

Weed Management in Conventional Soybean.

Project Code: 03-51E-S50 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 11-4-03

Objective:

Evaluate Valor plus FirstRate applied at full rates in conventional soybean.

Weed Code	Common Name	Scientific Name
1. SETFA	foxtail, giant	Setaria faberi Herrm.
2. CYPES	nutsedge, yellow	Cyperus esculentus L.
3. XANST	cocklebur, common	Xanthium strumarium L.
4. AMBTR	ragweed, giant	Ambrosia trifida L.
5. AMATA	waterhemp, common	Amaranthus rudis Sauer
6. IPOSS	morningglory, species	Ipomoea sp.

Crop 1: GLXMA soybean Variety: Asgrow 4403 RR
 Planting Method: Seeded Planting Date: 6-20-03
 Rate: 75 lb/A Depth: 1.0 IN
 Row Spacing: 30 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 27 FT Reps: 3
 Tillage Type: Reduced-Till Study Design: Randomized complete block
 Previous Crop, Year: GLXMA, 2002

Field Prep./Maintenance: N 0 LB/A, P205 50 LB/A, K20 200 LB/A

Soil Name: Weir % OM: 1.7 pH: 7.1 CEC: 11
 Texture: Silt loam Fert. Level: P1: 84 LB/A, K: 172 LB/A

APPLICATION DESCRIPTION

	A	B	C
Application Date:	6-9-03	7-3-03	7-10-03
Time of Day:	13:30	10:00	19:00
Application Method:	Spray	Spray	Spray
Application Timing:	PRE	2-4"W	4-6"W
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	80 F	88 F	86 F
% Relative Humidity:	34	50	42
Wind Velocity, Unit:	0-5 MPH	3 MPH	5 MPH
Soil Moisture:	NORMAL	NORMAL	ABONOR

CROP STAGE AT EACH APPLICATION

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

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code:		SETFA	SETFA
Stage(leaves):		1-4	3-5
Height(inches):		3-5	4-6
Density:		Low	Low
Weed 2 Code:		CYPES	CYPES
Stage(leaves):		2-5	2-5
Height(inches):		3-5	3-6
Density:		Low	Low
Weed 3 Code:		XANST	XANST
Stage(leaves):		3-5	4-7
Height(inches):		2-4	4-6
Density:		Medium	Medium

Weed 4 Code:	AMBTR	AMBTR
Stage(leaves):	2-6	4-8
Height(inches):	2-6	4-8
Density:	Medium	Medium
Weed 5 Code:	AMATA	AMATA
Stage(leaves):	2-6	5-10
Height(inches):	1-2	4-6
Density:	Medium	Medium
Weed 6 Code:	IPOSS	IPOSS
Stage(leaves):	0-3	1-5
Height(inches):	1-3	3-6
Density:	Low	Low

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	40 PSI	40 PSI	40 PSI
Nozzle Type:	Flat fan	Flat fan	Flat fan
Nozzle Size:	8003	8002	8002
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

NOTES:

Harvested Oct-30-03, (2) 30 inch rows by 24 ft.

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Weed Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	SETFA	SETFA	CYPES	CYPES	XANST	XANST	XANST	AMBTR	AMBTR	AMBTR
Crop Code	Yield	Injury	Injury	Injury	Injury	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
Rating Data Type	bu/A	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit	10-30-03	7-7-03	7-7-03	7-7-03	7-7-03	7-7-03	7-7-03	7-7-03	7-7-03	7-7-03	7-7-03	7-7-03	7-7-03	7-7-03	7-7-03
Rating Date	28 DA-A	14 DAT	28 DAT	56 DAT	28 DA-A	28 DAT	28 DA-A	28 DAT	28 DA-A	28 DAT	56 DAT	28 DA-A	28 DAT	56 DAT	
Trt-Eval Interval															

