

Fall Applied Authority XL.

Trial ID: 11-YRC-FMC-Fall Location: Young Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu  
 City State Zip Country: Murphysboro IL 62966 USA  
 Trial Status: FINAL Initiation Date: 10-14-10

Objectives: Determine the influence of two rates of Authority XL and three fall application timings on the residual weed control the following spring.

Crop 1: GLXMA Soybean Variety: AG 4005 Description: RR  
 Planting Method: SEEDED Planting Date: 5-20-11  
 Rate, Unit: 75 LB/A Depth, Unit: 1.0 IN  
 Row Spacing, Unit: 30 IN

Pest 1 Type: W Code: HORPU Hordeum pusillum Nutt. barley, little  
 Pest 2 Type: W Code: LAMAM Lamium amplexicaule L. henbit  
 Pest 3 Type: W Code: STEME Stellaria media (L.) Vill. chickweed, common  
 Pest 4 Type: W Code: GERCA Geranium carolinianum L. geranium, Carolina  
 Pest 5 Type: W Code: ERICA Conyza canadensis (L.) Crong. horseweed  
 Pest Description: glyphosate-resistant marestail  
 Pest 6 Type: W Code: ALLVI Allium vineale L. garlic, wild  
 Pest 7 Type: W Code: AMASS Amaranthus species amaranthus species  
 Pest Description: Mixture of AMATA and AMARE

Plot Width, Unit: 10 FT Site Type: FIELD  
 Plot Length, Unit: 30 FT Tillage Type: NO-TILL  
 Replications: 4 Study Design: Randomized Complete Block

Prior Crops, Year  
 1. ZEAMD 2010

Field Prep./Maintenance: N 0 LB/A, P205 0 LB/A, K20 0 LB/A

% OM: 2.2 Texture: VERY FINE SANDY LOAM  
 pH: 6.8 Soil Name: ALVIN  
 CEC: 10 Fert. Level: P1 160 LB/A, K 120 LB/A

	Application Description				
	A	B	C	D	E
Application Date:	10-14-10	11-1-10	12-3-10	6-7-11	6-10-11
Time of Day:	9:20	16:30	11:30	9:45	9:30
Application Method:	Spray	Spray	Spray	Spray	Spray
Application Timing:	OCT1	NOV1	DEC1	V1-V2	V2-V4
Application Placement:	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL
Applied By:	DKP	JRK	JRK	CME	LAH
Air Temperature, Unit:	61 F	62 F	40 F	97 F	88 F
% Relative Humidity:	43	47	73	47	64
Wind Velocity, Unit:	1 MPH	3 MPH	3 MPH	3 MPH	1 MPH
Wind Direction:	SW	NW	S	S	S
Dew Presence (Y/N):	Y	N	N	N	N
Soil Temperature, Unit:	55 F	55 F	35 F	84 F	79 F
Soil Moisture:	ABONOR	NORMAL	ABONOR	NORMAL	NORMAL
% Cloud Cover:	0	75	75	0	0
Crop stage at application:	14-10-10	1-11-10	3-12-10	7-6-11	10-6-11
Height Min, Max (inch):	NA	NA	NA	V1-V2	V2-V3
				2	5 4 10

