

Glyphosate-Resistant Marestail, Waterhemp or Palmer Amaranth Control

Southern Illinois University

General Evaluation of Fall Herbicides in Soybean.

Trial ID: 13-FagerS-GenFallSoy Location: Murphysboro, IL Trial Year: 2013
Investigator: Bryan Young

Trial Status: F one-year/final Initiation Date: 11-19-12 Completion Date: 7-8-13	Trial Location City: Murphysboro Country: USA State/Prov.: Illinois IL Postal Code: 62966
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Objectives: Evaluate fall applied herbicide applications for no-till soybean weed control.
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Study Director: Bryan Young Organization: Southern Illinois University Address: 1205 Lincoln Drive - AG 176 - MC 4415 City+State/Prov: Carbondale IL Postal Code: 62901 Country: USA	Title: Professor Phone No.: 618-453-7679 Mobile No.: 618-713-6471 E-mail: bgyoung@siu.edu	Contacts
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Crop 1: GLXMA Glycine max Soybean Variety: AG 4232 Description: RR/STS Planting Rate, Unit: 155000 S/A Depth, Unit: 1.5 IN Row Spacing, Unit: 30 IN	Crop Description Planting Date: 5-1-13 Planting Method: SEEDED
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Pest 1 Type: W Code: ERICA Conyza canadensis (L.) Crong. Common Name: horseweed Description: glyphosate-resistant marestail	Pest Description
Pest 2 Type: W Code: LAMAM Lamium amplexicaule L. Common Name: henbit	
Pest 3 Type: W Code: STEME Stellaria media (L.) Vill. Common Name: chickweed, common	
Pest 4 Type: W Code: VIORA Viola bicolor Pursh Common Name: pansy, field	
Pest 5 Type: W Code: AMATA Amaranthus rudis Sauer Common Name: waterhemp, common Description: glyphosate-resistant waterhemp	

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: INCLUDED single control randomized in each block	Site and Design Site Type: FIELD Experimental Unit: 1 PLOT Tillage Type: NOTILL no-till Study Design: RACOB L Randomized Complete Block (RCB)						
<table><tr><th>No.</th><th>Previous Crop</th><th>Year</th></tr><tr><td>1.</td><td>GLXMA</td><td>2012</td></tr></table>	No.	Previous Crop	Year	1.	GLXMA	2012	
No.	Previous Crop	Year					
1.	GLXMA	2012					

<table><tr><th>No.</th><th>Maintenance Product Name</th></tr><tr><td>1.</td><td>N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A</td></tr></table>	No.	Maintenance Product Name	1.	N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A	Maintenance
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									
<table><tr><th>Element</th><th>Quantity</th><th>Unit</th></tr><tr><td>P1</td><td>172</td><td>LB/A</td></tr><tr><td>K</td><td>446</td><td>LB/A</td></tr></table>	Element	Quantity	Unit	P1	172	LB/A	K	446	LB/A	Additional Measured Elements
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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General Evaluation of Fall Herbicides in Soybean.

Trial ID: 13-FagerS-GenFallSoy Location: Murphysboro, IL Trial Year: 2013
Investigator: Bryan Young

