

Control of Winter Annual Grasses with Fall Applications of Soybean Herbicides.

02-2B-E100

OBJECTIVE: Evaluate various fall applied soybean herbicides for control of winter annual grasses.

SUMMARY: This study was designed to evaluate winter annual grass control from fall applied herbicide treatments prior to planting no-till soybean. Excessive rainfall in May delayed soybean planting until May 30. Treatments that included glyphosate (Roundup UltraMax, Backdraft, Extreme) or Valor controlled at least 90% of little barley on March 7. Little barley control in March from Command Xtra increased as the rate of Command Xtra increased, but did not exceed 87%. Summer annual weed control was generally poor from fall applied treatments except the high rate of Command Xtra (19 oz/A) plus Express and Canopy XL plus Express which provided at least 90% control of barnyardgrass at planting. Canopy XL plus Express and Roundup UltraMax provided the greatest overall weed control at planting.

HERBICIDES	WEEDS	CROP
AUTHORITY 75 WG	barley, little	soybean
BACKDRAFT 1.5 SL	barnyardgrass	
CANOPY XL 56.3 WG	foxtail, giant	
CLASSIC 25 WG	garlic, wild	
COMMAND 3 ME	henbit	
COMMAND XTRA (CO-PACK)	ragweed, common	
EXPRESS 75 WG	ragweed, giant	
EXTREME 2.17 SL	smartweed, Pennsylvania	
ROUNDUP ULTRA MAX 3.7 SL	waterhemp, common	
SALVO 5 EC		
SULFENTRAZONE 4 F		
TOUCHDOWN 3 SL		
VALOR 51 WG		

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Control of Winter Annual Grasses with Fall Applications of Soybean Herbicides.

Project Code: 02-2B-E100 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 10-31-02

Objective:

Evaluate various fall applied soybean herbicides for control of winter annual grasses.

Weed Code	Common Name	Scientific Name
1.	HORPU barley, little	Hordeum pusillum Nutt.
2.	LAMAM henbit	Lamium amplexicaule L.
3.	ALLVI garlic, wild	Allium vineale L.
4.	SETFA foxtail, giant	Setaria faberi Herrm.
5.	ECHCG barnyardgrass	Echinochloa crus-galli (L.) Beauv.
6.	AMBEL ragweed, common	Ambrosia artemisiifolia L.
7.	AMBTR ragweed, giant	Ambrosia trifida L.
8.	POLPY smartweed, Pennsylvania	Polygonum pennsylvanicum L.
9.	AMATA waterhemp, common	Amaranthus rudis Sauer

Crop 1: GLXMA soybean Variety: Asgrow 4602 RR
 Planting Method: Seeded Planting Date: 5-30-02
 Rate: 75 lb/A Depth: 1.0 IN
 Row Spacing: 30 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 28 FT Reps: 3
 Tillage Type: No-Till Study Design: Randomized complete block
 Previous Crop, Year: ZEAMX, 2001

Field Prep./Maintenance: N 0 LB/A, P205 50 LB/A, K20 150 LB/A

Soil Name: Weir % OM: 1.5 pH: 6.4 CEC: 9
 Texture: Silt loam Fert. Level: P1: 87 LB/A, K: 259 LB/A

APPLICATION DESCRIPTION

A

Application Date: 10-31-01
 Time of Day: 8:00
 Application Method: Spray
 Application Timing: FALL
 Applic. Placement: BROFOL
 Air Temp., Unit: 56 F
 % Relative Humidity: 60
 Wind Velocity, Unit: 5 MPH
 Soil Moisture: BELNOR

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: GLXMA NA
 Height, Unit: NA NA

WEED STAGE AT EACH APPLICATION

A

Weed 1 Code: HORPU
 Stage(leaves): 0-2
 Height(inches): 2-3
 Density: Medium

Weed 2 Code: LAMAM
 Stage(leaves): 6-8
 Height(inches): 2-3
 Density: Medium

Weed 3 Code: ALLVI
 Stage(leaves): 3-4
 Height(inches): 3-8
 Density: Medium

APPLICATION EQUIPMENT

A

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

NOTES:

This study was not harvested.

