

Fall versus Spring Herbicides for Horseweed Control in Soybean - BASF.

Trial ID: 14-FagerS-MT-BD-BASF Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Trial Status: F one-year/final Initiation Date: 11-29-13 Completion Date: 11-1-14	
Trial Location	
City: Murphysboro Country: USA State/Prov.: Illinois IL Postal Code: 62966	

Objectives:
 Compare horseweed control from fall versus spring herbicide applications in no-till soybean.

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 Description	
Crop 1: GLXMA Glycine max Variety: AG3832 Description: RR2Y	Soybean BBCH Scale: BSOY Planting Date: 5-6-14 Planting Method: SEEDED Planting Rate, Unit: 170000 S/A Depth, Unit: 1 IN Row Spacing, Unit: 30 IN

Pest Description	
Pest 1 Type: W Code: ANNWI Common Name: weeds, winter annual Description: including STEME, LAMAM, and LAMPU	
Pest 2 Type: W Code: TTTTT Common Name: weeds, generally Description: overall weed control	
Pest 3 Type: W Code: ERICA <i>Conyza canadensis</i> (L.) Crong. Common Name: horseweed Description: glyphosate-resistant marestail	
Pest 4 Type: W Code: AMATA <i>Amaranthus rudis</i> Sauer Common Name: waterhemp, common Description: glyphosate-resistant waterhemp	

Site and Design							
Treated Plot Width: 6.67 FT Treated Plot Length: 30 FT	Total Plot Width: 10 FT Total Plot Length: 30 FT Site Type: FIELD Experimental Unit: 1 PLOT Tillage Type: NOTILL no-till Study Design: RACOB L Randomized Complete Block (RCB)						
Replications: 4 Untreated Arrangement: INCLUDED single control randomized in each block							
<table border="1"> <thead> <tr> <th>No.</th> <th>Previous Crop</th> <th>Year</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>GLXMA</td> <td>2013</td> </tr> </tbody> </table>		No.	Previous Crop	Year	1.	GLXMA	2013
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				

Soil Description										
% OM: 1.87 pH: 5.5 CEC: 7.06	Texture: SIL silt loam Soil Name: Alvin									
Additional Measured Elements										
<table border="1"> <thead> <tr> <th>Element</th> <th>Quantity</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>P1</td> <td>172</td> <td>lb/A</td> </tr> <tr> <td>K</td> <td>446</td> <td>lb/A</td> </tr> </tbody> </table>		Element	Quantity	Unit	P1	172	lb/A	K	446	lb/A
Element	Quantity	Unit								
P1	172	lb/A								
K	446	lb/A								

Moisture and Weather Conditions																																																																														
Overall Moisture Conditions: NORMAL Closest Weather Station: SOUTHERN IL AIRPORT (93810) Distance, Unit: 3.5 MI																																																																														
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No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit																																																																				
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7.	11-25-13					7	DAY	17	59	F
8.	12-2-13					7	DAY	6	67	F
9.	12-5-13	1.61	IN	RAIN	rain	2	DAY			
10.	12-9-13					7	DAY	0	38	F
11.	12-14-13	0.54	IN	RAIN	rain	2	DAY			
12.	12-16-13					7	DAY	21	64	F
13.	12-20-13	1.5	IN	RAIN	rain	2	DAY			
14.	12-23-13					7	DAY	12	52	F
15.	12-31-13					7	DAY	6	45	F
16.	1-5-14	0.98	IN	RAIN	rain	2	DAY			
17.	1-7-14					7	DAY	-2	52	F
18.	1-9-14	0.59	IN	RAIN	rain	2	DAY			
19.	1-14-14					7	DAY	15	57	F
20.	1-21-14					7	DAY	2	59	F
21.	1-28-14					7	DAY	3	55	F
22.	2-1-14	0.54	IN	RAIN	rain	2	DAY			
23.	2-4-14					7	DAY	1	32	F
24.	2-11-14					7	DAY	3	47	F
25.	2-14-14	0.16	IN	RAIN	rain	1	DAY			
26.	2-17-14	0.09	IN	RAIN	rain	1	DAY			
27.	2-18-14					7	DAY	26	68	F
28.	2-20-14	0.52	IN	RAIN	rain	1	DAY			
29.	2-25-14					7	DAY	10	51	F
30.	3-2-14	0.78	IN	RAIN	rain	1	DAY			
31.	3-4-14					7	DAY	9	52	F
32.	3-11-14					7	DAY	25	73	F
33.	3-16-14	0.61	IN	RAIN	rain	1	DAY			
34.	3-18-14					7	DAY	26	69	F
35.	3-25-14					7	DAY	19	61	F
36.	3-27-14	0.71	IN	RAIN	rain	3	DAY			
37.	4-1-14	3.44	IN	RAIN	rain	4	DAY			
38.	4-1-14					7	DAY	37	70	F
39.	4-7-14	0.64	IN	RAIN	rain	2	DAY			
40.	4-8-14					7	DAY	42	76	F
41.	4-13-14	0.57	IN	RAIN	rain	2	DAY			
42.	4-15-14					7	DAY	31	77	F
43.	4-22-14					7	DAY	41	77	F
44.	4-24-14	1.13	IN	RAIN	rain	2	DAY			
45.	4-27-14	2.02	IN	RAIN	rain	2	DAY			
46.	4-29-14					7	DAY	39	84	F
47.	5-6-14					7	DAY	54	83	F
48.	5-8-14	1.25	IN	RAIN	rain	2	DAY			
49.	5-11-14	0.34	IN	RAIN	rain	1	DAY			
50.	5-13-14	2.53	IN	RAIN	rain	3	DAY			
51.	5-13-14					7	DAY	39	80	F
52.	5-20-14					7	DAY	46	85	F
53.	5-22-14	0.06	IN	RAIN	rain	1	DAY			
54.	5-25-14	0.07	IN	RAIN	rain	2	DAY			
55.	5-27-14					7	DAY	62	88	F
56.	5-30-14	0.09	IN	RAIN	rain	1	DAY			
57.	6-1-14	0.66	IN	RAIN	rain	2	DAY			
58.	6-3-14					7	DAY	64	88	F
59.	6-4-14	0.91	IN	RAIN	rain	1	DAY			
60.	6-7-14	0.32	IN	RAIN	rain	1	DAY			
61.	6-9-14	0.71	IN	RAIN	rain	2	DAY			
62.	6-10-14					7	DAY	51	91	F
63.	6-12-14	0.06	IN	RAIN	rain	1	DAY			
64.	6-17-14					7	DAY	69	93	F
65.	6-24-14	1.69	IN	RAIN	rain	1	DAY			
66.	6-24-14					7	DAY	67	92	F
67.	6-29-14	0.08	IN	RAIN	rain	1	DAY			
68.	7-1-14	0.81	IN	RAIN	rain	1	DAY			
69.	7-1-14					7	DAY	55	90	F
70.	7-8-14	0.15	IN	RAIN	rain	1	DAY			
71.	7-13-14	0.71	IN	RAIN	rain	2	DAY			
72.	7-15-14					7	DAY	54	85	F
73.	7-22-14					7	DAY	56	91	F
74.	7-23-14	0.16	IN	RAIN	rain	1	DAY			
75.	7-29-14					7	DAY	55	87	F
76.	8-5-14	0.13	IN	RAIN	rain	1	DAY			
77.	8-5-14					7	DAY	63	89	F
78.	8-7-14	1.95	IN	RAIN	rain	3	DAY			