No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	10-1-12					7	DAY	36	80	F
2.	10-1-12	1.07	IN	RAIN	rain	5	DAY			
3.	10-8-12					7	DAY	32	79	F
4.	10-11-12	1.01	IN	RAIN	rain	4	DAY			
5.	10-15-12					7	DAY	45	79	F
6.	10-17-12	0.99	IN	RAIN	rain	4	DAY			
7.	10-22-12					7	DAY	34	81	F
8.	10-25-12	0.7	IN	RAIN	rain	2	DAY			
9.	10-29-12					7	DAY	28	62	F
10.	11-5-12					7	DAY	29	71	F
11.	11-5-12	0.09	IN	RAIN	rain	3	DAY			
12.	11-11-12	1.49	IN	RAIN	rain	2	DAY			
13.	11-12-12					7	DAY	24	62	F
14.	11-19-12					7	DAY	24	66	F
15.	11-22-12	0.11	IN	RAIN	rain	5	DAY			
16.	11-26-12					7	DAY	21	66	F
17.	12-3-12					7	DAY	31	68	F
18.	12-4-12	0.26	IN	RAIN	rain	4	DAY			
19.	12-9-12	1.09	IN	RAIN	rain	8	DAY			
20.	12-10-12					7	DAY	23	59	F
21.	12-17-12					7	DAY	19	63	F
22.	12-20-12	0.35	IN	RAIN	rain	4	DAY			
23.	12-24-12					7	DAY	8	47	F
24.	12-28-12	0.83	IN	RAIN	rain	6	DAY			
25.	12-31-12					7	DAY	13	40	F
26.	1-7-13					7	DAY	19	64	F
27.	1-10-13	0.57	IN	RAIN	rain	3	DAY			
28.	1-12-13	2.66	IN	RAIN	rain	2	DAY			
29.	1-14-13					7	DAY	22	55	F
30.	1-21-13					7	DAY	16	52	F
31.	1-28-13					7	DAY	13	70	F
32.	1-29-13	2.17	IN	RAIN	rain	4	DAY			
33.	2-4-13					7	DAY	27	66	F
34.	2-7-13	0.25	IN	RAIN	rain	5	DAY			
35.	2-10-13	0.54	IN	RAIN	rain	5	DAY			
36.	2-11-13					7	DAY	24	60	F
37.	2-18-13					7	DAY	23	57	F
38.	2-18-13	1.35	IN	RAIN	rain	4	DAY			
39.	2-25-13					7	DAY	25	54	F
40.	2-26-13	0.67	IN	RAIN	rain	4	DAY			
41.	3-1-13	0.2	IN	RAIN	rain	5	DAY			
42.	3-4-13					7	DAY	26	68	F
43.	3-10-13	0.49	IN	RAIN	rain	2	DAY			
44.	3-11-13					7	DAY	24	74	F
45.	3-17-13	2.87	IN	RAIN	rain	3	DAY			
46.	3-18-13					7	DAY	23	57	F
47.	3-24-13	0.34	IN	RAIN	rain	2	DAY			
48.	3-25-13					7	DAY	24	68	F
49.	3-30-13	0.54	IN	RAIN	rain	2	DAY			
50.	4-1-13					7	DAY	26	75	F
51.	4-8-13					7	DAY	32	81	F
52.	4-10-13	0.85	IN	RAIN	rain	2	DAY			
53.	4-15-13					7	DAY	32	83	F
54.	4-18-13	2.16	IN	RAIN	rain	1	DAY			
55.	4-22-13					7	DAY	32	72	F
56.	4-24-13	0.55	IN	RAIN	rain	2	DAY			
57.	4-27-13	0.37	IN	RAIN	rain	2	DAY			
58.	4-29-13					7	DAY	41	81	F

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59.	5-3-13	1.33	IN	RAIN	rain	3	DAY			
60.	5-5-13	0.75	IN	RAIN	rain	2	DAY			
61.	5-6-13					7	DAY	41	80	F
62.	5-10-13	0.17	IN	RAIN	rain	3	DAY			
63.	5-13-13					7	DAY	37	87	F
64.	5-16-13	0.23	IN	RAIN	rain	2	DAY			
65.	5-20-13					7	DAY	43	85	F
66.	5-21-13	0.91	IN	RAIN	rain	1	DAY			
67.	5-27-13					7	DAY	59	86	F
68.	5-31-13	0.7	IN	RAIN	rain	3	DAY			
69.	6-1-13	1.67	IN	RAIN	rain	2	DAY			
70.	6-3-13					7	DAY	50	82	F
71.	6-10-13	0.13	IN	RAIN	rain	5	DAY			
72.	6-10-13					7	DAY	57	93	F
73.	6-17-13	0.36	IN	RAIN	rain	2	DAY			
74.	6-17-13					7	DAY	61	92	F
75.	6-22-13	0.34	IN	RAIN	rain	2	DAY			
76.	6-24-13					7	DAY	64	93	F
77.	6-26-13	1.25	IN	RAIN	rain	2	DAY			
78.	6-30-13	0.3	IN	RAIN	rain	2	DAY			

Application Description

	A	B	C
Application Date:	11-19-12	5-1-13	6-10-13
Appl. Start Time:	8:00	15:30	18:40
Appl. Stop Time:	8:30	16:00	19:10
Application Method:	Spray	Spray	Spray
Application Timing:	FALL	PRE	POST
Application Placement:	BROFOL	BROFOL	BROFOL
Applied By:	RJW	LXF	LXF
Air Temperature, Unit:	44 F	82 F	79 F
% Relative Humidity:	69	48	56
Wind Velocity, Unit:	0 MPH	4 MPH	2 MPH
Wind Direction:		SW	N
Dew Presence (Y/N):	Y	N	N
Soil Temperature, Unit:	43 F	72 F	80 F
Soil Moisture:	NORMAL	ABONOR	NORMAL
% Cloud Cover:	50	75	30
Next Moisture Occurred On:	11-22-13	5-2-13	6-17-13
Time to Next Moisture, Unit:	86 HR	30 HR	7 DAY

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	GLXMA	GLXMA	GLXMA
Stage Scale Used:	NA	NA	DESC
Stage Majority, Percent:			V4
Stage Minimum, Percent:			V3
Stage Maximum, Percent:			V4
Height, Unit:			6 IN
Height Minimum, Maximum:			5 6

General Evaluation of Fall Herbicides in Soybean.

