

Common Waterhemp Control with Valor.

Project Code: 07-50W-S60 Location: Belleville Research Center
Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
Trial Status: Final Updated: 1-23-08

Objective:

Determine the fit of Valor based products to control glyphosate-resistant waterhemp in soybean.

Weed Code	Common Name	Scientific Name
1. SETFA	foxtail, giant	Setaria faberi Herrm.
2. AMBTR	ragweed, giant	Ambrosia trifida L.
3. AMATA	waterhemp, common	Amaranthus rudis Sauer
4. CYPES	nutsedge, yellow	Cyperus esculentus L.
5. IPOHE	morningglory, ivyleaf	Ipomoea hederacea (L.) Jacq.
6. IPOLA	morningglory, pitted	Ipomoea lacunosa L.

Crop 1:	GLXMA soybean	Variety:	Asgrow 4404 RR/STS
Planting Method:	Seeded	Planting Date:	6-3-07
Rate:	75 lb/A	Depth:	1.0 IN
Row Spacing:	30 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	27 FT	Reps:	4
Tillage Type:	Reduced-Till	Study Design:	Randomized complete block		
Previous Crop, Year:	ZEAMX, 2006				
Field Prep./Maintenance:	N 0 LB/A, P205 0 LB/A, K20 100 LB/A				

Soil Name:	Weir	% OM:	2.2	pH:	6.5	CEC:	11
Texture:	Silt loam	Fert. Level:	Pl: 97 LB/A,	K:	296 LB/A		

APPLICATION DESCRIPTION

	A	B
Application Date:	6-4-07	6-21-07
Time of Day:	7:30	7:00
Application Method:	Spray	Spray
Application Timing:	PRE	V1-V2
Applic. Placement:	BROSIO	BROFOL
Air Temp., Unit:	70 F	74 F
% Relative Humidity:	92	80
Wind Velocity, Unit:	5-7 MPH	0 MPH
Dew Presence (Y/N):		Y
Soil Moisture:	NORMAL	NORMAL
% Cloud Cover:	0	0

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	GLXMA NA	GLXMA V1-V2
Height, Unit:	NA NA	3-5 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code:		SETFA
Stage(leaves):		2-4
Height(inches):		2-4
Density:		Medium
Weed 2 Code:		AMBTR
Stage(leaves):		2-10
Height(inches):		1-5
Density:		Medium
Weed 3 Code:		AMATA
Stage(leaves):		4-10
Height(inches):		1-3
Density:		Medium
Weed 4 Code:		CYPES
Stage(leaves):		3-10
Height(inches):		3-5
Density:		Medium
Weed 5 Code:		IPOSS
Stage(leaves):		3-6
Height(inches):		1-3
Density:		Medium

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	CO2 sprayer	CO2 sprayer
Operating Pressure:	40 PSI	40 PSI
Nozzle Type:	Flat fan	Flat fan
Nozzle Size:	XR 8002	XR 8002
Boom Length, Unit:	7.5 FT	7.5 FT
Spray Volume, Unit:	15 GPA	15 GPA

NOTES:

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Weed Code

Crop Code

Rating Data Type

Rating Unit

Rating Date

Trt-Eval Interval

GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
Moisture	Yield	Injury	Injury	Injury	Injury
Percent	bu/A	Percent	Percent	Percent	Percent
10-21-07	10-21-07	6-18-07	7-5-07	7-19-07	8-16-07
		14 DA-A	14 DA-B	28 DA-B	56 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code						
1	NONTREATED									11.9 a	19 c	0 a	0 b	0 a	0 a
2	VALOR SX	51	WG	0.096	lb ai/a	3	oz/a	PRE	A	11.4 b	57 ab	0 a	0 b	0 a	0 a
2	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B						
2	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B						
3	VALOR XLT	40.3	WG			3	oz/a	PRE	A	11.4 b	54 ab	0 a	0 b	0 a	0 a
3	->VALOR SX	51	WG	0.056	lb ai/a			PRE	A						
3	->CLASSIC	25	WG	0.0194	lb ai/a			PRE	A						
3	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B						
3	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B						
4	VALOR XLT	40.3	WG			4	oz/a	PRE	A	11.3 b	56 ab	0 a	0 b	0 a	0 a
4	->VALOR SX	51	WG	0.075	lb ai/a			PRE	A						
4	->CLASSIC	25	WG	0.0258	lb ai/a			PRE	A						
4	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B						
4	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B						
5	VALOR XLT	40.3	WG			5	oz/a	PRE	A	11.3 b	58 a	0 a	1 b	0 a	0 a
5	->VALOR SX	51	WG	0.093	lb ai/a			PRE	A						
5	->CLASSIC	25	WG	0.0322	lb ai/a			PRE	A						
5	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B						
5	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B						
6	CANOPY	75	WG	0.164	lb ai/a	3.5	oz/a	PRE	A	11.5 b	51 b	0 a	0 b	0 a	0 a
6	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B						
6	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B						
7	GANGSTER FR	84	WG	0.0315	lb ai/a	0.6	oz/a	PRE	A	11.5 b	61 a	0 a	0 b	0 a	0 a
7	GANGSTER V	51	WG	0.096	lb ai/a	3	oz/a	PRE	A						
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B						
7	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B						
8	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	PRE	A	11.2 b	58 a	0 a	0 b	0 a	0 a
8	INTRRO	4	L	1	lb ai/a	1	qt/a	PRE	A						
8	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B						
8	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B						
9	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	PRE	A	11.3 b	57 ab	0 a	4 a	0 a	0 a
9	INTRRO	4	L	1	lb ai/a	1	qt/a	V1-V2	B						
9	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B						
9	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B						
LSD (P=.05)										0.38	6.5	0.0	1.4	0.0	0.0
Replicate F										2.756	1.805	0.000	1.344	0.000	0.000
Replicate Prob(F)										0.0645	0.1731	1.0000	0.2838	1.0000	1.0000
Treatment F										2.501	31.868	0.000	6.802	0.000	0.000
Treatment Prob(F)										0.0393	0.0001	1.0000	0.0001	1.0000	1.0000

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

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Weed Code	SETFA	SETFA	SETFA	SETFA	AMBTR	AMBTR	AMBTR	AMBTR
Crop Code	Control	Control	Control	Control	Control	Control	Control	Control
Rating Data Type	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit	6-18-07	7-5-07	7-19-07	8-16-07	6-18-07	7-5-07	7-19-07	8-16-07
Rating Date	14 DA-A	14 DA-B	28 DA-B	56 DA-B	14 DA-A	14 DA-B	28 DA-B	56 DA-B
Trt-Eval Interval								

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code								
1	NONTREATED									0 c	0 c	0 c	0 c	0 d	0 c	0 c	0 d
2	VALOR SX	51	WG	0.096	lb ai/a	3	oz/a	PRE	A	18 bc	99 a	98 a	98 a	33 bc	99 a	98 a	95 ab
2	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B								
2	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B								
3	VALOR XLT	40.3	WG			3	oz/a	PRE	A	40 b	99 a	97 a	98 a	20 cd	99 a	99 a	97 ab
3	->VALOR SX	51	WG	0.056	lb ai/a			PRE	A								
3	->CLASSIC	25	WG	0.0194	lb ai/a			PRE	A								
3	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B								
3	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B								
4	VALOR XLT	40.3	WG			4	oz/a	PRE	A	33 b	99 a	98 a	98 a	47 ab	99 a	98 a	96 ab
4	->VALOR SX	51	WG	0.075	lb ai/a			PRE	A								
4	->CLASSIC	25	WG	0.0258	lb ai/a			PRE	A								
4	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B								
4	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B								
5	VALOR XLT	40.3	WG			5	oz/a	PRE	A	23 bc	99 a	98 a	98 a	40 abc	99 a	99 a	98 a
5	->VALOR SX	51	WG	0.093	lb ai/a			PRE	A								
5	->CLASSIC	25	WG	0.0322	lb ai/a			PRE	A								
5	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B								
5	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B								
6	CANOPY	75	WG	0.164	lb ai/a	3.5	oz/a	PRE	A	48 b	97 b	92 b	85 b	55 ab	98 b	95 b	86 c
6	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B								
6	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B								
7	GANGSTER FR	84	WG	0.0315	lb ai/a	0.6	oz/a	PRE	A	0 c	99 a	98 a	98 a	60 a	99 a	99 a	98 a
7	GANGSTER V	51	WG	0.096	lb ai/a	3	oz/a	PRE	A								
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B								
7	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B								
8	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	PRE	A	84 a	99 a	98 a	98 a	53 ab	99 a	98 a	93 b
8	INTRRO	4	L	1	lb ai/a	1	qt/a	PRE	A								
8	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B								
8	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B								
9	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	PRE	A	40 b	99 a	99 a	99 a	50 ab	99 a	98 a	97 ab
9	INTRRO	4	L	1	lb ai/a	1	qt/a	V1-V2	B								
9	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B								
9	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B								
LSD (P=.05)										31.8	0.8	1.9	3.4	26.1	0.9	1.5	4.9
Replicate F										3.445	1.000	1.188	0.838	5.010	0.947	1.944	1.280
Replicate Prob(F)										0.0326	0.4098	0.3355	0.4864	0.0085	0.4337	0.1494	0.3037
Treatment F										5.691	13371.944	2372.031	760.616	4.710	11081.096	3931.253	367.359
Treatment Prob(F)										0.0004	0.0001	0.0001	0.0001	0.0018	0.0001	0.0001	0.0001