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79.	8-11-14	0.19	IN	RAIN	rain	1	DAY			
80.	8-12-14					7	DAY	56	84	F
81.	8-16-14	0.77	IN	RAIN	rain	2	DAY			
82.	8-19-14					7	DAY	66	93	F
83.	8-26-14					7	DAY	68	94	F
84.	8-28-14	0.02	IN	RAIN	rain	1	DAY			
85.	8-30-14	0.49	IN	RAIN	rain	1	DAY			
86.	9-2-14					7	DAY	50	93	F
87.	9-9-14					7	DAY	43	85	F
88.	9-10-14	1.96	IN	RAIN	rain	2	DAY			
89.	9-16-14					7	DAY	43	85	F
90.	9-21-14	0.07	IN	RAIN	rain	1	DAY			
91.	9-23-14					7	DAY	42	86	F
92.	9-30-14					7	DAY	35	86	F
93.	10-2-14	0.52	IN	RAIN	rain	2	DAY			
94.	10-6-14	0.08	IN	RAIN	rain	2	DAY			
95.	10-7-14					7	DAY	45	81	F
96.	10-9-14	0.66	IN	RAIN	rain	4	DAY			
97.	10-13-14	0.98	IN	RAIN	rain	3	DAY			
98.	10-14-14					7	DAY	35	76	F
99.	10-21-14					7	DAY	33	81	F
100.	10-28-14	0.55	IN	RAIN	rain	1	DAY			
101.	10-28-14					7	DAY	22	70	F
102.	11-4-14	0.84	IN	RAIN	rain	1	DAY			
103.	11-4-14					7	DAY	24	69	F
104.	11-11-14					7	DAY	15	60	F

Application Description

	A	B	C	D
Application Date:	11-29-13	4-23-14	4-30-14	5-6-14
Appl. Start Time:	13:15	19:00	7:30	19:00
Appl. Stop Time:	13:45	19:05	8:10	19:30
Application Method:	Spray	Spray	Spray	Spray
Application Timing:	FALL	14DBP	7DBP	PRE
Application Placement:	BROFOL	BROFOL	BROFOL	BROFOL
Applied By:	NTH	RJW	LXF	LXF
Air Temperature, Unit:	55 F	60 F	54 F	78 F
% Relative Humidity:	44	50	76	46
Wind Velocity, Unit:	4 MPH	2 MPH	4 MPH	7 MPH
Wind Direction:	E	W	W	S
Dew Presence (Y/N):	N	N	Y	N
Soil Temperature, Unit:	40 F	66 F	57 F	75 F
Soil Moisture:	NORMAL	NORMAL	ABONOR	NORMAL
% Cloud Cover:	0	35	98	0
Next Moisture Occurred On:	12-5-13	4-24-14	5-8-14	5-8-14
Time to Next Moisture, Unit:	6 DAY	24 HR	8 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	NA

Pest Stage At Each Application

	A	B	C	D
Pest 1 Code, Type, Scale:	ANNWI W	ANNWI W	ANNWI W	ANNWI W
Stage Majority, Percent:	NA	NA	NA	NA
Pest 2 Code, Type, Scale:	TTTTT W	TTTTT W	TTTTT W	TTTTT W
Stage Majority, Percent:	NA	NA	NA	NA
Pest 3 Code, Type, Scale:	ERICA W	ERICA W	ERICA W	ERICA W
Stage Majority, Percent:	4	10	6	10
Stage Minimum, Percent:	2	2	2	2
Stage Maximum, Percent:	6	20	10	16
Height, Unit:	1 IN	2 IN	1.75 IN	1.5 IN
Height Minimum, Maximum:	0.5 2	0.5 3	0.5 2	0.5 2
Density, Unit:	2 FT2	0.1 FT2	1 FT2	30 FT2
Pest 4 Code, Type, Scale:	AMATA W	AMATA W	AMATA W	AMATA W
Stage Majority, Percent:	NA	NA	NA	2
Stage Minimum, Percent:				COT
Stage Maximum, Percent:				4
Height, Unit:				0.5 IN
Height Minimum, Maximum:				0.5 1
Density, Unit:				0.1 FT2