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Location: Young Res. Center

	Pest Stage At Each Application									
Application Date:	10-14-10	11-1-10	12-3-10	6-7-11	6-10-11					
Weed Code:	HORPU	HORPU	HORPU	HORPU	HORPU					
Stage Majority (leaves):	1	2	2	NA	NA					
Stage Min, Max:	1 3	1 5	1 5							
Height Majority:	1.5 IN	3 IN	3 IN	3 IN						
Height Min, Max:	1 3.5	1 5	1 5							
Density, Unit:	0.5 FT2	0.5 FT2	0.5 FT2							
Weed Code:	LAMAM	LAMAM	LAMAM	LAMAM	LAMAM					
Stage Majority (leaves):	2	6	7	NA	NA					
Stage Min, Max:	COTY 6	2 12	2 14							
Height Majority:	1 IN	3 IN	3 IN	3 IN						
Height Min, Max:	0.5 2	1 5	1 5							
Density, Unit:	5 FT2	0.6 FT2	0.6 FT2							
Weed Code:	STEME	STEME	STEME	STEME	STEME					
Stage Majority (leaves):	COTY	3	4	NA	NA					
Stage Min, Max:	COTY 2	COTY 8	2 8							
Height Majority:	0.5 IN	1 IN	2 IN							
Height Min, Max:	0.5 1	0.5 4	1 4							
Density, Unit:	0.01 FT2	0.01 FT2	0.01 FT2							
Weed Code:	GERCA	GERCA	GERCA	GERCA	GERCA					
Stage Majority (leaves):	1	2	4	NA	NA					
Stage Min, Max:	COTY 3	COTY 6	1 8							
Height Majority:	1 IN	2 IN	2 IN							
Height Min, Max:	0.5 2	0.5 4	1 5							
Density, Unit:	0.01 FT2	0.01 FT2	0.01 FT2							
Weed Code:	ERICA	ERICA	ERICA	ERICA	ERICA					
Stage Majority (leaves):	10	15	12	10	22					
Stage Min, Max:	1 25	2 45	4 45	5 40	6 45					
Height Majority:	2 IN	3 IN	3 IN	4 IN	12 IN					
Height Min, Max:	0.5 4	1 5	1 5	0.25 4	2 19					
Density, Unit:	0.01 FT2	0.5 FT2	0.5 FT2	3 FT2	1 FT2					
Weed Code:	ALLVI	ALLVI	ALLVI	ALLVI	ALLVI					
Stage Majority (leaves):	1	1	3	NA	NA					
Stage Min, Max:	1 1	1 2	4							
Height Majority:	3 IN	4 IN	4 IN							
Height Min, Max:	1 6	1 8	1 10							
Density, Unit:	0.2 FT2	0.2 FT2	0.2 FT2							
Weed Code:	AMASS	AMASS	AMASS	AMASS	AMASS					
Stage Majority (leaves):	NA	NA	NA	13	15					
Stage Min, Max:				coty 31	6 35					
Height Majority:				12 IN	14 IN					
Height Min, Max:				0.5 26	3 29					
Density, Unit:				4 FT2	4 FT2					

**Application Equipment**

Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	30 PSI	30 PSI	30 PSI	30 PSI	30 PSI
Nozzle Type:	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan
Nozzle Size:	XR 8002	XR 8002	XR 8002	XR 8002	XR 8002
Boom Length, Unit:	6.67 FT	6.67 FT	6.67 FT	6.67 FT	6.67 FT
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA	15 GPA	15 GPA

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Pest Code  
Crop Code  
Rating Date  
Rating Data Type  
Rating Unit  
Rating Timing  
Trt-Eval Interval

GLXMA	GLXMA	GLXMA
10-12-11	10-12-11	10-12-11
Moisture	Test wt.	Yield
Percent	lb/bu	bu/A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	NONTREATED									17.5 ab	53.0 bc	7 b
2	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	OCT1	A	17.7 a	53.1 bc	30 a
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	OCT1	A			
2	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	OCT1	A			
2	AMS	100	SG	2.5	lb/a	2.5	lb/a	OCT1	A			
2	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D			
2	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D			
2	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D			
3	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	OCT1	A	17.2 ab	53.3 abc	36 a
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	OCT1	A			
3	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	OCT1	A			
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	OCT1	A			
3	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E			
3	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E			
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E			
4	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	NOV1	B	18.1 a	52.9 c	37 a
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	NOV1	B			
4	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	NOV1	B			
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	NOV1	B			
4	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D			
4	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D			
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D			
5	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	NOV1	B	16.3 b	53.9 a	34 a
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	NOV1	B			
5	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	NOV1	B			
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	NOV1	B			
5	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E			
5	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E			
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E			
6	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	DEC1	C	17.3 ab	53.3 abc	33 a
6	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	DEC1	C			
6	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	DEC1	C			
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	DEC1	C			
6	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D			
6	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D			
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D			
7	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	DEC1	C	16.7 ab	53.6 ab	34 a
7	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	DEC1	C			
7	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	DEC1	C			
7	AMS	100	SG	2.5	lb/a	2.5	lb/a	DEC1	C			
7	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E			
7	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E			
7	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E			
LSD (P=.05)										1.39	0.69	8.6
Replicate F										2.997	3.085	0.326
Replicate Prob(F)										0.0665	0.0618	0.8063
Treatment F										1.797	2.184	12.876
Treatment Prob(F)										0.1717	0.1072	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