Trial ID: 13-FagerS-GenFallSoy Location: Murphysboro, IL Trial Year: 2013
Investigator: Bryan Young**Pest Stage At Each Application**

	A	B	C
Pest 1 Code, Type, Scale:	ERICA W	ERICA W	ERICA W
Stage Majority, Percent:	NA	8	30
Stage Minimum, Percent:		COTY	20
Stage Maximum, Percent:		25	50
Height, Unit:		1 IN	6 IN
Height Minimum, Maximum:		0.5 4	4 8
Density, Unit:		2 FT2	0.1 FT2
Pest 2 Code, Type, Scale:	LAMAM W	LAMAM W	LAMAM W
Stage Majority, Percent:	4	4	NA
Stage Minimum, Percent:	2	2	
Stage Maximum, Percent:	6	6	
Height, Unit:	1 IN	2 IN	
Height Minimum, Maximum:	0.5 2	1 3	
Pest 3 Code, Type, Scale:	STEME W	STEME W	STEME W
Stage Majority, Percent:	15	NA	NA
Stage Minimum, Percent:	5		
Stage Maximum, Percent:	20		
Height, Unit:	1.5 IN		
Height Minimum, Maximum:	0.5 2		
Density, Unit:	10 FT2		
Pest 4 Code, Type, Scale:	VIORA W	VIORA W	VIORA W
Stage Majority, Percent:	6	30	NA
Stage Minimum, Percent:	COTY	5	
Stage Maximum, Percent:	10	35	
Height, Unit:	1 IN	5 IN	
Height Minimum, Maximum:	0.5 2	4 6	
Density, Unit:	10 FT2	0.25 FT2	
Pest 5 Code, Type, Scale:	AMATA W	AMATA W	AMATA W
Stage Majority, Percent:	NA	2	14
Stage Minimum, Percent:		COTY	COTY
Stage Maximum, Percent:		4	20
Height, Unit:		0.5 IN	6 IN
Height Minimum, Maximum:		0.25 1	0.5 8
Density, Unit:		10 FT2	5 FT2

Application Equipment

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

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General Evaluation of Fall Herbicides in Soybean.

Trial ID: 13-FagerS-GenFallSoy Location: Murphysboro, IL Trial Year: 2013
Investigator: Bryan Young