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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	ANNW	ANNW	ANNW	TTTTT	ANNWI	ERICA-HR
						12-6-13 Control Percen	12-14-13 Control Percen	12-29-13 Control Percen	4-16-14 Control Percent 138 DA-A	4-16-14 Control Percent 138 DA-A	4-16-14 Control Percen 138 DA-A
Trt-Eval Interval						7 DA-A	15 DA-A	30 DA-A	-7 DA-B	-7 DA-B	-7 DA-B
Trt Treatment No. Name	Form Conc	Form Type	Form Rate	Rate Unit	Other Rate	Other Rate	Growth Stage	Appl Code			
1 ROUNDUP POWERMAX 2,4-D LV 4 AMS COC (PRIME OIL)	4.5 SL 3.8 EC 100 SG 100 SL		1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v	ae/a ae/a w/w v/v	32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v		7DBP 7DBP 7DBP 7DBP	C C C C			
2 ROUNDUP POWERMAX 2,4-D LV 4 AMS COC (PRIME OIL)	4.5 SL 3.8 EC 100 SG 100 SL		1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v	ae/a ae/a w/w v/v	32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v	FALL FALL FALL FALL	A A A A		28 b	43 b	
										89 d	96 a
											8 d
3 SHARPEN ROUNDUP POWERMAX 2,4-D LV 4 AMS MSO (MSO ULTRA)	2.85 SC 4.5 SL 3.8 EC 100 SG 100 SL		0.0445 lb ai/a 1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v	ai/a ae/a ae/a w/w v/v	2 fl oz/a 32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v	FALL FALL FALL FALL FALL	A A A A A		48 a	74 a	
										93 b	94 a
											25 bc
4 DISTINCT ROUNDUP POWERMAX 2,4-D LV 4 AMS COC (PRIME OIL)	70 WG 4.5 SL 3.8 EC 100 SG 100 SL		0.109 lb ae/a 1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v	ae/a ae/a ae/a w/w v/v	2.5 oz wt/a 32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v	FALL FALL FALL FALL FALL	A A A A A		28 b	49 b	
										92 bc	93 a
											14 cd
5 SHARPEN ROUNDUP POWERMAX METRIBUZIN 75 AMS MSO (MSO ULTRA)	2.85 SC 4.5 SL 75 WG 100 SG 100 SL		0.0445 lb ai/a 1.13 lb ae/a 0.47 lb ai/a 2.04 % w/w 1 % v/v	ai/a ae/a ai/a w/w v/v	2 fl oz/a 32 fl oz/a 10 oz wt/a 17 lb/100 gal 1 % v/v	FALL FALL FALL FALL FALL	A A A A A		50 a	81 a	
										92 b	96 a
											35 b
6 SHARPEN ZIDUA ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	2.85 SC 85 WG 4.5 SL 100 SG 100 SL		0.0223 lb ai/a 0.133 lb ai/a 1.13 lb ae/a 2.04 % w/w 1 % v/v	ai/a ai/a ae/a w/w v/v	1 fl oz/a 2.5 oz wt/a 32 fl oz/a 17 lb/100 gal 1 % v/v	7DBP 7DBP 7DBP 7DBP 7DBP	C C C C C				
7 SHARPEN ZIDUA ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	2.85 SC 85 WG 4.5 SL 100 SG 100 SL		0.0445 lb ai/a 0.133 lb ai/a 1.13 lb ae/a 2.04 % w/w 1 % v/v	ai/a ai/a ae/a w/w v/v	2 fl oz/a 2.5 oz wt/a 32 fl oz/a 17 lb/100 gal 1 % v/v	14DBP 14DBP 14DBP 14DBP 14DBP	B B B B B				
8 SHARPEN ZIDUA 2,4-D LV 4 ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	2.85 SC 85 WG 3.8 EC 4.5 SL 100 SG 100 SL		0.0223 lb ai/a 0.133 lb ai/a 0.475 lb ae/a 1.13 lb ae/a 2.04 % w/w 1 % v/v	ai/a ai/a ae/a ae/a w/w v/v	1 fl oz/a 2.5 oz wt/a 16 fl oz/a 32 fl oz/a 17 lb/100 gal 1 % v/v	7DBP 7DBP 7DBP 7DBP 7DBP 7DBP	C C C C C C				
9 OPTILL PRO (CO-PACK) OPTILL OUTLOOK 2,4-D LV 4 ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	68 WG 6 EC 3.8 EC 4.5 SL 100 SG 100 SL		0.085 lb ai/a 0.47 lb ai/a 0.475 lb ae/a 1.13 lb ae/a 2.04 % w/w 1 % v/v	ai/a ai/a ae/a ae/a w/w v/v	2 oz wt/a 10 fl oz/a 16 fl oz/a 32 fl oz/a 17 lb/100 gal 1 % v/v	7DBP 7DBP 7DBP 7DBP 7DBP 7DBP	C C C C C C				
10 DISTINCT ROUNDUP POWERMAX 2,4-D LV 4 AMS COC (PRIME OIL) OPTILL PRO (CO-PACK) OPTILL OUTLOOK ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	70 WG 4.5 SL 3.8 EC 100 SG 100 SL 68 WG 6 EC 3.8 EC 4.5 SL 100 SG 100 SL		0.109 lb ae/a 1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v 0.085 lb ai/a 0.47 lb ai/a 0.475 lb ae/a 1.13 lb ae/a 2.04 % w/w 1 % v/v	ae/a ae/a ae/a w/w v/v ai/a ai/a ae/a ae/a w/w v/v	2.5 oz wt/a 32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v 2 oz wt/a 10 fl oz/a 16 fl oz/a 32 fl oz/a 17 lb/100 gal 1 % v/v	FALL FALL FALL FALL FALL PRE PRE PRE PRE PRE PRE	A A A A A D D D D D D		23 b	41 b	
										90 cd	95 a
											0 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.

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Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing							ANNW	ANNW	ANNW	TTTTT	ANNW	ERICA-HR
							12-6-13 Control Percen	12-14-13 Control Percen	12-29-13 Control Percen	4-16-14 Control Percent 138 DA-A	4-16-14 Control Percent 138 DA-A	4-16-14 Control Percen 138 DA-A
Trt-Eval Interval							7 DA-A	15 DA-A	30 DA-A	-7 DA-B	-7 DA-B	-7 DA-B
Trt Treatment No. Name	Form Conc	Form Type	Rate Rate	Unit Unit	Other Rate	Other Rate	Growth Stage	Appl Code				
11 2,4-D LV 4	3.8 EC		0.475 lb ae/a		16 fl oz/a		FALL A		25 b	45 b		98 a
CANOPY EX	29.5 WG		0.0277 lb ai/a		1.5 oz wt/a		FALL A				99 a	99 a
BASIS BLEND	30 WG		0.0155 lb ai/a		0.825 oz wt/a		FALL A					
ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a		32 fl oz/a		FALL A					
AMS	100 SG		2.04 % w/w		17 lb/100 gal		FALL A					
COC (PRIME OIL)	100 SL		1 % v/v		1 % v/v		FALL A					
ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a		32 fl oz/a		7DBP C					
2,4-D LV 4	3.8 EC		0.475 lb ae/a		16 fl oz/a		7DBP C					
AMS	100 SG		2.04 % w/w		17 lb/100 gal		7DBP C					
COC (PRIME OIL)	100 SL		1 % v/v		1 % v/v		7DBP C					
12 2,4-D LV 4	3.8 EC		0.475 lb ae/a		16 fl oz/a		FALL A		53 a	81 a		98 a
VALOR XLT	40.3 WG		0.0756 lb ai/a		3 oz/a		FALL A				99 a	99 a
ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a		32 fl oz/a		FALL A					
AMS	100 SG		2.04 % w/w		17 lb/100 gal		FALL A					
COC (PRIME OIL)	100 SL		1 % v/v		1 % v/v		FALL A					
ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a		32 fl oz/a		7DBP C					
2,4-D LV 4	3.8 EC		0.475 lb ae/a		16 fl oz/a		7DBP C					
AMS	100 SG		2.04 % w/w		17 lb/100 gal		7DBP C					
COC (PRIME OIL)	100 SL		1 % v/v		1 % v/v		7DBP C					
13 NONTREATED									0	0		0
LSD (P=.05)									11.6	9.4		15.5
Standard Deviation									7.8	6.3		10.4
CV									21.6	10.69		26.19
Replicate F									2.098	0.560		2.727
Replicate Prob(F)									0.1362	0.6481		0.0745
Treatment F									11.510	34.573		64.367
Treatment Prob(F)									0.0001	0.0001		0.0001

Southern Illinois University

Fall versus Spring Herbicides for Horseweed Control in Soybean - BASF.