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							HORPU	HORPU	HORPU	HORPU	HORPU			
							3-17-11	3-31-11	4-14-11	4-28-11	5-12-11			
							Control	Control	Control	Control	Control			
							Percent	Percent	Percent	Percent	Percent			
							22 WA-A	24 WA-A	26 WA-A	26 WA-A	30 WA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	NONTREATED									0 c	0 d	0 c	0 c	0 c
2	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	OCT1	A	90 b	91 c	92 ab	92 ab	91 ab
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	OCT1	A					
2	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	OCT1	A					
2	AMS	100	SG	2.5	lb/a	2.5	lb/a	OCT1	A					
2	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D					
2	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D					
2	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D					
3	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	OCT1	A	89 b	92 bc	89 b	87 b	88 b
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	OCT1	A					
3	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	OCT1	A					
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	OCT1	A					
3	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E					
3	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E					
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E					
4	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	NOV1	B	95 ab	96 abc	95 ab	95 a	93 ab
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	NOV1	B					
4	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	NOV1	B					
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	NOV1	B					
4	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D					
4	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D					
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D					
5	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	NOV1	B	97 a	98 a	98 a	97 a	98 a
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	NOV1	B					
5	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	NOV1	B					
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	NOV1	B					
5	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E					
5	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E					
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E					
6	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	DEC1	C	95 ab	96 abc	96 a	96 a	95 ab
6	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	DEC1	C					
6	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	DEC1	C					
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	DEC1	C					
6	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D					
6	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D					
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D					
7	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	DEC1	C	97 a	97 ab	97 a	97 a	97 a
7	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	DEC1	C					
7	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	DEC1	C					
7	AMS	100	SG	2.5	lb/a	2.5	lb/a	DEC1	C					
7	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E					
7	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E					
7	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E					
LSD (P=.05)										7.4	5.9	6.4	7.2	7.3
Replicate F										3.106	4.027	3.311	3.151	5.313
Replicate Prob(F)										0.0561	0.0260	0.0470	0.0540	0.0099
Treatment F										207.896	338.576	279.158	222.484	213.508
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

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							LAMAM	LAMAM	LAMAM	LAMAM	LAMAM			
							3-17-11	3-31-11	4-14-11	4-28-11	5-12-11			
							Control	Control	Control	Control	Control			
							Percent	Percent	Percent	Percent	Percent			
							22 WA-A	24 WA-A	26 WA-A	28 WA-A	30 WA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	NONTREATED									0 c	0 c	0 c	0 c	0 c
2	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	OCT1	A	94 ab	94 b	95 ab	94 ab	95 b
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	OCT1	A					
2	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	OCT1	A					
2	AMS	100	SG	2.5	lb/a	2.5	lb/a	OCT1	A					
2	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D					
2	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D					
2	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D					
3	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	OCT1	A	97 a	97 a	97 a	97 ab	97 ab
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	OCT1	A					
3	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	OCT1	A					
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	OCT1	A					
3	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E					
3	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E					
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E					
4	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	NOV1	B	98 a	99 a	98 a	98 a	98 a
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	NOV1	B					
4	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	NOV1	B					
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	NOV1	B					
4	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D					
4	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D					
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D					
5	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	NOV1	B	99 a	99 a	97 a	97 ab	99 a
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	NOV1	B					
5	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	NOV1	B					
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	NOV1	B					
5	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E					
5	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E					
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E					
6	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	DEC1	C	90 b	93 b	93 b	94 b	97 ab
6	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	DEC1	C					
6	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	DEC1	C					
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6	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D					
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D					
7	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	DEC1	C	96 a	96 ab	95 ab	95 ab	97 a
7	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	DEC1	C					
7	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	DEC1	C					
7	AMS	100	SG	2.5	lb/a	2.5	lb/a	DEC1	C					
7	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E					
7	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E					
7	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E					
LSD (P=.05)										5.5	3.3	3.6	3.8	2.0
Replicate F										0.904	1.190	1.306	1.978	4.659
Replicate Prob(F)										0.4585	0.3417	0.3032	0.1534	0.0140
Treatment F										377.562	1098.163	886.781	807.802	2946.762
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Fall Applied Authority XL.