Pest Code										GLXMA 6-10-13 Injury Percent 40 DA-B 0 DA-C	GLXMA 7-8-13 Injury Percent 28 DA-C
Crop Code											
Rating Date											
Rating Type											
Rating Unit											
Rating Timing											
Trt-Eval Interval											
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Other Rate	Other Rate	Growth Stage	Appl Code		
1 NONTREATED										0 c	0 a
2 CANOPY EX										0 c	0 a
2,4-D LV 4		29.5	WG	0.037	lb ai/a	2	oz/a	FALL	A		
ABUNDIT EXTRA		3.8	EC	0.475	lb ae/a	1	pt/a	FALL	A		
ENVIVE		3	SL	0.375	lb ae/a	16	fl oz/a	FALL	A		
ABUNDIT EXTRA		41.3	WG	0.103	lb ai/a	4	oz/a	PRE	B		
NIS (ACTIVATOR 90)		3	SL	0.75	lb ae/a	32	fl oz/a	PRE	B		
ABUNDIT EXTRA		100	SL	0.25	% v/v	0.25	% v/v	PRE	B		
AMS		3	SL	0.75	lb ae/a	32	fl oz/a	POST	C		
		100	SG	1	% w/w	8.5	lb/100 gal	POST	C		
3 CANOPY										0 c	0 a
2,4-D LV 4		75	WG	0.188	lb ai/a	4	oz/a	FALL	A		
ABUNDIT EXTRA		3.8	EC	0.475	lb ae/a	1	pt/a	FALL	A		
ENVIVE		3	SL	0.375	lb ae/a	16	fl oz/a	FALL	A		
ABUNDIT EXTRA		41.3	WG	0.103	lb ai/a	4	oz/a	PRE	B		
NIS (ACTIVATOR 90)		3	SL	0.75	lb ae/a	32	fl oz/a	PRE	B		
ABUNDIT EXTRA		100	SL	0.25	% v/v	0.25	% v/v	PRE	B		
AMS		3	SL	0.75	lb ae/a	32	fl oz/a	POST	C		
		100	SG	1	% w/w	8.5	lb/100 gal	POST	C		
4 ENVOKE										5 b	0 a
TOUCHDOWN TOTAL		75	WG	0.0047	lb ai/a	0.1	oz/a	FALL	A		
2,4-D LV 4		4.17	SL	0.78	lb ae/a	24	fl oz/a	FALL	A		
AMS		3.8	EC	0.475	lb ae/a	1	pt/a	FALL	A		
PREFIX		100	SG	1	% w/w	8.5	lb/100 gal	FALL	A		
GRAMOXONE 2 SL		5.29	EC	1.32	lb ai/a	32	fl oz/a	PRE	B		
NIS (ACTIVATOR 90)		2	SL	0.75	lb ai/a	48	fl oz/a	PRE	B		
TOUCHDOWN TOTAL		100	SL	0.25	% v/v	0.25	% v/v	PRE	B		
AMS		4.17	SL	0.98	lb ae/a	30	fl oz/a	POST	C		
		100	SG	1	% w/w	8.5	lb/100 gal	POST	C		
5 TOUCHDOWN TOTAL										6 ab	0 a
2,4-D LV 4		4.17	SL	0.78	lb ae/a	24	fl oz/a	FALL	A		
AMS		3.8	EC	0.475	lb ae/a	1	pt/a	FALL	A		
PREFIX		100	SG	1	% w/w	8.5	lb/100 gal	FALL	A		
GRAMOXONE 2 SL		5.29	EC	1.32	lb ai/a	32	fl oz/a	PRE	B		
NIS (ACTIVATOR 90)		2	SL	0.75	lb ai/a	48	fl oz/a	PRE	B		
TOUCHDOWN TOTAL		100	SL	0.25	% v/v	0.25	% v/v	PRE	B		
AMS		4.17	SL	0.98	lb ae/a	30	fl oz/a	POST	C		
		100	SG	1	% w/w	8.5	lb/100 gal	POST	C		
6 PREFIX										6 a	0 a
GRAMOXONE 2 SL		5.29	EC	1.32	lb ai/a	32	fl oz/a	PRE	B		
NIS (ACTIVATOR 90)		2	SL	0.75	lb ai/a	48	fl oz/a	PRE	B		
TOUCHDOWN TOTAL		100	SL	0.25	% v/v	0.25	% v/v	PRE	B		
AMS		4.17	SL	0.98	lb ae/a	30	fl oz/a	POST	C		
		100	SG	1	% w/w	8.5	lb/100 gal	POST	C		
LSD (P=.05)										1.2	0.0
Standard Deviation										0.6	0.0
CV										22.32	0.0
Replicate F										1.667	0.000
Replicate Prob(F)										0.2373	1.0000
Treatment F										73.583	0.000
Treatment Prob(F)										0.0001	1.0000

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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General Evaluation of Fall Herbicides in Soybean.

Trial ID: 13-FagerS-GenFallSoy Location: Murphysboro, IL Trial Year: 2013
Investigator: Bryan Young