Trial ID: 14-FagerS-MT-BD-BASF Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code	TTTTT	ANNWI	ERICA-HR	AMATA-HR
Crop Code	4-23-14	4-23-14	4-23-14	4-23-14
Rating Date	Control	Control	Control	Control
Rating Type	Percent	Percent	Percent	Percent
Rating Unit	145 DA-A	145 DA-A	145 DA-A	145 DA-A
Rating Timing	0 DA-B	0 DA-B	0 DA-B	0 DA-B
Trt-Eval Interval				
Trt Treatment	Form Form	Rate	Other Other	Growth Appl
No. Name	Conc Type Rate Unit	Rate Rate Unit Stage Code		
1 ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	7DBP C
2,4-D LV 4	3.8 EC	0.475 lb ae/a	16 fl oz/a	7DBP C
AMS	100 SG	2.04 % w/w	17 lb/100 gal	7DBP C
COC (PRIME OIL)	100 SL	1 % v/v	1 % v/v	7DBP C
2 ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	FALL A
2,4-D LV 4	3.8 EC	0.475 lb ae/a	16 fl oz/a	FALL A
AMS	100 SG	2.04 % w/w	17 lb/100 gal	FALL A
COC (PRIME OIL)	100 SL	1 % v/v	1 % v/v	FALL A
3 SHARPEN	2.85 SC	0.0445 lb ai/a	2 fl oz/a	FALL A
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	FALL A
2,4-D LV 4	3.8 EC	0.475 lb ae/a	16 fl oz/a	FALL A
AMS	100 SG	2.04 % w/w	17 lb/100 gal	FALL A
MSO (MSO ULTRA)	100 SL	1 % v/v	1 % v/v	FALL A
4 DISTINCT	70 WG	0.109 lb ae/a	2.5 oz wt/a	FALL A
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	FALL A
2,4-D LV 4	3.8 EC	0.475 lb ae/a	16 fl oz/a	FALL A
AMS	100 SG	2.04 % w/w	17 lb/100 gal	FALL A
COC (PRIME OIL)	100 SL	1 % v/v	1 % v/v	FALL A
5 SHARPEN	2.85 SC	0.0445 lb ai/a	2 fl oz/a	FALL A
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	FALL A
METRIBUZIN 75	75 WG	0.47 lb ai/a	10 oz wt/a	FALL A
AMS	100 SG	2.04 % w/w	17 lb/100 gal	FALL A
MSO (MSO ULTRA)	100 SL	1 % v/v	1 % v/v	FALL A
6 SHARPEN	2.85 SC	0.0223 lb ai/a	1 fl oz/a	7DBP C
ZIDUA	85 WG	0.133 lb ai/a	2.5 oz wt/a	7DBP C
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	7DBP C
AMS	100 SG	2.04 % w/w	17 lb/100 gal	7DBP C
MSO (MSO ULTRA)	100 SL	1 % v/v	1 % v/v	7DBP C
7 SHARPEN	2.85 SC	0.0445 lb ai/a	2 fl oz/a	14DBP B
ZIDUA	85 WG	0.133 lb ai/a	2.5 oz wt/a	14DBP B
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	14DBP B
AMS	100 SG	2.04 % w/w	17 lb/100 gal	14DBP B
MSO (MSO ULTRA)	100 SL	1 % v/v	1 % v/v	14DBP B
8 SHARPEN	2.85 SC	0.0223 lb ai/a	1 fl oz/a	7DBP C
ZIDUA	85 WG	0.133 lb ai/a	2.5 oz wt/a	7DBP C
2,4-D LV 4	3.8 EC	0.475 lb ae/a	16 fl oz/a	7DBP C
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	7DBP C
AMS	100 SG	2.04 % w/w	17 lb/100 gal	7DBP C
MSO (MSO ULTRA)	100 SL	1 % v/v	1 % v/v	7DBP C
9 OPTILL PRO (CO-PACK)	68 WG	0.085 lb ai/a	2 oz wt/a	7DBP C
OPTILL	6 EC	0.47 lb ai/a	10 fl oz/a	7DBP C
OUTLOOK	3.8 EC	0.475 lb ae/a	16 fl oz/a	7DBP C
2,4-D LV 4	4.5 SL	1.13 lb ae/a	32 fl oz/a	7DBP C
ROUNDUP POWERMAX	100 SG	2.04 % w/w	17 lb/100 gal	7DBP C
AMS	100 SL	1 % v/v	1 % v/v	7DBP C
MSO (MSO ULTRA)	100 SL	1 % v/v	1 % v/v	7DBP C
10 DISTINCT	70 WG	0.109 lb ae/a	2.5 oz wt/a	FALL A
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	FALL A
2,4-D LV 4	3.8 EC	0.475 lb ae/a	16 fl oz/a	FALL A
AMS	100 SG	2.04 % w/w	17 lb/100 gal	FALL A
COC (PRIME OIL)	100 SL	1 % v/v	1 % v/v	FALL A
OPTILL PRO (CO-PACK)	68 WG	0.085 lb ai/a	2 oz wt/a	PRE D
OPTILL	6 EC	0.47 lb ai/a	10 fl oz/a	PRE D
OUTLOOK	3.8 EC	0.475 lb ae/a	16 fl oz/a	PRE D
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	PRE D
AMS	100 SG	2.04 % w/w	17 lb/100 gal	PRE D
MSO (MSO ULTRA)	100 SL	1 % v/v	1 % v/v	PRE D

Southern Illinois University

Fall versus Spring Herbicides for Horseweed Control in Soybean - BASF.

Trial ID: 14-FagerS-MT-BD-BASF Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code	TTTTT	ANNWI	ERICA-HR	AMATA-HR
Crop Code	4-23-14	4-23-14	4-23-14	4-23-14
Rating Date	Control	Control	Control	Control
Rating Type	Percent	Percent	Percent	Percent
Rating Unit	145 DA-A	145 DA-A	145 DA-A	145 DA-A
Rating Timing	0 DA-B	0 DA-B	0 DA-B	0 DA-B
Trt-Eval Interval				
Trt Treatment	Form Form	Rate	Other Other	Growth Appl
No. Name	Conc Type Rate Unit	Rate Rate Unit	Stage Code	
11 2,4-D LV 4	3.8 EC	0.475 lb ae/a	16 fl oz/a	FALL A
CANOPY EX	29.5 WG	0.0277 lb ai/a	1.5 oz wt/a	FALL A
BASIS BLEND	30 WG	0.0155 lb ai/a	0.825 oz wt/a	FALL A
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	FALL A
AMS	100 SG	2.04 % w/w	17 lb/100 gal	FALL A
COC (PRIME OIL)	100 SL	1 % v/v	1 % v/v	FALL A
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	7DBP C
2,4-D LV 4	3.8 EC	0.475 lb ae/a	16 fl oz/a	7DBP C
AMS	100 SG	2.04 % w/w	17 lb/100 gal	7DBP C
COC (PRIME OIL)	100 SL	1 % v/v	1 % v/v	7DBP C
12 2,4-D LV 4	3.8 EC	0.475 lb ae/a	16 fl oz/a	FALL A
VALOR XLT	40.3 WG	0.0756 lb ai/a	3 oz/a	FALL A
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	FALL A
AMS	100 SG	2.04 % w/w	17 lb/100 gal	FALL A
COC (PRIME OIL)	100 SL	1 % v/v	1 % v/v	FALL A
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	7DBP C
2,4-D LV 4	3.8 EC	0.475 lb ae/a	16 fl oz/a	7DBP C
AMS	100 SG	2.04 % w/w	17 lb/100 gal	7DBP C
COC (PRIME OIL)	100 SL	1 % v/v	1 % v/v	7DBP C
13 NONTREATED				
LSD (P=.05)	3.2	5.4	13.2	26.3
Standard Deviation	2.1	3.6	8.9	17.7
CV	2.33	3.79	23.09	111.18
Replicate F	0.514	1.015	2.309	1.157
Replicate Prob(F)	0.6778	0.4092	0.1108	0.3536
Treatment F	15.643	2.392	92.588	13.928
Treatment Prob(F)	0.0001	0.0708	0.0001	0.0001

Southern Illinois University

Fall versus Spring Herbicides for Horseweed Control in Soybean - BASF.