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	Yield	Injury	Injury	Injury	Injury	Control	Control	Control	Control	Control	Control	Control	Control	Control	
1	NONTREATED									6	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	VALOR	51	WG	0.078	LB A/A	2.45	OZ/A	PRE	A	20	0	0	0	0	83	63	70	53	96	78	40	98	82	47
2	FIRSTRATE	84	WG	0.025	LB A/A	0.476	OZ/A	PRE	A															
3	VALOR	51	WG	0.094	LB A/A	2.95	OZ/A	PRE	A	22	0	0	0	0	89	88	88	78	98	91	67	96	90	67
3	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A															
4	VALOR	51	WG	0.078	LB A/A	2.45	OZ/A	PRE	A	37	0	2	0	0	85	99	81	91	83	96	94	88	97	91
4	FIRSTRATE	84	WG	0.012	LB A/A	0.229	OZ/A	PRE	A															
4	PHOENIX	2	EC	0.125	LB A/A	8	FL OZ/A	4-6"	W C															
4	FIRSTRATE	84	WG	0.012	LB A/A	0.229	OZ/A	4-6"	W C															
4	SELECT	2	EC	0.125	LB A/A	8	FL OZ/A	4-6"	W C															
4	HI-PER-OIL	100	LIQ	0.312	% V/V	2.5	PT/100 GAL	4-6"	W C															
5	VALOR	51	WG	0.078	LB A/A	2.45	OZ/A	PRE	A	30	0	5	0	0	89	99	89	80	91	95	88	96	94	86
5	FIRSTRATE	84	WG	0.025	LB A/A	0.476	OZ/A	PRE	A															
5	PHOENIX	2	EC	0.125	LB A/A	8	FL OZ/A	4-6"	W C															
5	SELECT	2	EC	0.125	LB A/A	8	FL OZ/A	4-6"	W C															
5	HI-PER-OIL	100	LIQ	0.312	% V/V	2.5	PT/100 GAL	4-6"	W C															
6	PENDIMAX	3.3	EC	1.36	LB A/A	3.3	PT/A	PRE	A	25	10	5	0	0	99	87	91	89	99	98	95	98	97	93
6	FIRSTRATE	84	WG	0.016	LB A/A	0.3	OZ/A	2-4"	W B															
6	PHOENIX	2	EC	0.094	LB A/A	6	FL OZ/A	2-4"	W B															
6	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	2-4"	W B															
6	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	2-4"	W B															
7	PENDIMAX	3.3	EC	1.0	LB A/A	2.42	PT/A	PRE	A	22	0	0	0	0	98	93	96	88	98	92	83	98	92	87
7	VALOR	51	WG	0.094	LB A/A	2.95	OZ/A	PRE	A															
7	FIRSTRATE	84	WG	0.032	LB A/A	0.61	OZ/A	PRE	A															
8	PENDIMAX	3.3	EC	1.0	LB A/A	2.42	PT/A	PRE	A	27	0	0	0	0	99	99	98	88	99	96	77	98	94	70
8	VALOR	51	WG	0.094	LB A/A	2.95	OZ/A	PRE	A															
8	FIRSTRATE	84	WG	0.032	LB A/A	0.61	OZ/A	PRE	A															
8	SELECT	2	EC	0.094	LB A/A	6	FL OZ/A	4-6"	W C															
8	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	4-6"	W C															
9	BOUNDARY	6.5	EC	1.46	LB A/A	1.8	PT/A	PRE	A	23	0	5	2	0	99	98	98	90	17	97	93	33	99	99
9	FLEXSTAR	1.88	EC	0.294	LB A/A	20	FL OZ/A	4-6"	W C															
9	DESTINY MSO	100	LIQ	1.0	% V/V	1	% V/V	4-6"	W C															
9	28% UAN	100	LIQ	2.0	% V/V	2	% V/V	4-6"	W C															
LSD (P=.05)										7.5	0.0	1.7	1.7	0.0	20.0	12.0	21.8	18.6	19.5	9.2	19.9	9.9	7.5	20.9