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval								ERICA-HR	ERICA-HR	ERICA-HR	ERICA-HR	ERICA-HR	ERICA-HR
								12-10-12 Control Percent	3-1-13 Control Percent	4-1-13 Control Percent	5-1-13 Control Percent	6-10-13 Control Percent	7-8-13 Control Percent
								21 DA-A	102 DA-A	133 DA-A	0 DAP	40 DA-B 0 DA-C	28 DA-C
Trt	Treatment	Form	Form	Rate	Other	Other	Growth	Appl					
No.	Name	Conc	Type	Rate	Unit	Rate	Unit	Stage	Code				
1	NONTREATED									0 c	0 c	0 d	0 c
2	CANOPY EX	29.5	WG	0.037	lb ai/a	2	oz/a	FALL	A	80 a	99 a	99 a	99 a
	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	FALL	A				
	ABUNDIT EXTRA	3	SL	0.375	lb ae/a	16	fl oz/a	FALL	A				
	ENVIVE	41.3	WG	0.103	lb ai/a	4	oz/a	PRE	B				
	ABUNDIT EXTRA	3	SL	0.75	lb ae/a	32	fl oz/a	PRE	B				
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	PRE	B				
	ABUNDIT EXTRA	3	SL	0.75	lb ae/a	32	fl oz/a	POST	C				
	AMS	100	SG	1	% w/w	8.5	lb/100 gal	POST	C				
3	CANOPY	75	WG	0.188	lb ai/a	4	oz/a	FALL	A	78 ab	99 a	99 a	99 a
	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	FALL	A				
	ABUNDIT EXTRA	3	SL	0.375	lb ae/a	16	fl oz/a	FALL	A				
	ENVIVE	41.3	WG	0.103	lb ai/a	4	oz/a	PRE	B				
	ABUNDIT EXTRA	3	SL	0.75	lb ae/a	32	fl oz/a	PRE	B				
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	PRE	B				
	ABUNDIT EXTRA	3	SL	0.75	lb ae/a	32	fl oz/a	POST	C				
	AMS	100	SG	1	% w/w	8.5	lb/100 gal	POST	C				
4	ENVOKE	75	WG	0.0047	lb ai/a	0.1	oz/a	FALL	A	80 a	99 a	98 b	89 b
	TOUCHDOWN TOTAL	4.17	SL	0.78	lb ae/a	24	fl oz/a	FALL	A				
	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	FALL	A				
	AMS	100	SG	1	% w/w	8.5	lb/100 gal	FALL	A				
	PREFIX	5.29	EC	1.32	lb ai/a	32	fl oz/a	PRE	B				
	GRAMOXONE 2 SL	2	SL	0.75	lb ai/a	48	fl oz/a	PRE	B				
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	PRE	B				
	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	POST	C				
	AMS	100	SG	1	% w/w	8.5	lb/100 gal	POST	C				
5	TOUCHDOWN TOTAL	4.17	SL	0.78	lb ae/a	24	fl oz/a	FALL	A	73 b	96 b	96 c	88 b
	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	FALL	A				
	AMS	100	SG	1	% w/w	8.5	lb/100 gal	FALL	A				
	PREFIX	5.29	EC	1.32	lb ai/a	32	fl oz/a	PRE	B				
	GRAMOXONE 2 SL	2	SL	0.75	lb ai/a	48	fl oz/a	PRE	B				
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	PRE	B				
	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	POST	C				
	AMS	100	SG	1	% w/w	8.5	lb/100 gal	POST	C				
6	PREFIX	5.29	EC	1.32	lb ai/a	32	fl oz/a	PRE	B			93 b	89 b
	GRAMOXONE 2 SL	2	SL	0.75	lb ai/a	48	fl oz/a	PRE	B				
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	PRE	B				
	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a	POST	C				
	AMS	100	SG	1	% w/w	8.5	lb/100 gal	POST	C				
LSD (P=.05)								6.0	1.0	1.3	9.0	2.9	4.2
Standard Deviation								3.2	0.5	0.7	4.8	1.6	2.3
CV								5.07	0.66	0.87	7.39	2.06	3.0
Replicate F								0.167	1.000	1.714	0.074	3.136	1.335
Replicate Prob(F)								0.8493	0.4096	0.2401	0.9297	0.0877	0.3062
Treatment F								366.500	21771.252	12355.858	227.835	1715.157	816.745
Treatment Prob(F)								0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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Investigator: Bryan Young