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

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Project Code: 07-50W-S60 Location: Belleville Research Center
Investigator: Bryan Young

Weed Code	AMATA	AMATA	AMATA	AMATA	CYPES	CYPES	CYPES
Crop Code							
Rating Data Type	Control	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	6-18-07	7-5-07	7-19-07	8-16-07	7-5-07	7-19-07	8-16-07
Trt-Eval Interval	14 DA-A	14 DA-B	28 DA-B	56 DA-B	14 DA-B	28 DA-B	56 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code							
1	NONTREATED									0 c	0 c	0 c	0 c	0 d	0 e	0 d
2	VALOR SX	51	WG	0.096	lb ai/a	3	oz/a	PRE	A	92 a	99 a	99 a	99 a	93 bc	78 d	78 c
2	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B							
2	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B							
3	VALOR XLT	40.3	WG			3	oz/a	PRE	A	84 a	99 a	99 a	99 a	91 c	80 cd	80 c
3	->VALOR SX	51	WG	0.056	lb ai/a			PRE	A							
3	->CLASSIC	25	WG	0.0194	lb ai/a			PRE	A							
3	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B							
3	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B							
4	VALOR XLT	40.3	WG			4	oz/a	PRE	A	82 a	99 a	99 a	99 a	97 a	91 ab	90 ab
4	->VALOR SX	51	WG	0.075	lb ai/a			PRE	A							
4	->CLASSIC	25	WG	0.0258	lb ai/a			PRE	A							
4	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B							
4	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B							
5	VALOR XLT	40.3	WG			5	oz/a	PRE	A	97 a	99 a	99 a	99 a	97 a	95 a	94 a
5	->VALOR SX	51	WG	0.093	lb ai/a			PRE	A							
5	->CLASSIC	25	WG	0.0322	lb ai/a			PRE	A							
5	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B							
5	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B							
6	CANOPY	75	WG	0.164	lb ai/a	3.5	oz/a	PRE	A	43 b	99 b	89 b	85 b	94 abc	85 bcd	85 bc
6	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B							
6	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B							
7	GANGSTER FR	84	WG	0.0315	lb ai/a	0.6	oz/a	PRE	A	95 a	99 a	99 a	99 a	97 a	96 a	95 a
7	GANGSTER V	51	WG	0.096	lb ai/a	3	oz/a	PRE	A							
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B							
7	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B							
8	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	PRE	A	97 a	99 a	99 a	99 a	94 ab	84 bcd	85 bc
8	INTRRO	4	L	1	lb ai/a	1	qt/a	PRE	A							
8	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B							
8	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B							
9	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	PRE	A	92 a	99 a	99 a	99 a	96 ab	90 abc	90 ab
9	INTRRO	4	L	1	lb ai/a	1	qt/a	V1-V2	B							
9	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B							
9	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B							
LSD (P=.05)										21.6	0.2	3.4	1.8	3.7	9.6	8.6
Replicate F										3.143	1.000	0.876	0.764	0.853	0.597	0.923
Replicate Prob(F)										0.0438	0.4098	0.4674	0.5255	0.4788	0.6230	0.4448
Treatment F										19.831	156718.016	773.906	2697.368	627.935	81.208	101.301
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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

Common Waterhemp Control with Valor.

