ab	73 ab	63 ab
19 ROUNDUP POWERMAX 2,4-D LV 4 N-PAK AMS ROUNDUP POWERMAX N-PAK AMS	4.5 SL 3.8 EC 100 SL 4.5 SL 100 SL	1.55 lb ae/a 0.475 lb ae/a 2.5 % v/v 1.55 lb ae/a 2.5 % v/v	44 fl oz/a 1 pt/a 2.5 % v/v 44 fl oz/a 2.5 % v/v	FALL A FALL A FALL A POST D POST D	80 c	0 e	0 e	0 d	0 g	0 g
20 ROUNDUP POWERMAX 2,4-D LV 4 N-PAK AMS ROUNDUP POWERMAX N-PAK AMS	4.5 SL 3.8 EC 100 SL 4.5 SL 100 SL	1.55 lb ae/a 0.475 lb ae/a 2.5 % v/v 1.55 lb ae/a 2.5 % v/v	44 fl oz/a 1 pt/a 2.5 % v/v 44 fl oz/a 2.5 % v/v	EPP30 B EPP30 B EPP30 B POST D POST D	99 a	0 e	0 e	38 c	70 ab	4 g
21 GRAMOXONE 2 SL COC (PRIME OIL) N-PAK AMS ROUNDUP POWERMAX N-PAK AMS	2 SL 100 SL 100 SL 4.5 SL 100 SL	1 lb ai/a 1 % v/v 2.5 % v/v 1.55 lb ae/a 2.5 % v/v	64 fl oz/a 1 % v/v 2.5 % v/v 44 fl oz/a 2.5 % v/v	PRE C PRE C PRE C POST D POST D				50 c	73 ab	33 def
LSD (P=.05)					3.0	8.9	8.9	16.5	21.4	19.4
Standard Deviation					1.8	5.3	5.3	10.0	13.0	11.7
CV					1.82	11.53	11.53	11.89	36.19	39.53
Replicate F					1.820	0.595	0.595	0.821	0.513	1.075
Replicate Prob(F)					0.1795	0.5581	0.5581	0.4472	0.6024	0.3508
Treatment F					21.340	230.375	230.375	19.543	17.695	16.121
Treatment Prob(F)					0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Southern Illinois University

Timing of Fall-Applied Residual Herbicides for Weed Control in No-Till Soybean.