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Pest Code	STEME	STEME	STEME	STEME	STEME
Crop Code					
Rating Date	3-17-11	3-31-11	4-14-11	4-28-11	5-12-11
Rating Data Type	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent
Rating Timing	22 WA-A	24 WA-A	26 WA-A	28 WA-A	30 WA-A
Trt-Eval Interval					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	NONTREATED									0 b	0 c	0 c	0 b	0 c
2	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	OCT1	A	96 a	96 ab	94 b	94 a	96 b
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	OCT1	A					
2	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	OCT1	A					
2	AMS	100	SG	2.5	lb/a	2.5	lb/a	OCT1	A					
2	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D					
2	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D					
2	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D					
3	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	OCT1	A	97 a	98 ab	97 ab	97 a	98 ab
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	OCT1	A					
3	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	OCT1	A					
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	OCT1	A					
3	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E					
3	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E					
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E					
4	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	NOV1	B	97 a	98 a	98 a	97 a	98 ab
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	NOV1	B					
4	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	NOV1	B					
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	NOV1	B					
4	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D					
4	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D					
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D					
5	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	NOV1	B	98 a	98 a	97 ab	97 a	98 a
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	NOV1	B					
5	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	NOV1	B					
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	NOV1	B					
5	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E					
5	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E					
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E					
6	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	DEC1	C	95 a	95 b	95 ab	94 a	97 ab
6	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	DEC1	C					
6	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	DEC1	C					
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	DEC1	C					
6	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D					
6	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D					
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D					
7	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	DEC1	C	97 a	97 ab	97 ab	96 a	97 ab
7	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	DEC1	C					
7	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	DEC1	C					
7	AMS	100	SG	2.5	lb/a	2.5	lb/a	DEC1	C					
7	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E					
7	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E					
7	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E					
LSD (P=.05)										2.6	2.7	3.4	3.3	1.6
Replicate F										0.313	0.488	0.036	0.241	3.786
Replicate Prob(F)										0.8156	0.6952	0.9904	0.8666	0.0288
Treatment F										1683.325	1672.415	1008.694	1061.887	4629.694
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Fall Applied Authority XL.

Trial ID: 11-YRC-FMC-Fall Location: Young Res. Center

							GERCA	GERCA	GERCA	GERCA	GERCA			
							3-17-11	3-31-11	4-14-11	4-28-11	5-12-11			
							Control	Control	Control	Control	Control			
							Percent	Percent	Percent	Percent	Percent			
							22 WA-A	24 WA-A	26 WA-A	28 WA-A	30 WA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	NONTREATED									0 c	0 e	0 d	0 d	0 d
2	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	OCT1	A	82 b	79 d	65 c	65 c	55 c
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	OCT1	A					
2	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	OCT1	A					
2	AMS	100	SG	2.5	lb/a	2.5	lb/a	OCT1	A					
2	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D					
2	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D					
2	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D					
3	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	OCT1	A	96 a	90 bc	84 b	81 b	83 b
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	OCT1	A					
3	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	OCT1	A					
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	OCT1	A					
3	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E					
3	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E					
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E					
4	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	NOV1	B	99 a	98 ab	96 a	96 a	92 ab
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	NOV1	B					
4	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	NOV1	B					
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	NOV1	B					
4	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D					
4	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D					
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D					
5	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	NOV1	B	99 a	99 a	98 a	96 a	97 a
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	NOV1	B					
5	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	NOV1	B					
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	NOV1	B					
5	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E					
5	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E					
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E					
6	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	DEC1	C	89 ab	89 c	87 b	89 ab	91 ab
6	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	DEC1	C					
6	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	DEC1	C					
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	DEC1	C					
6	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D					
6	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D					
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D					
7	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	DEC1	C	97 a	94 abc	92 ab	91 a	96 a
7	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	DEC1	C					
7	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	DEC1	C					
7	AMS	100	SG	2.5	lb/a	2.5	lb/a	DEC1	C					
7	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E					
7	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E					
7	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E					
LSD (P=.05)										10.6	9.1	9.2	8.6	11.8
Replicate F										0.643	1.036	1.283	0.927	1.424
Replicate Prob(F)										0.5976	0.4005	0.3103	0.4477	0.2685
Treatment F										100.148	132.633	126.193	141.162	79.222
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Fall Applied Authority XL.