Trial ID: 14-FagerS-MT-BD-BASF Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing										TTTTT	ANNW	ERICA-HR	AMATA-HR
Trt-Eval Interval										0 DA-C	0 DA-C	0 DA-C	0 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a	ae/a	32 fl oz/a		7DBP	C				
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	ae/a	16 fl oz/a		7DBP	C				
	AMS	100 SG		2.04 % w/w	w/w	17 lb/100 gal		7DBP	C				
	COC (PRIME OIL)	100 SL		1 % v/v	v/v	1 % v/v		7DBP	C				
2	ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a	ae/a	32 fl oz/a		FALL	A	70 c	94 ab	0 d	0 c
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	ae/a	16 fl oz/a		FALL	A				
	AMS	100 SG		2.04 % w/w	w/w	17 lb/100 gal		FALL	A				
	COC (PRIME OIL)	100 SL		1 % v/v	v/v	1 % v/v		FALL	A				
3	SHARPEN	2.85 SC		0.0445 lb ai/a	ai/a	2 fl oz/a		FALL	A	69 c	90 bc	15 b	0 c
	ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a	ae/a	32 fl oz/a		FALL	A				
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	ae/a	16 fl oz/a		FALL	A				
	AMS	100 SG		2.04 % w/w	w/w	17 lb/100 gal		FALL	A				
	MSO (MSO ULTRA)	100 SL		1 % v/v	v/v	1 % v/v		FALL	A				
4	DISTINCT	70 WG		0.109 lb ae/a	ae/a	2.5 oz wt/a		FALL	A	71 c	92 bc	0 d	0 c
	ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a	ae/a	32 fl oz/a		FALL	A				
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	ae/a	16 fl oz/a		FALL	A				
	AMS	100 SG		2.04 % w/w	w/w	17 lb/100 gal		FALL	A				
	COC (PRIME OIL)	100 SL		1 % v/v	v/v	1 % v/v		FALL	A				
5	SHARPEN	2.85 SC		0.0445 lb ai/a	ai/a	2 fl oz/a		FALL	A	68 c	87 c	8 c	0 c
	ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a	ae/a	32 fl oz/a		FALL	A				
	METRIBUZIN 75	75 WG		0.47 lb ai/a	ai/a	10 oz wt/a		FALL	A				
	AMS	100 SG		2.04 % w/w	w/w	17 lb/100 gal		FALL	A				
	MSO (MSO ULTRA)	100 SL		1 % v/v	v/v	1 % v/v		FALL	A				
6	SHARPEN	2.85 SC		0.0223 lb ai/a	ai/a	1 fl oz/a		7DBP	C				
	ZIDUA	85 WG		0.133 lb ai/a	ai/a	2.5 oz wt/a		7DBP	C				
	ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a	ae/a	32 fl oz/a		7DBP	C				
	AMS	100 SG		2.04 % w/w	w/w	17 lb/100 gal		7DBP	C				
	MSO (MSO ULTRA)	100 SL		1 % v/v	v/v	1 % v/v		7DBP	C				
7	SHARPEN	2.85 SC		0.0445 lb ai/a	ai/a	2 fl oz/a		14DBP	B	93 ab	88 c	97 a	99 a
	ZIDUA	85 WG		0.133 lb ai/a	ai/a	2.5 oz wt/a		14DBP	B				
	ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a	ae/a	32 fl oz/a		14DBP	B				
	AMS	100 SG		2.04 % w/w	w/w	17 lb/100 gal		14DBP	B				
	MSO (MSO ULTRA)	100 SL		1 % v/v	v/v	1 % v/v		14DBP	B				
8	SHARPEN	2.85 SC		0.0223 lb ai/a	ai/a	1 fl oz/a		7DBP	C				
	ZIDUA	85 WG		0.133 lb ai/a	ai/a	2.5 oz wt/a		7DBP	C				
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	ae/a	16 fl oz/a		7DBP	C				
	ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a	ae/a	32 fl oz/a		7DBP	C				
	AMS	100 SG		2.04 % w/w	w/w	17 lb/100 gal		7DBP	C				
	MSO (MSO ULTRA)	100 SL		1 % v/v	v/v	1 % v/v		7DBP	C				
9	OPTILL PRO (CO-PACK)							7DBP	C				
	OPTILL	68 WG		0.085 lb ai/a	ai/a	2 oz wt/a		7DBP	C				
	OUTLOOK	6 EC		0.47 lb ai/a	ai/a	10 fl oz/a		7DBP	C				
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	ae/a	16 fl oz/a		7DBP	C				
	ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a	ae/a	32 fl oz/a		7DBP	C				
	AMS	100 SG		2.04 % w/w	w/w	17 lb/100 gal		7DBP	C				
	MSO (MSO ULTRA)	100 SL		1 % v/v	v/v	1 % v/v		7DBP	C				
10	DISTINCT	70 WG		0.109 lb ae/a	ae/a	2.5 oz wt/a		FALL	A	70 c	94 ab	0 d	0 c
	ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a	ae/a	32 fl oz/a		FALL	A				
	2,4-D LV 4	3.8 EC		0.475 lb ae/a	ae/a	16 fl oz/a		FALL	A				
	AMS	100 SG		2.04 % w/w	w/w	17 lb/100 gal		FALL	A				
	COC (PRIME OIL)	100 SL		1 % v/v	v/v	1 % v/v		FALL	A				
	OPTILL PRO (CO-PACK)							PRE	D				
	OPTILL	68 WG		0.085 lb ai/a	ai/a	2 oz wt/a		PRE	D				
	OUTLOOK	6 EC		0.47 lb ai/a	ai/a	10 fl oz/a		PRE	D				
	ROUNDUP POWERMAX	4.5 SL		1.13 lb ae/a	ae/a	32 fl oz/a		PRE	D				
	AMS	100 SG		2.04 % w/w	w/w	17 lb/100 gal		PRE	D				
	MSO (MSO ULTRA)	100 SL		1 % v/v	v/v	1 % v/v		PRE	D				

Southern Illinois University

Fall versus Spring Herbicides for Horseweed Control in Soybean - BASF.