Trial ID: 14-FagerS-ISA-Fall Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing							ERICA-HR 7-3-14 Control Percent	AMATA-HR 7-3-14 Control Percent	TTTTT 7-3-14 Control Percent	GLXMA 6-5-14 Injury Percent 30 DA-C	GLXMA 7-3-14 Injury Percent
Trt-Eval Interval							28 DA-D	28 DA-D	28 DA-D	0 DA-D	28 DA-D
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	AUTHORITY XL	70 WG		0.175 lb ai/a		4 oz/a	FALL A		91 bcd	0 h	0 g
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a		44 fl oz/a	FALL A				0 b
	2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a	FALL A				0 a
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	FALL A				
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a		22 fl oz/a	POST D				
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	POST D				
2	AUTHORITY XL	70 WG		0.35 lb ai/a		8 oz/a	FALL A		98 ab	0 h	0 g
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a		44 fl oz/a	FALL A				0 b
	2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a	FALL A				0 a
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	FALL A				
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a		22 fl oz/a	POST D				
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	POST D				
3	VALOR XLT	40.3 WG		0.0756 lb ai/a		3 oz/a	FALL A		90 cde	0 h	0 g
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a		44 fl oz/a	FALL A				0 b
	2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a	FALL A				0 a
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	FALL A				
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a		22 fl oz/a	POST D				
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	POST D				
4	VALOR XLT	40.3 WG		0.101 lb ai/a		4 oz/a	FALL A		95 abc	0 h	0 g
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a		44 fl oz/a	FALL A				0 b
	2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a	FALL A				0 a
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	FALL A				
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a		22 fl oz/a	POST D				
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	POST D				
5	AUTHORITY XL	70 WG		0.0875 lb ai/a		2 oz/a	FALL A		99 a	3 h	3 g
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a		44 fl oz/a	FALL A				0 b
	2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a	FALL A				0 a
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	FALL A				
	AUTHORITY XL	70 WG		0.0875 lb ai/a		2 oz/a	EPP30 B				
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a		44 fl oz/a	EPP30 B				
	2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a	EPP30 B				
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	EPP30 B				
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a		22 fl oz/a	POST D				
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	POST D				
6	VALOR XLT	40.3 WG		0.0378 lb ai/a		1.5 oz/a	FALL A		99 a	2 h	2 g
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a		44 fl oz/a	FALL A				0 b
	2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a	FALL A				0 a
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	FALL A				
	VALOR XLT	40.3 WG		0.0378 lb ai/a		1.5 oz/a	EPP30 B				
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a		44 fl oz/a	EPP30 B				
	2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a	EPP30 B				
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	EPP30 B				
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a		22 fl oz/a	POST D				
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	POST D				
7	AUTHORITY XL	70 WG		0.0875 lb ai/a		2 oz/a	FALL A		96 abc	36 efg	36 cd
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a		44 fl oz/a	FALL A				0 b
	2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a	FALL A				0 a
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	FALL A				
	AUTHORITY XL	70 WG		0.0875 lb ai/a		2 oz/a	PRE C				
	GRAMOXONE 2 SL	2 SL		1 lb ai/a		64 fl oz/a	PRE C				
	COC (PRIME OIL)	100 SL		1 % v/v		1 % v/v	PRE C				
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	PRE C				
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a		22 fl oz/a	POST D				
	N-PAK AMS	100 SL		2.5 % v/v		2.5 % v/v	POST D				

Southern Illinois University

Timing of Fall-Applied Residual Herbicides for Weed Control in No-Till Soybean.