Trial ID: 11-YRC-FMC-Fall Location: Young Res. Center

Pest Code	ERICA-HR	ERICA-HR	ERICA-HR	ERICA-HR	ERICA-HR
Crop Code					
Rating Date	3-17-11	3-31-11	4-14-11	4-28-11	5-12-11
Rating Data Type	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent
Rating Timing	22 WA-A	24 WA-A	26 WA-A	28 WA-A	30 WA-A
Trt-Eval Interval					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
1	NONTREATED										0 b	0 c	0 c	0 b	0 b
2	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	OCT1	A		99 a	99 a	99 a	98 a	95 a
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	OCT1	A						
2	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	OCT1	A						
2	AMS	100	SG	2.5	lb/a	2.5	lb/a	OCT1	A						
2	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D						
2	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D						
2	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D						
3	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	OCT1	A		99 a	99 a	99 a	97 a	95 a
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	OCT1	A						
3	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	OCT1	A						
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	OCT1	A						
3	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E						
3	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E						
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E						
4	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	NOV1	B		99 a	99 a	98 ab	94 a	91 a
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	NOV1	B						
4	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	NOV1	B						
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	NOV1	B						
4	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D						
4	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D						
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D						
5	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	NOV1	B		99 a	99 a	99 a	96 a	96 a
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	NOV1	B						
5	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	NOV1	B						
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	NOV1	B						
5	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E						
5	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E						
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E						
6	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	DEC1	C		97 a	97 ab	96 ab	94 a	90 a
6	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	DEC1	C						
6	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	DEC1	C						
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	DEC1	C						
6	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D						
6	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D						
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D						
7	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	DEC1	C		99 a	96 b	95 b	94 a	90 a
7	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	DEC1	C						
7	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	DEC1	C						
7	AMS	100	SG	2.5	lb/a	2.5	lb/a	DEC1	C						
7	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E						
7	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E						
7	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E						
LSD (P=.05)										2.5	2.7	3.6	4.2	6.4	
Replicate F										1.000	0.298	1.347	2.236	0.948	
Replicate Prob(F)										0.4155	0.8267	0.2907	0.1191	0.4385	
Treatment F										1922.334	1637.472	902.442	640.042	266.349	
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001	

Means followed by same letter do not significantly differ (P=.05, LSD)



Fall Applied Authority XL.

Trial ID: 11-YRC-FMC-Fall

Location: Young Res. Center

Pest Code	ALLVI	ALLVI	AMASS
Crop Code			
Rating Date	3-17-11	3-31-11	5-12-11
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Timing	22 WA-A	24 WA-A	30 WA-A
Trt-Eval Interval			

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	NONTREATED									0 d	0 c	0 c
2	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	OCT1	A	53 c	47 b	20 b
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	OCT1	A			
2	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	OCT1	A			
2	AMS	100	SG	2.5	lb/a	2.5	lb/a	OCT1	A			
2	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D			
2	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D			
2	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D			
3	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	OCT1	A	60 bc	52 b	20 b
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	OCT1	A			
3	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	OCT1	A			
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	OCT1	A			
3	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E			
3	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E			
3	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E			
4	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	NOV1	B	62 bc	45 b	18 b
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	NOV1	B			
4	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	NOV1	B			
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	NOV1	B			
4	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D			
4	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D			
4	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D			
5	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	NOV1	B	75 a	70 a	30 a
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	NOV1	B			
5	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	NOV1	B			
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	NOV1	B			
5	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E			
5	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E			
5	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E			
6	AUTHORITY XL	70	WG	0.14	lb ai/a	3.2	oz/a	DEC1	C	55 c	60 ab	3 c
6	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	DEC1	C			
6	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	DEC1	C			
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	DEC1	C			
6	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V1-V2	D			
6	ANTHEM	2.15	SE	0.134	lb ai/a	8	fl oz/a	V1-V2	D			
6	AMS	100	SG	2.5	lb/a	2.5	lb/a	V1-V2	D			
7	AUTHORITY XL	70	WG	0.175	lb ai/a	4	oz/a	DEC1	C	69 ab	77 a	0 c
7	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	DEC1	C			
7	RAGE D-TECH	4.06	EC	0.51	lb ae/a	16	fl oz/a	DEC1	C			
7	AMS	100	SG	2.5	lb/a	2.5	lb/a	DEC1	C			
7	ROUNDUP POWERMAX	4.5	SL	1.13	lb ae/a	32	fl oz/a	V2-V4	E			
7	CADET	0.91	EC	0.00427	lb ai/a	0.6	fl oz/a	V2-V4	E			
7	AMS	100	SG	2.5	lb/a	2.5	lb/a	V2-V4	E			
LSD (P=.05)										8.8	17.2	8.3
Replicate F										0.374	0.283	0.311
Replicate Prob(F)										0.7732	0.8370	0.8175
Treatment F										71.408	20.075	18.591
Treatment Prob(F)										0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

## Trial Comments

1. Protocol: FMC (sulf.soy.10.JPR.06)
2. Ratings: WC at 22, 24, 26, 28, and 30 WA-A.
3. Plant soybean at 30 WA-A.
4. Yield required.
5. Ratings at 22 WA-A on 3-17-2011 the ERICA-HR was most dense in last tier, very low densities in first tier, wild garlic spotty throughout.

Fall Applied Authority XL.

Trial ID: 11-YRC-FMC-Fall      Location: Young Res. Center

6. WA-A = Weeks after application A.  
ERICA-HR = Herbicide-resistant marestail (glyphosate).
7. Harvested 10-12-11, (2) 30 inch rows by 26.5 ft.