Trial ID: 14-FagerS-MT-BD-BASF Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code	TTTTT	ANNW	ERICA-HR	AMATA-HR
Crop Code	4-30-14	4-30-14	4-30-14	4-30-14
Rating Date	Control	Control	Control	Control
Rating Type	Percen	Percen	Percent	Percent
Rating Unit	7 DA-B	7 DA-B	7 DA-B	7 DA-B
Rating Timing	0 DA-C	0 DA-C	0 DA-C	0 DA-C
Trt-Eval Interval	0 DA-C	0 DA-C	0 DA-C	0 DA-C
Trt Treatment No. Name	Form Form Conc Type Rate	Rate Unit	Other Other Rate Rate Unit	Growth Appl Stage Code
11 2,4-D LV 4	3.8 EC	0.475 lb ae/a	16 fl oz/a	FALL A
CANOPY EX	29.5 WG	0.0277 lb ai/a	1.5 oz wt/a	FALL A
BASIS BLEND	30 WG	0.0155 lb ai/a	0.825 oz wt/a	FALL A
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	FALL A
AMS	100 SG	2.04 % w/w	17 lb/100 gal	FALL A
COC (PRIME OIL)	100 SL	1 % v/v	1 % v/v	FALL A
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	7DBP C
2,4-D LV 4	3.8 EC	0.475 lb ae/a	16 fl oz/a	7DBP C
AMS	100 SG	2.04 % w/w	17 lb/100 gal	7DBP C
COC (PRIME OIL)	100 SL	1 % v/v	1 % v/v	7DBP C
12 2,4-D LV 4	3.8 EC	0.475 lb ae/a	16 fl oz/a	FALL A
VALOR XLT	40.3 WG	0.0756 lb ai/a	3 oz/a	FALL A
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	FALL A
AMS	100 SG	2.04 % w/w	17 lb/100 gal	FALL A
COC (PRIME OIL)	100 SL	1 % v/v	1 % v/v	FALL A
ROUNDUP POWERMAX	4.5 SL	1.13 lb ae/a	32 fl oz/a	7DBP C
2,4-D LV 4	3.8 EC	0.475 lb ae/a	16 fl oz/a	7DBP C
AMS	100 SG	2.04 % w/w	17 lb/100 gal	7DBP C
COC (PRIME OIL)	100 SL	1 % v/v	1 % v/v	7DBP C
13 NONTREATED	0	0	0	0
LSD (P=.05)	3.6	5.4	6.2	4.5
Standard Deviation	2.4	3.7	4.2	3.1
CV	3.11	3.94	10.66	13.88
Replicate F	2.336	1.698	0.668	1.000
Replicate Prob(F)	0.1030	0.1980	0.5813	0.4123
Treatment F	99.725	6.407	532.034	726.139
Treatment Prob(F)	0.0001	0.0004	0.0001	0.0001

Southern Illinois University

Fall versus Spring Herbicides for Horseweed Control in Soybean - BASF.

Trial ID: 14-FagerS-MT-BD-BASF Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing										TTTTT	ANNW	ERICA-HR	AMATA-HR	GLXMA 5-18-14 Injury Percent	GLXMA 5-28-14 Injury Percent
Trt-Eval Interval										6 DA-C	6 DA-C	6 DA-C	6 DA-C	5 DAE	15 DAE
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate	Unit	Growth Stage	Appl Code						
1	ROUNDUP POWERMAX 2,4-D LV 4 AMS COC (PRIME OIL)	4.5 SL 3.8 EC 100 SG 100 SL		1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v		32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v		7DBP 7DBP 7DBP 7DBP	C C C C	84 b	88 cd	89 b	99 a	5 c	0 b
2	ROUNDUP POWERMAX 2,4-D LV 4 AMS COC (PRIME OIL)	4.5 SL 3.8 EC 100 SG 100 SL		1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v		32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v		FALL FALL FALL FALL	A A A A	26 c	91 a-d	0 c	0 d	0 d	0 b
3	SHARPEN ROUNDUP POWERMAX 2,4-D LV 4 AMS MSO (MSO ULTRA)	2.85 SC 4.5 SL 3.8 EC 100 SG 100 SL		0.0445 lb ai/a 1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v		2 fl oz/a 32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v		FALL FALL FALL FALL FALL	A A A A A	25 c	83 d	3 c	0 d	0 d	0 b
4	DISTINCT ROUNDUP POWERMAX 2,4-D LV 4 AMS COC (PRIME OIL)	70 WG 4.5 SL 3.8 EC 100 SG 100 SL		0.109 lb ae/a 1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v		2.5 oz wt/a 32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v		FALL FALL FALL FALL FALL	A A A A A	29 c	91 a-d	0 c	0 d	0 d	0 b
5	SHARPEN ROUNDUP POWERMAX METRIBUZIN 75 AMS MSO (MSO ULTRA)	2.85 SC 4.5 SL 75 WG 100 SG 100 SL		0.0445 lb ai/a 1.13 lb ae/a 0.47 lb ai/a 2.04 % w/w 1 % v/v		2 fl oz/a 32 fl oz/a 10 oz wt/a 17 lb/100 gal 1 % v/v		FALL FALL FALL FALL FALL	A A A A A	28 c	86 cd	0 c	0 d	0 d	0 b
6	SHARPEN ZIDUA ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	2.85 SC 85 WG 4.5 SL 100 SG 100 SL		0.0223 lb ai/a 0.133 lb ai/a 1.13 lb ae/a 2.04 % w/w 1 % v/v		1 fl oz/a 2.5 oz wt/a 32 fl oz/a 17 lb/100 gal 1 % v/v		7DBP 7DBP 7DBP 7DBP 7DBP	C C C C C	95 a	93 abc	99 a	99 a	7 bc	0 b
7	SHARPEN ZIDUA ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	2.85 SC 85 WG 4.5 SL 100 SG 100 SL		0.0445 lb ai/a 0.133 lb ai/a 1.13 lb ae/a 2.04 % w/w 1 % v/v		2 fl oz/a 2.5 oz wt/a 32 fl oz/a 17 lb/100 gal 1 % v/v		14DBP 14DBP 14DBP 14DBP 14DBP	B B B B B	94 a	93 abc	99 a	99 a	8 b	0 b
8	SHARPEN ZIDUA 2,4-D LV 4 ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	2.85 SC 85 WG 3.8 EC 4.5 SL 100 SG 100 SL		0.0223 lb ai/a 0.133 lb ai/a 0.475 lb ae/a 1.13 lb ae/a 2.04 % w/w 1 % v/v		1 fl oz/a 2.5 oz wt/a 16 fl oz/a 32 fl oz/a 17 lb/100 gal 1 % v/v		7DBP 7DBP 7DBP 7DBP 7DBP 7DBP	C C C C C C	93 a	90 bcd	99 a	99 a	5 c	0 b
9	OPTILL PRO (CO-PACK) OPTILL OUTLOOK 2,4-D LV 4 ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	68 WG 6 EC 3.8 EC 4.5 SL 100 SG 100 SL		0.085 lb ai/a 0.47 lb ai/a 0.475 lb ae/a 1.13 lb ae/a 2.04 % w/w 1 % v/v		2 oz wt/a 10 fl oz/a 16 fl oz/a 32 fl oz/a 17 lb/100 gal 1 % v/v		7DBP 7DBP 7DBP 7DBP 7DBP 7DBP	C C C C C C	96 a	97 ab	99 a	99 a	6 c	0 b
10	DISTINCT ROUNDUP POWERMAX 2,4-D LV 4 AMS COC (PRIME OIL) OPTILL PRO (CO-PACK) OPTILL OUTLOOK ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	70 WG 4.5 SL 3.8 EC 100 SG 100 SL 68 WG 6 EC 4.5 SL 100 SG 100 SL		0.109 lb ae/a 1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v 0.085 lb ai/a 0.47 lb ai/a 1.13 lb ae/a 2.04 % w/w 1 % v/v		2.5 oz wt/a 32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v 2 oz wt/a 10 fl oz/a 32 fl oz/a 17 lb/100 gal 1 % v/v		FALL FALL FALL FALL FALL PRE PRE PRE PRE PRE PRE	A A A A A D D D D D D	30 c	88 cd	0 c	0 d	13 a	0 b

Southern Illinois University

Fall versus Spring Herbicides for Horseweed Control in Soybean - BASF.