Trial ID: 14-FagerS-ISA-Fall Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing							ERICA-HR 7-3-14 Control Percent	AMATA-HR 7-3-14 Control Percent	TTTTT 7-3-14 Control Percent	GLXMA 6-5-14 Injury Percent 30 DA-C	GLXMA 7-3-14 Injury Percent
Trt-Eval Interval							28 DA-D	28 DA-D	28 DA-D	0 DA-D	28 DA-D
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Unit	Growth Stage	Appl Code			
8	VALOR XLT	40.3	WG	0.0378 lb ai/a	1.5	oz/a	FALL	A	99 a	8 h	8 fg
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44	fl oz/a	FALL	A			0 b
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1	pt/a	FALL	A			3 a
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	FALL	A			
	VALOR XLT	40.3	WG	0.0378 lb ai/a	1.5	oz/a	PRE	C			
	GRAMOXONE 2 SL	2	SL	1 lb ai/a	64	fl oz/a	PRE	C			
	COC (PRIME OIL)	100	SL	1 % v/v	1	% v/v	PRE	C			
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	PRE	C			
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	POST	D			
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	POST	D			
9	AUTHORITY XL	70	WG	0.0875 lb ai/a	2	oz/a	EPP30	B	99 a	48 def	48 bc
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44	fl oz/a	EPP30	B			0 b
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1	pt/a	EPP30	B			0 a
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	EPP30	B			
	AUTHORITY XL	70	WG	0.0875 lb ai/a	2	oz/a	PRE	C			
	GRAMOXONE 2 SL	2	SL	1 lb ai/a	64	fl oz/a	PRE	C			
	COC (PRIME OIL)	100	SL	1 % v/v	1	% v/v	PRE	C			
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	PRE	C			
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	POST	D			
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	POST	D			
10	VALOR XLT	40.3	WG	0.0378 lb ai/a	1.5	oz/a	EPP30	B	99 a	15 gh	15 efg
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44	fl oz/a	EPP30	B			0 b
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1	pt/a	EPP30	B			0 a
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	EPP30	B			
	VALOR XLT	40.3	WG	0.0378 lb ai/a	1.5	oz/a	PRE	C			
	GRAMOXONE 2 SL	2	SL	1 lb ai/a	64	fl oz/a	PRE	C			
	COC (PRIME OIL)	100	SL	1 % v/v	1	% v/v	PRE	C			
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	PRE	C			
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	POST	D			
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	POST	D			
11	AUTHORITY XL	70	WG	0.175 lb ai/a	4	oz/a	EPP30	B	99 a	7 h	7 fg
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44	fl oz/a	EPP30	B			0 b
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1	pt/a	EPP30	B			0 a
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	EPP30	B			
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	POST	D			
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	POST	D			
12	AUTHORITY XL	70	WG	0.35 lb ai/a	8	oz/a	EPP30	B	98 ab	79 ab	79 a
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44	fl oz/a	EPP30	B			2 b
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1	pt/a	EPP30	B			0 a
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	EPP30	B			
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	POST	D			
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	POST	D			
13	VALOR XLT	40.3	WG	0.0756 lb ai/a	3	oz/a	EPP30	B	99 a	7 h	7 fg
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44	fl oz/a	EPP30	B			0 b
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1	pt/a	EPP30	B			0 a
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	EPP30	B			
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	POST	D			
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	POST	D			
14	VALOR XLT	40.3	WG	0.101 lb ai/a	4	oz/a	EPP30	B	99 a	3 h	3 g
	ROUNDUP POWERMAX	4.5	SL	1.55 lb ae/a	44	fl oz/a	EPP30	B			0 b
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	1	pt/a	EPP30	B			0 a
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	EPP30	B			
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	POST	D			
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	POST	D			
15	AUTHORITY XL	70	WG	0.175 lb ai/a	4	oz/a	PRE	C	74 f	65 bcd	60 ab
	GRAMOXONE 2 SL	2	SL	1 lb ai/a	64	fl oz/a	PRE	C			0 b
	COC (PRIME OIL)	100	SL	1 % v/v	1	% v/v	PRE	C			0 a
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	PRE	C			
	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	POST	D			
	N-PAK AMS	100	SL	2.5 % v/v	2.5	% v/v	POST	D			

Southern Illinois University

Timing of Fall-Applied Residual Herbicides for Weed Control in No-Till Soybean.