Pest Code		Crop Code		Rating Date		Rating Type		Rating Unit		Rating Timing		LAMAM	LAMAM	LAMAM	LAMAM
Trt-Eval Interval												12-10-12 Control Percent	3-1-13 Control Percent	4-1-13 Control Percent	5-1-13 Control Percent
												21 DA-A	102 DA-A	133 DA-A	0 DAP
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Other Rate	Other Rate	Unit Unit	Growth Stage	Appl Code					
1	NONTREATED											0 c	0 c	0 b	0 c
2	CANOPY EX	29.5	WG	0.037	lb ai/a	2	oz/a		FALL	A		78 a	98 a	98 a	98 a
	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a		FALL	A					
	ABUNDIT EXTRA	3	SL	0.375	lb ae/a	16	fl oz/a		FALL	A					
	ENVIVE	41.3	WG	0.103	lb ai/a	4	oz/a		PRE	B					
	ABUNDIT EXTRA	3	SL	0.75	lb ae/a	32	fl oz/a		PRE	B					
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v		PRE	B					
	ABUNDIT EXTRA	3	SL	0.75	lb ae/a	32	fl oz/a		POST	C					
	AMS	100	SG	1	% w/w	8.5	lb/100 gal		POST	C					
3	CANOPY	75	WG	0.188	lb ai/a	4	oz/a		FALL	A		73 b	96 b	96 a	98 a
	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a		FALL	A					
	ABUNDIT EXTRA	3	SL	0.375	lb ae/a	16	fl oz/a		FALL	A					
	ENVIVE	41.3	WG	0.103	lb ai/a	4	oz/a		PRE	B					
	ABUNDIT EXTRA	3	SL	0.75	lb ae/a	32	fl oz/a		PRE	B					
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v		PRE	B					
	ABUNDIT EXTRA	3	SL	0.75	lb ae/a	32	fl oz/a		POST	C					
	AMS	100	SG	1	% w/w	8.5	lb/100 gal		POST	C					
4	ENVOKE	75	WG	0.0047	lb ai/a	0.1	oz/a		FALL	A		78 a	98 a	98 a	98 a
	TOUCHDOWN TOTAL	4.17	SL	0.78	lb ae/a	24	fl oz/a		FALL	A					
	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a		FALL	A					
	AMS	100	SG	1	% w/w	8.5	lb/100 gal		FALL	A					
	PREFIX	5.29	EC	1.32	lb ai/a	32	fl oz/a		PRE	B					
	GRAMOXONE 2 SL	2	SL	0.75	lb ai/a	48	fl oz/a		PRE	B					
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v		PRE	B					
	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a		POST	C					
	AMS	100	SG	1	% w/w	8.5	lb/100 gal		POST	C					
5	TOUCHDOWN TOTAL	4.17	SL	0.78	lb ae/a	24	fl oz/a		FALL	A		73 b	95 b	96 a	94 b
	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a		FALL	A					
	AMS	100	SG	1	% w/w	8.5	lb/100 gal		FALL	A					
	PREFIX	5.29	EC	1.32	lb ai/a	32	fl oz/a		PRE	B					
	GRAMOXONE 2 SL	2	SL	0.75	lb ai/a	48	fl oz/a		PRE	B					
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v		PRE	B					
	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a		POST	C					
	AMS	100	SG	1	% w/w	8.5	lb/100 gal		POST	C					
6	PREFIX	5.29	EC	1.32	lb ai/a	32	fl oz/a		PRE	B					
	GRAMOXONE 2 SL	2	SL	0.75	lb ai/a	48	fl oz/a		PRE	B					
	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v		PRE	B					
	TOUCHDOWN TOTAL	4.17	SL	0.98	lb ae/a	30	fl oz/a		POST	C					
	AMS	100	SG	1	% w/w	8.5	lb/100 gal		POST	C					
LSD (P=.05)												4.9	1.8	2.1	3.5
Standard Deviation												2.6	1.0	1.1	1.9
CV												4.26	1.25	1.45	2.39
Replicate F												1.000	0.286	0.211	0.951
Replicate Prob(F)												0.4096	0.7588	0.8145	0.4259
Treatment F												520.375	6013.215	4474.000	1644.010
Treatment Prob(F)												0.0001	0.0001	0.0001	0.0001

Southern Illinois University

General Evaluation of Fall Herbicides in Soybean.

Trial ID: 13-FagerS-GenFallSoy Location: Murphysboro, IL Trial Year: 2013
Investigator: Bryan Young