Trial ID: 14-FagerS-MT-BD-BASF Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing								TTTTT	ANNW	ERICA-HR	AMATA-HR	GLXMA	GLXMA	
								5-6-14 Control Percent 0 DAP	5-6-14 Control Percent 0 DAP	5-6-14 Control Percent 0 DAP	5-6-14 Control Percent 0 DAP	5-18-14 Injury Percent	5-28-14 Injury Percent	
Trt-Eval Interval								6 DA-C	6 DA-C	6 DA-C	6 DA-C	5 DAE	15 DAE	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
11	2,4-D LV 4	3.8	EC	0.475 lb ae/a	16 fl oz/a	FALL	A		94 a	99 a	99 a	85 c	13 a	2 a
	CANOPY EX	29.5	WG	0.0277 lb ai/a	1.5 oz wt/a	FALL	A							
	BASIS BLEND	30	WG	0.0155 lb ai/a	0.825 oz wt/a	FALL	A							
	ROUNDUP POWERMAX	4.5	SL	1.13 lb ae/a	32 fl oz/a	FALL	A							
	AMS	100	SG	2.04 % w/w	17 lb/100 gal	FALL	A							
	COC (PRIME OIL)	100	SL	1 % v/v	1 % v/v	FALL	A							
	ROUNDUP POWERMAX	4.5	SL	1.13 lb ae/a	32 fl oz/a	7DBP	C							
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	16 fl oz/a	7DBP	C							
	AMS	100	SG	2.04 % w/w	17 lb/100 gal	7DBP	C							
	COC (PRIME OIL)	100	SL	1 % v/v	1 % v/v	7DBP	C							
12	2,4-D LV 4	3.8	EC	0.475 lb ae/a	16 fl oz/a	FALL	A		97 a	99 a	99 a	96 b	9 b	0 b
	VALOR XLT	40.3	WG	0.0756 lb ai/a	3 oz/a	FALL	A							
	ROUNDUP POWERMAX	4.5	SL	1.13 lb ae/a	32 fl oz/a	FALL	A							
	AMS	100	SG	2.04 % w/w	17 lb/100 gal	FALL	A							
	COC (PRIME OIL)	100	SL	1 % v/v	1 % v/v	FALL	A							
	ROUNDUP POWERMAX	4.5	SL	1.13 lb ae/a	32 fl oz/a	7DBP	C							
	2,4-D LV 4	3.8	EC	0.475 lb ae/a	16 fl oz/a	7DBP	C							
	AMS	100	SG	2.04 % w/w	17 lb/100 gal	7DBP	C							
	COC (PRIME OIL)	100	SL	1 % v/v	1 % v/v	7DBP	C							
13 NONTREATED								0	0	0	0	0	0	
LSD (P=.05)								8.5	8.5	3.0	1.9	2.5	1.0	
Standard Deviation								5.9	5.9	2.0	1.3	1.7	0.7	
CV								8.99	6.41	3.58	2.31	31.84	424.26	
Replicate F								3.862	4.403	0.457	1.000	3.622	1.000	
Replicate Prob(F)								0.0179	0.0103	0.7144	0.4051	0.0230	0.4051	
Treatment F								132.003	2.905	2396.002	5864.133	29.953	2.667	
Treatment Prob(F)								0.0001	0.0087	0.0001	0.0001	0.0001	0.0145	

Fall versus Spring Herbicides for Horseweed Control in Soybean - BASF.

Trial ID: 14-FagerS-MT-BD-BASF Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing										TTTTT	ERICA-HR	AMATA-HR	TTTTT	ERICA-HR	AMATA-HR
Trt-Eval Interval										28 DA-B	28 DA-B	28 DA-B	43 DA-B	43 DA-B	43 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code							
1	ROUNDUP POWERMAX 2,4-D LV 4 AMS COC (PRIME OIL)	4.5 SL 3.8 EC 100 SG 100 SL		1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v	32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v	7DBP C 7DBP C 7DBP C 7DBP C			86 b	94 b	0 c	40 b-e	95 ab	13 c	
2	ROUNDUP POWERMAX 2,4-D LV 4 AMS COC (PRIME OIL)	4.5 SL 3.8 EC 100 SG 100 SL		1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v	32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v	FALL A FALL A FALL A FALL A			0 d	0 d	0 c	33 ef	3 c	95 a	
3	SHARPEN ROUNDUP POWERMAX 2,4-D LV 4 AMS MSO (MSO ULTRA)	2.85 SC 4.5 SL 3.8 EC 100 SG 100 SL		0.0445 lb ai/a 1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v	2 fl oz/a 32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v	FALL A FALL A FALL A FALL A FALL A			0 d	0 d	0 c	28 f	1 c	91 ab	
4	DISTINCT ROUNDUP POWERMAX 2,4-D LV 4 AMS COC (PRIME OIL)	70 WG 4.5 SL 3.8 EC 100 SG 100 SL		0.109 lb ae/a 1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v	2.5 oz wt/a 32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v	FALL A FALL A FALL A FALL A FALL A			0 d	0 d	0 c	28 f	0 c	79 b	
5	SHARPEN ROUNDUP POWERMAX METRIBUZIN 75 AMS MSO (MSO ULTRA)	2.85 SC 4.5 SL 75 WG 100 SG 100 SL		0.0445 lb ai/a 1.13 lb ae/a 0.47 lb ai/a 2.04 % w/w 1 % v/v	2 fl oz/a 32 fl oz/a 10 oz wt/a 17 lb/100 gal 1 % v/v	FALL A FALL A FALL A FALL A FALL A			0 d	0 d	0 c	34 def	0 c	87 ab	
6	SHARPEN ZIDUA ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	2.85 SC 85 WG 4.5 SL 100 SG 100 SL		0.0223 lb ai/a 0.133 lb ai/a 1.13 lb ae/a 2.04 % w/w 1 % v/v	1 fl oz/a 2.5 oz wt/a 32 fl oz/a 17 lb/100 gal 1 % v/v	7DBP C 7DBP C 7DBP C 7DBP C 7DBP C			92 a	99 a	92 a	81 a	95 ab	75 b	
7	SHARPEN ZIDUA ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	2.85 SC 85 WG 4.5 SL 100 SG 100 SL		0.0445 lb ai/a 0.133 lb ai/a 1.13 lb ae/a 2.04 % w/w 1 % v/v	2 fl oz/a 2.5 oz wt/a 32 fl oz/a 17 lb/100 gal 1 % v/v	14DBP B 14DBP B 14DBP B 14DBP B 14DBP B			94 a	99 a	92 a	49 b	99 a	21 c	
8	SHARPEN ZIDUA 2,4-D LV 4 ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	2.85 SC 85 WG 3.8 EC 4.5 SL 100 SG 100 SL		0.0223 lb ai/a 0.133 lb ai/a 0.475 lb ae/a 1.13 lb ae/a 2.04 % w/w 1 % v/v	1 fl oz/a 2.5 oz wt/a 16 fl oz/a 32 fl oz/a 17 lb/100 gal 1 % v/v	7DBP C 7DBP C 7DBP C 7DBP C 7DBP C 7DBP C			96 a	99 a	94 a	80 a	74 b	75 b	
9	OPTILL PRO (CO-PACK) OPTILL OUTLOOK 2,4-D LV 4 ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	68 WG 6 EC 3.8 EC 4.5 SL 100 SG 100 SL		0.085 lb ai/a 0.47 lb ai/a 0.475 lb ae/a 1.13 lb ae/a 2.04 % w/w 1 % v/v	2 oz wt/a 10 fl oz/a 16 fl oz/a 32 fl oz/a 17 lb/100 gal 1 % v/v	7DBP C 7DBP C 7DBP C 7DBP C 7DBP C 7DBP C			94 a	99 a	92 a	45 bc	99 a	20 c	
10	DISTINCT ROUNDUP POWERMAX 2,4-D LV 4 AMS COC (PRIME OIL) OPTILL PRO (CO-PACK) OPTILL OUTLOOK ROUNDUP POWERMAX AMS MSO (MSO ULTRA)	70 WG 4.5 SL 3.8 EC 100 SG 100 SL 68 WG 6 EC 4.5 SL 100 SG 100 SL		0.109 lb ae/a 1.13 lb ae/a 0.475 lb ae/a 2.04 % w/w 1 % v/v 0.085 lb ai/a 0.47 lb ai/a 1.13 lb ae/a 2.04 % w/w 1 % v/v	2.5 oz wt/a 32 fl oz/a 16 fl oz/a 17 lb/100 gal 1 % v/v 2 oz wt/a 10 fl oz/a 32 fl oz/a 17 lb/100 gal 1 % v/v	FALL A FALL A FALL A FALL A FALL A PRE D PRE D PRE D PRE D PRE D PRE D			74 c	73 c	85 b	43 bcd	75 b	21 c	