Trial ID: 14-FagerS-ISA-Fall Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing							ERICA-HR 7-3-14 Control Percent 28 DA-D	AMATA-HR 7-3-14 Control Percent 28 DA-D	TTTTT 7-3-14 Control Percent 28 DA-D	GLXMA 6-5-14 Injury Percent 30 DA-C	GLXMA 7-3-14 Injury Percent 28 DA-D
Trt-Eval Interval											
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Unit	Growth Stage	Appl Code			
16	AUTHORITY XL	70 WG		0.35 lb ai/a	8 oz/a	ai/a	PRE	C	86 de	81 ab	79 a
	GRAMOXONE 2 SL	2 SL		1 lb ai/a	64 fl oz/a	ai/a	PRE	C			8 a
	COC (PRIME OIL)	100 SL		1 % v/v	1 % v/v	v/v	PRE	C			0 a
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v	v/v	PRE	C			
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a	22 fl oz/a	ae/a	POST	D			
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v	v/v	POST	D			
17	VALOR XLT	40.3 WG		0.0756 lb ai/a	3 oz/a	ai/a	PRE	C	74 f	30 fg	27 def
	GRAMOXONE 2 SL	2 SL		1 lb ai/a	64 fl oz/a	ai/a	PRE	C			0 b
	COC (PRIME OIL)	100 SL		1 % v/v	1 % v/v	v/v	PRE	C			0 a
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v	v/v	PRE	C			
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a	22 fl oz/a	ae/a	POST	D			
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v	v/v	POST	D			
18	VALOR XLT	40.3 WG		0.101 lb ai/a	4 oz/a	ai/a	PRE	C	83 e	50 c-f	47 bcd
	GRAMOXONE 2 SL	2 SL		1 lb ai/a	64 fl oz/a	ai/a	PRE	C			3 b
	COC (PRIME OIL)	100 SL		1 % v/v	1 % v/v	v/v	PRE	C			0 a
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v	v/v	PRE	C			
	ROUNDUP POWERMAX	4.5 SL		0.77 lb ae/a	22 fl oz/a	ae/a	POST	D			
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v	v/v	POST	D			
19	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a	44 fl oz/a	ae/a	FALL	A	33 h	94 a	33 cde
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	1 pt/a	ae/a	FALL	A			0 b
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v	v/v	FALL	A			0 a
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a	44 fl oz/a	ae/a	POST	D			
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v	v/v	POST	D			
20	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a	44 fl oz/a	ae/a	EPP30 B		65 g	53 cde	43 bcd
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	1 pt/a	ae/a	EPP30 B				0 b
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v	v/v	EPP30 B				0 a
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a	44 fl oz/a	ae/a	POST	D			
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v	v/v	POST	D			
21	GRAMOXONE 2 SL	2 SL		1 lb ai/a	64 fl oz/a	ai/a	PRE	C	62 g	70 bc	58 b
	COC (PRIME OIL)	100 SL		1 % v/v	1 % v/v	v/v	PRE	C			0 b
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v	v/v	PRE	C			0 a
	ROUNDUP POWERMAX	4.5 SL		1.55 lb ae/a	44 fl oz/a	ae/a	POST	D			
	N-PAK AMS	100 SL		2.5 % v/v	2.5 % v/v	v/v	POST	D			
LSD (P=.05)							7.8	21.4	20.7	3.7	2.1
Standard Deviation							4.7	13.0	12.5	2.2	1.3
CV							5.43	41.89	47.28	351.48	793.73
Replicate F							0.385	0.702	2.192	0.080	1.000
Replicate Prob(F)							0.6829	0.5016	0.1249	0.9236	0.3769
Treatment F							39.457	18.489	14.106	2.255	1.000
Treatment Prob(F)							0.0001	0.0001	0.0001	0.0141	0.4827

Timing of Fall-Applied Residual Herbicides for Weed Control in No-Till Soybean.

Trial ID: 14-FagerS-ISA-Fall Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Trial Comments

1. Protocol: ISA (Univ of IL).
2. Ratings: CI at 0 and 28 DA-D. WC at B, C, and D timings for all treated plots; WC 28 DA-D.
3. Yield if possible?
4. For the FALL (A) timing; Roundup Powermax, 2, 4-D LV4, and AMS could be a blanket of entire study area, all plots 10 ft wide. Was applied as a blanket 11-15-13.
5. For the PRE (C) timing; Use Gramoxone 2 SL + COC if Marestail is present, else consider Roundup Powermax + NPAK in place of Gramoxone.
6. ERICA-HR = Herbicide-resistant marestail (glyphosate).
AMATA-HR = Herbicide-resistant waterhemp (glyphosate).
TTTTT = Weeds generally, overall weed control.
In May and June AMATA-HR control in plots with low ERICA-HR control is partially due to competition from a dense population of ERICA-HR.
Readers should consider overall weed control ratings (TTTTT) before making assumptions about herbicidal weed control of AMATA-HR.
7. Following the FALL application on 11-15-13, the first rainfall event was 1.32 inch within 2 days, then 1.08 inch within 6 days after treatment.
Following the EPP30 application on 4-9-14, the first rainfall event was 0.57 inch within 4 days, then 3.15 inch within 19 days after treatment.
Following the PRE application on 5-6-14, the first rainfall event was 1.25 inch within 3 days, then 2.87 inch within 8 days after treatment.
8. Weed sizes at POST (D) application varied greatly depending on previous applications.
9. Harvested 11-1-14, (2) 30 inch rows by 27 ft.