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Weed Code						SETFA	SETFA	CYPES	CYPES	XANST	XANST	XANST	AMBTR	AMBTR	AMBTR			
Crop Code						GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	Control	Control	Control	Control	Control			
Rating Data Type						Yield	Injury	Injury	Injury	Injury	Percent	Percent	Percent	Percent	Percent			
Rating Unit						bu/A	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent			
Rating Date						10-30-03	7-7-03				7-7-03	7-7-03	7-7-03	7-7-03	7-7-03			
Trt-Eval Interval							28 DA-A	14 DAT	28 DAT	56 DAT	28 DA-A	28 DAT	28 DA-A	28 DAT	56 DAT			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Prod Rate	Prod Unit	Grow Stg	Appl Code										
Replicate F				0.173	0.000	1.000	1.000	0.000	5.687	1.710	4.632	3.898	1.745	4.923	2.351	1.252	3.447	2.032
Replicate Prob(F)				0.8426	1.0000	0.3897	0.3897	1.0000	0.0136	0.2122	0.0259	0.0418	0.2063	0.0216	0.1273	0.3124	0.0569	0.1636
Treatment F				10.840	0.000	19.000	1.000	0.000	22.306	65.264	18.128	23.172	35.186	104.883	22.814	118.035	156.404	19.966
Treatment Prob(F)				0.0001	1.0000	0.0001	0.4726	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Weed Code	AMATA	AMATA	IPOSS	IPOSS
Crop Code				
Rating Data Type	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent
Rating Date	7-7-03		7-7-03	
Trt-Eval Interval	28 DA-A	28 DAT	28 DA-A	28 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code				
1	NONTREATED									0	0	0	0
2	VALOR	51	WG	0.078	LB A/A	2.45	OZ/A	PRE	A	90	58	95	78
2	FIRSTRATE	84	WG	0.025	LB A/A	0.476	OZ/A	PRE	A				
3	VALOR	51	WG	0.094	LB A/A	2.95	OZ/A	PRE	A	90	58	92	65
3	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A				
4	VALOR	51	WG	0.078	LB A/A	2.45	OZ/A	PRE	A	88	94	90	89
4	FIRSTRATE	84	WG	0.012	LB A/A	0.229	OZ/A	PRE	A				
4	PHOENIX	2	EC	0.125	LB A/A	8	FL OZ/A	4-6"	W C				
4	FIRSTRATE	84	WG	0.012	LB A/A	0.229	OZ/A	4-6"	W C				
4	SELECT	2	EC	0.125	LB A/A	8	FL OZ/A	4-6"	W C				
4	HI-PER-OIL	100	LIQ	0.312	% V/V	2.5	PT/100 GAL	4-6"	W C				
5	VALOR	51	WG	0.078	LB A/A	2.45	OZ/A	PRE	A	87	98	93	80
5	FIRSTRATE	84	WG	0.025	LB A/A	0.476	OZ/A	PRE	A				
5	PHOENIX	2	EC	0.125	LB A/A	8	FL OZ/A	4-6"	W C				
5	SELECT	2	EC	0.125	LB A/A	8	FL OZ/A	4-6"	W C				
5	HI-PER-OIL	100	LIQ	0.312	% V/V	2.5	PT/100 GAL	4-6"	W C				
6	PENDIMAX	3.3	EC	1.36	LB A/A	3.3	PT/A	PRE	A	99	96	95	95
6	FIRSTRATE	84	WG	0.016	LB A/A	0.3	OZ/A	2-4"	W B				
6	PHOENIX	2	EC	0.094	LB A/A	6	FL OZ/A	2-4"	W B				
6	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	2-4"	W B				
6	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	2-4"	W B				
7	PENDIMAX	3.3	EC	1.0	LB A/A	2.42	PT/A	PRE	A	88	42	93	68
7	VALOR	51	WG	0.094	LB A/A	2.95	OZ/A	PRE	A				
7	FIRSTRATE	84	WG	0.032	LB A/A	0.61	OZ/A	PRE	A				
8	PENDIMAX	3.3	EC	1.0	LB A/A	2.42	PT/A	PRE	A	89	50	95	73
8	VALOR	51	WG	0.094	LB A/A	2.95	OZ/A	PRE	A				
8	FIRSTRATE	84	WG	0.032	LB A/A	0.61	OZ/A	PRE	A				
8	SELECT	2	EC	0.094	LB A/A	6	FL OZ/A	4-6"	W C				
8	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	4-6"	W C				
9	BOUNDARY	6.5	EC	1.46	LB A/A	1.8	PT/A	PRE	A	96	98	63	68
9	FLEXSTAR	1.88	EC	0.294	LB A/A	20	FL OZ/A	4-6"	W C				
9	DESTINY MSO	100	LIQ	1.0	% V/V	1	% V/V	4-6"	W C				
9	28% UAN	100	LIQ	2.0	% V/V	2	% V/V	4-6"	W C				
LSD (P=.05)										7.2	17.8	18.1	16.1
Replicate F										1.738	2.499	1.636	0.375
Replicate Prob(F)										0.2076	0.1136	0.2256	0.6931
Treatment F										162.381	32.153	27.207	26.581
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001

Weed Management in Conventional Soybean.

Project Code: 03-51E-S50 Location: Belleville Research Center

Trial Comments

1. Protocol: Valent, Dow, and Syngenta.
2. Ratings: CI 14, 28 and 56 DAT; WC 28 and 56 DAT.
3. Yield.
4. DAT = days after postemergence application. DA-A = days after PRE application.
14 days after 2-4"W and 4-6"W was on 7-17-03 and 7-24-03, respectively.
28 days after 2-4"W and 4-6"W was on 7-31-03 and 8-4-03, respectively.
56 days after 2-4"W and 4-6"W was on 8-28-03 and 9-1-03, respectively.
5. For PRE only treatments, ratings on 8-7-03 were 59 days after PRE applications.
6. At 28 DAT, ratings for SETFA and CYPES are questionable.
At 56 DAT, plots were overgrown with XANST and AMBTR making rating of smaller weeds difficult.