Pest Code							STEME	STEME	STEME	STEME	VIORA	VIORA
Crop Code							12-10-12	3-1-13	4-1-13	5-1-13	4-1-13	5-1-13
Rating Date							Control	Control	Control	Control	Control	Control
Rating Type							Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit												
Rating Timing												
Trt-Eval Interval							21 DA-A	102 DA-A	133 DA-A	0 DAP	133 DA-A	0 DAP
Trt Treatment No. Name	Form Conc	Form Type	Rate Rate	Unit Unit	Other Rate	Other Rate	Growth Stage	Appl Code				
1 NONTREATED									0 c	0 b	0 a	0 c
2 CANOPY EX	29.5 WG		0.037 lb ai/a		2 oz/a		FALL A		78 a	98 a	99 a	99 a
2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a		FALL A					97 a
ABUNDIT EXTRA	3 SL		0.375 lb ae/a		16 fl oz/a		FALL A					
ENVIVE	41.3 WG		0.103 lb ai/a		4 oz/a		PRE B					
ABUNDIT EXTRA	3 SL		0.75 lb ae/a		32 fl oz/a		PRE B					
NIS (ACTIVATOR 90)	100 SL		0.25 % v/v		0.25 % v/v		PRE B					
ABUNDIT EXTRA	3 SL		0.75 lb ae/a		32 fl oz/a		POST C					
AMS	100 SG		1 % w/w		8.5 lb/100 gal		POST C					
3 CANOPY	75 WG		0.188 lb ai/a		4 oz/a		FALL A		72 b	98 a	99 a	99 a
2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a		FALL A					98 a
ABUNDIT EXTRA	3 SL		0.375 lb ae/a		16 fl oz/a		FALL A					97 a
ENVIVE	41.3 WG		0.103 lb ai/a		4 oz/a		PRE B					
ABUNDIT EXTRA	3 SL		0.75 lb ae/a		32 fl oz/a		PRE B					
NIS (ACTIVATOR 90)	100 SL		0.25 % v/v		0.25 % v/v		PRE B					
ABUNDIT EXTRA	3 SL		0.75 lb ae/a		32 fl oz/a		POST C					
AMS	100 SG		1 % w/w		8.5 lb/100 gal		POST C					
4 ENVOKE	75 WG		0.0047 lb ai/a		0.1 oz/a		FALL A		77 ab	99 a	99 a	99 a
TOUCHDOWN TOTAL	4.17 SL		0.78 lb ae/a		24 fl oz/a		FALL A					90 b
2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a		FALL A					68 b
AMS	100 SG		1 % w/w		8.5 lb/100 gal		FALL A					
PREFIX	5.29 EC		1.32 lb ai/a		32 fl oz/a		PRE B					
GRAMOXONE 2 SL	2 SL		0.75 lb ai/a		48 fl oz/a		PRE B					
NIS (ACTIVATOR 90)	100 SL		0.25 % v/v		0.25 % v/v		PRE B					
TOUCHDOWN TOTAL	4.17 SL		0.98 lb ae/a		30 fl oz/a		POST C					
AMS	100 SG		1 % w/w		8.5 lb/100 gal		POST C					
5 TOUCHDOWN TOTAL	4.17 SL		0.78 lb ae/a		24 fl oz/a		FALL A		75 ab	96 a	97 a	95 b
2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a		FALL A					80 c
AMS	100 SG		1 % w/w		8.5 lb/100 gal		FALL A					57 c
PREFIX	5.29 EC		1.32 lb ai/a		32 fl oz/a		PRE B					
GRAMOXONE 2 SL	2 SL		0.75 lb ai/a		48 fl oz/a		PRE B					
NIS (ACTIVATOR 90)	100 SL		0.25 % v/v		0.25 % v/v		PRE B					
TOUCHDOWN TOTAL	4.17 SL		0.98 lb ae/a		30 fl oz/a		POST C					
AMS	100 SG		1 % w/w		8.5 lb/100 gal		POST C					
6 PREFIX	5.29 EC		1.32 lb ai/a		32 fl oz/a		PRE B					
GRAMOXONE 2 SL	2 SL		0.75 lb ai/a		48 fl oz/a		PRE B					
NIS (ACTIVATOR 90)	100 SL		0.25 % v/v		0.25 % v/v		PRE B					
TOUCHDOWN TOTAL	4.17 SL		0.98 lb ae/a		30 fl oz/a		POST C					
AMS	100 SG		1 % w/w		8.5 lb/100 gal		POST C					
LSD (P=.05)							5.8	2.5	0.0	3.8	4.3	4.8
Standard Deviation							3.1	1.3	0.0	2.0	2.3	2.6
CV							5.13	1.7	0.0	2.57	3.12	4.01
Replicate F							1.217	0.717	0.000	1.000	1.000	2.786
Replicate Prob(F)							0.3455	0.5171	1.0000	0.4096	0.4096	0.1207
Treatment F							358.000	3257.642	0.000	1417.172	994.513	728.561
Treatment Prob(F)							0.0001	0.0001	1.0000	0.0001	0.0001	0.0001

Southern Illinois University

General Evaluation of Fall Herbicides in Soybean.

Trial ID: 13-FagerS-GenFallSoy Location: Murphysboro, IL Trial Year: 2013
Investigator: Bryan Young