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Investigator: Bryan Young

Weed Code	IPOSS	IPOSS	IPOSS
Crop Code			
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Date	7-5-07	7-19-07	8-16-07
Trt-Eval Interval	14 DA-B	28 DA-B	56 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code			
1	NONTREATED									0 d	0 f	0 f
2	VALOR SX	51	WG	0.096	lb ai/a	3	oz/a	PRE	A	95 b	93 bc	93 abc
2	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B			
2	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B			
3	VALOR XLT	40.3	WG			3	oz/a	PRE	A	96 b	89 d	88 d
3	->VALOR SX	51	WG	0.056	lb ai/a			PRE	A			
3	->CLASSIC	25	WG	0.0194	lb ai/a			PRE	A			
3	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B			
3	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B			
4	VALOR XLT	40.3	WG			4	oz/a	PRE	A	97 ab	91 cd	91 cd
4	->VALOR SX	51	WG	0.075	lb ai/a			PRE	A			
4	->CLASSIC	25	WG	0.0258	lb ai/a			PRE	A			
4	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B			
4	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B			
5	VALOR XLT	40.3	WG			5	oz/a	PRE	A	98 ab	97 ab	96 ab
5	->VALOR SX	51	WG	0.093	lb ai/a			PRE	A			
5	->CLASSIC	25	WG	0.0322	lb ai/a			PRE	A			
5	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B			
5	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B			
6	CANOPY	75	WG	0.164	lb ai/a	3.5	oz/a	PRE	A	86 c	79 e	80 e
6	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B			
6	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B			
7	GANGSTER FR	84	WG	0.0315	lb ai/a	0.6	oz/a	PRE	A	99 a	98 a	97 a
7	GANGSTER V	51	WG	0.096	lb ai/a	3	oz/a	PRE	A			
7	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B			
7	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B			
8	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	PRE	A	96 b	89 d	88 d
8	INTRRO	4	L	1	lb ai/a	1	qt/a	PRE	A			
8	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B			
8	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B			
9	VALOR SX	51	WG	0.064	lb ai/a	2	oz/a	PRE	A	96 ab	91 cd	92 bcd
9	INTRRO	4	L	1	lb ai/a	1	qt/a	V1-V2	B			
9	ROUNDUP W-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	V1-V2	B			
9	AMS	100	DRY	2.5	lb ai/a	2.5	lb/a	V1-V2	B			
LSD (P=.05)										2.4	4.0	4.3
Replicate F										1.474	5.412	4.836
Replicate Prob(F)										0.2468	0.0055	0.0090
Treatment F										1544.948	510.076	422.186
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: Valent (MD64.07).
2. Ratings: CI/WC at 14 da PRE and prior to POST; CI/WC 14, 28 + 56 da POST.
3. Yield.
4. DA-A and DA-B = Days after PRE and V1-V2 applications, respectively.
Ratings on 6-18-07 at 14 days after the PRE (A) were 3 days prior to the V1-V2 (B) application.
Ratings on 7-5-07 at 14 days after the V1-V2 (B) application were also 31 days after the PRE (A) application.
Ratings on 7-19-07 at 28 days after the V1-V2 (B) application were also 45 days after the PRE (A) application.
Ratings on 8-16-07 at 56 days after the V1-V2 (B) application were also 73 days after the PRE (A) application.
5. IPOSS was IPOHE (ivyleaf morningglory) and IPOLA (pitted morningglory).
6. Following the PRE application only 0.08 inches of rainfall was recorded during the next 20 days.
7. Harvested 10-21-07, (2) 30 inch rows by 24 feet.