Southern Illinois University

Fall versus Spring Herbicides for Horseweed Control in Soybean - BASF.

Trial ID: 14-FagerS-MT-BD-BASF Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing								TTTTT	ERICA-HR	AMATA-HR	TTTTT	ERICA-HR	AMATA-HR		
								5-21-14 Control Percen 15 DA-D	5-21-14 Control Percen 15 DA-D	5-21-14 Control Percen 15 DA-D	6-5-14 Control Percen 30 DA-D	6-5-14 Control Percent 30 DA-D	6-5-14 Control Percent 30 DA-D		
Trt-Eval Interval								28 DA-B	28 DA-B	28 DA-B	43 DA-B	43 DA-B	43 DA-B		
Trt	Treatment	Form	Form	Rate	Other	Other	Growth Appl								
No.	Name	Conc	Type	Rate	Unit	Rate	Rate Unit	Stage	Code						
11	2,4-D LV 4	3.8	EC	0.475	lb ae/a	16 fl oz/a	FALL	A		84 b	99 a	0 c	43 bcd	99 a	23 c
	CANOPY EX	29.5	WG	0.0277	lb ai/a	1.5 oz wt/a	FALL	A							
	BASIS BLEND	30	WG	0.0155	lb ai/a	0.825 oz wt/a	FALL	A							
	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32 fl oz/a	FALL	A							
	AMS	100	SG	2.04	% w/w	17 lb/100 gal	FALL	A							
	COC (PRIME OIL)	100	SL	1	% v/v	1 % v/v	FALL	A							
	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32 fl oz/a	7DBP	C							
	2,4-D LV 4	3.8	EC	0.475	lb ae/a	16 fl oz/a	7DBP	C							
	AMS	100	SG	2.04	% w/w	17 lb/100 gal	7DBP	C							
	COC (PRIME OIL)	100	SL	1	% v/v	1 % v/v	7DBP	C							
12	2,4-D LV 4	3.8	EC	0.475	lb ae/a	16 fl oz/a	FALL	A		88 b	99 a	0 c	36 c-f	99 a	19 c
	VALOR XLT	40.3	WG	0.0756	lb ai/a	3 oz/a	FALL	A							
	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32 fl oz/a	FALL	A							
	AMS	100	SG	2.04	% w/w	17 lb/100 gal	FALL	A							
	COC (PRIME OIL)	100	SL	1	% v/v	1 % v/v	FALL	A							
	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32 fl oz/a	7DBP	C							
	2,4-D LV 4	3.8	EC	0.475	lb ae/a	16 fl oz/a	7DBP	C							
	AMS	100	SG	2.04	% w/w	17 lb/100 gal	7DBP	C							
	COC (PRIME OIL)	100	SL	1	% v/v	1 % v/v	7DBP	C							
13 NONTREATED								0	0	0	0	0	0		
LSD (P=.05)								4.2	2.4	4.5	9.3	23.1	15.7		
Standard Deviation								2.9	1.6	3.1	6.4	16.0	10.8		
CV								4.93	2.59	8.22	14.31	26.01	21.05		
Replicate F								0.026	0.898	0.988	0.760	0.832	1.636		
Replicate Prob(F)								0.9941	0.4524	0.4106	0.5244	0.4859	0.1999		
Treatment F								913.222	3343.323	904.808	31.516	32.447	39.444		
Treatment Prob(F)								0.0001	0.0001	0.0001	0.0001	0.0001	0.0001		

Fall versus Spring Herbicides for Horseweed Control in Soybean - BASF.

Trial ID: 14-FagerS-MT-BD-BASF Location: Murphysboro, IL Trial Year: 2014
Investigator: Ronald F. Krausz

Trial Comments

1. Protocol: BASF.
2. Ratings: CI at 5 and 15 DAE,
WC 7, 15, and 30 DA-A, 7 days before B, at B, at C, at planting, 28 and 42 DA-B.
3. If yielding, blanket treatments 1-12 with Roundup Powermax at soybean stage R1.
The planned R1 Roundup Powermax application was not made due to an oversight.
4. ANNWI = Winter annual weeds including STEME (common chickweed), LAMAM (henbit),
and LAMPU (purple deadnettle).
TTTTT = Overall weed control including winter annuals, marestail and waterhemp.
ERICA-HR = Herbicide-resistant marestail (glyphosate).
AMATA-HR = Herbicide-resistant waterhemp (glyphosate).
DAE = Days after crop emergence.
5. Ratings at 28 DA-B were also 173 DA-A, 21 DA-C, and 15 DA-D.
6. Following the FALL application on 11-29-13, the first rainfall event was 1.61 inch within 7 days.
Following the 14DBP application on 4-23-14, the first rainfall event was 3.15 inch within 5 days.
Following the 7DBP application on 4-30-14, the first rainfall event was 1.25 inch within 9 days.
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.
7. Weed control ratings scheduled for 30 DA-A on 12-29-13 were not possible due to snow cover.
In late April, 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.
By 5-21-14 winter annual weeds in the nontreated plots were senescing naturally and were no
longer providing competition, while ERICA-HR, where not controlled, was providing competition.
Readers should consider winter annual weed control (ANNWI) and/or overall weed control ratings
(TTTTT) before making assumptions about herbicidal weed control of ERICA-HR or AMATA-HR.
8. Harvested 11-1-14, (2) 30 inch rows by 27 ft (data not presented).