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval								AMATA-HR 5-1-13 Control Percent 0 DAP	AMATA-HR 6-10-13 Control Percent 40 DA-B 0 DA-C	AMATA-HR 7-8-13 Control Percent 28 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Other Rate	Other Unit	Growth Stage	Appl Code	
1	NONTREATED									0 a 0 e 0 c
2	CANOPY EX	29.5 WG		0.037 lb ai/a		2 oz/a		FALL A		0 a 74 b 57 ab
	2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a		FALL A		
	ABUNDIT EXTRA	3 SL		0.375 lb ae/a		16 fl oz/a		FALL A		
	ENVIVE	41.3 WG		0.103 lb ai/a		4 oz/a		PRE B		
	ABUNDIT EXTRA	3 SL		0.75 lb ae/a		32 fl oz/a		PRE B		
	NIS (ACTIVATOR 90)	100 SL		0.25 % v/v		0.25 % v/v		PRE B		
	ABUNDIT EXTRA	3 SL		0.75 lb ae/a		32 fl oz/a		POST C		
	AMS	100 SG		1 % w/w		8.5 lb/100 gal		POST C		
3	CANOPY	75 WG		0.188 lb ai/a		4 oz/a		FALL A		0 a 73 bc 53 b
	2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a		FALL A		
	ABUNDIT EXTRA	3 SL		0.375 lb ae/a		16 fl oz/a		FALL A		
	ENVIVE	41.3 WG		0.103 lb ai/a		4 oz/a		PRE B		
	ABUNDIT EXTRA	3 SL		0.75 lb ae/a		32 fl oz/a		PRE B		
	NIS (ACTIVATOR 90)	100 SL		0.25 % v/v		0.25 % v/v		PRE B		
	ABUNDIT EXTRA	3 SL		0.75 lb ae/a		32 fl oz/a		POST C		
	AMS	100 SG		1 % w/w		8.5 lb/100 gal		POST C		
4	ENVOKE	75 WG		0.0047 lb ai/a		0.1 oz/a		FALL A		0 a 83 a 71 a
	TOUCHDOWN TOTAL	4.17 SL		0.78 lb ae/a		24 fl oz/a		FALL A		
	2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a		FALL A		
	AMS	100 SG		1 % w/w		8.5 lb/100 gal		FALL A		
	PREFIX	5.29 EC		1.32 lb ai/a		32 fl oz/a		PRE B		
	GRAMOXONE 2 SL	2 SL		0.75 lb ai/a		48 fl oz/a		PRE B		
	NIS (ACTIVATOR 90)	100 SL		0.25 % v/v		0.25 % v/v		PRE B		
	TOUCHDOWN TOTAL	4.17 SL		0.98 lb ae/a		30 fl oz/a		POST C		
	AMS	100 SG		1 % w/w		8.5 lb/100 gal		POST C		
5	TOUCHDOWN TOTAL	4.17 SL		0.78 lb ae/a		24 fl oz/a		FALL A		0 a 66 cd 50 b
	2,4-D LV 4	3.8 EC		0.475 lb ae/a		1 pt/a		FALL A		
	AMS	100 SG		1 % w/w		8.5 lb/100 gal		FALL A		
	PREFIX	5.29 EC		1.32 lb ai/a		32 fl oz/a		PRE B		
	GRAMOXONE 2 SL	2 SL		0.75 lb ai/a		48 fl oz/a		PRE B		
	NIS (ACTIVATOR 90)	100 SL		0.25 % v/v		0.25 % v/v		PRE B		
	TOUCHDOWN TOTAL	4.17 SL		0.98 lb ae/a		30 fl oz/a		POST C		
	AMS	100 SG		1 % w/w		8.5 lb/100 gal		POST C		
6	PREFIX	5.29 EC		1.32 lb ai/a		32 fl oz/a		PRE B		64 d 55 b
	GRAMOXONE 2 SL	2 SL		0.75 lb ai/a		48 fl oz/a		PRE B		
	NIS (ACTIVATOR 90)	100 SL		0.25 % v/v		0.25 % v/v		PRE B		
	TOUCHDOWN TOTAL	4.17 SL		0.98 lb ae/a		30 fl oz/a		POST C		
	AMS	100 SG		1 % w/w		8.5 lb/100 gal		POST C		
LSD (P=.05)								0.0	8.1	14.7
Standard Deviation								0.0	4.4	8.1
CV								0.0	7.36	16.94
Replicate F								0.000	10.510	16.259
Replicate Prob(F)								1.0000	0.0035	0.0007
Treatment F								0.000	140.189	27.424
Treatment Prob(F)								1.0000	0.0001	0.0001

General Evaluation of Fall Herbicides in Soybean.

Trial ID: 13-FagerS-GenFallSoy Location: Murphysboro, IL Trial Year: 2013
Investigator: Bryan Young

Trial Comments

1. Protocol: DuPont (MJW12-897), Syngenta.
2. WC 21 DA-A, March 1, April 1, and at planting.
CI/WC 0 and 28 DA-C.
3. Planting, use a RR/STS soybean.
4. Following the PRE application the first rainfall event, beginning 1 day later, was 2.08 inch over 4 days.
5. By 6-10-13, LAMAM, STEME, and VIORA in the nontreated plots were senescing naturally
and could no longer be evaluated.
6. ERICA-HR = Herbicide-resistant marestail (glyphosate).
AMATA-HR = Herbicide-resistant waterhemp (glyphosate).
7. Not harvested.