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Weed Code	HORPU	HORPU	LAMAM	LAMAM	ALLVI	ALLVI	SETFA	ECHCG	AMBEL	AMBTR	POLPY	AMATA
Crop Code	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
Rating Data Type	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit	11-28-01	3-7-02	11-28-01	3-7-02	11-28-01	3-7-02	5-30-02	5-30-02	5-30-02	5-30-02	5-30-02	5-30-02
Rating Date	28 DA-A	127 DA-A	28 DA-A	127 DA-A	28 DA-A	127 DA-A	0 DAP	0 DAP	0 DAP	0 DAP	0 DAP	0 DAP
Trt-Eval Interval												

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	HORPU	HORPU	LAMAM	LAMAM	ALLVI	ALLVI	SETFA	ECHCG	AMBEL	AMBTR	POLPY	AMATA
1	NONTREATED									0	0	0	0	0	0	0	0	0	0	0	0
2	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	FALL	A	100	100	100	100	50	80	0	0	0	0	0	0
3	ROUNDUP ULTRA MAX	3.7	SL	0.578	LB AE/A	20	OZ/A	FALL	A	100	100	100	100	67	90	0	0	0	0	0	0
3	SALVO	5	EC	0.5	LB A/A	12.8	OZ/A	FALL	A												
4	TOUCHDOWN	3	SL	0.75	LB AE/A	32	OZ/A	FALL	A	100	100	100	100	33	60	0	0	0	0	0	0
5	BACKDRAFT	1.5	SL	0.9375	LB A/A	5	PT/A	FALL	A	100	100	100	100	77	93	0	0	0	0	0	0
5	SALVO	5	EC	0.5	LB A/A	12.8	OZ/A	FALL	A												
5	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	FALL	A												
5	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	FALL	A												
6	EXTREME	2.17	SL	0.8138	LB A/A	3	PT/A	FALL	A	100	100	100	100	92	87	38	30	33	13	13	10
6	SALVO	5	EC	0.5	LB A/A	12.8	OZ/A	FALL	A												
6	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	FALL	A												
6	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	FALL	A												
7	COMMAND XTRA (CO-PACK)									50	0	100	100	50	80	33	33	0	0	0	33
7	->COMMAND	3	ME	0.24	LB A/A	10.2	OZ/A	FALL	A												
7	->SULFENTRAZONE	4	F	0.12	LB A/A	3.84	OZ/A	FALL	A												
7	EXPRESS	75	WG	0.00469	LB A/A	0.1	OZ/A	FALL	A												
7	SALVO	5	EC	0.5	LB A/A	12.8	OZ/A	FALL	A												
7	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	FALL	A												
8	COMMAND XTRA (CO-PACK)									50	68	100	100	50	83	40	60	0	0	0	62
8	->COMMAND	3	ME	0.3	LB A/A	12.8	OZ/A	FALL	A												
8	->SULFENTRAZONE	4	F	0.15	LB A/A	4.8	OZ/A	FALL	A												
8	EXPRESS	75	WG	0.00469	LB A/A	0.1	OZ/A	FALL	A												
8	SALVO	5	EC	0.5	LB A/A	12.8	OZ/A	FALL	A												
8	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	FALL	A												
9	COMMAND XTRA (CO-PACK)									50	82	100	100	77	87	53	63	0	0	0	85
9	->COMMAND	3	ME	0.36	LB A/A	15.4	OZ/A	FALL	A												
9	->SULFENTRAZONE	4	F	0.18	LB A/A	5.76	OZ/A	FALL	A												
9	EXPRESS	75	WG	0.00469	LB A/A	0.1	OZ/A	FALL	A												
9	SALVO	5	EC	0.5	LB A/A	12.8	OZ/A	FALL	A												
9	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	FALL	A												

Weed Code	HORPU HORPU LAMAM LAMAM ALLVI ALLVI SETFA ECHCG AMBEL AMBTR POLPY AMATA																				
Crop Code																					
Rating Data Type	Control Control Control Control Control Control Control Control Control Control Control Control Control																				
Rating Unit	Percent Percent Percent Percent Percent Percent Percent Percent Percent Percent Percent Percent Percent																				
Rating Date	11-28-01 3-7-02 11-28-01 3-7-02 11-28-01 3-7-02 5-30-02 5-30-02 5-30-02 5-30-02 5-30-02 5-30-02																				
Trt-Eval Interval	28 DA-A 127 DA-A 28 DA-A 127 DA-A 28 DA-A 127 DA-A 0 DAP 0 DAP 0 DAP 0 DAP 0 DAP 0 DAP																				
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code												
10	COMMAND XTRA (CO-PACK)									100	87	100	100	63	87	78	93	38	33	27	60
10	->COMMAND	3	ME	0.45	LB A/A	19.2	OZ/A	FALL	A												
10	->SULFENTRAZONE	4	F	0.23	LB A/A	7.36	OZ/A	FALL	A												
10	EXPRESS	75	WG	0.00469	LB A/A	0.1	OZ/A	FALL	A												
10	SALVO	5	EC	0.5	LB A/A	12.8	OZ/A	FALL	A												
10	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	FALL	A												
11	CANOPY XL	56.3	WG			4.5	OZ/A	FALL	A	83	83	100	100	50	80	73	93	85	63	93	57
11	->CLASSIC	25	WG	0.0264	LB A/A			FALL	A												
11	->AUTHORITY	75	WG	0.132	LB A/A			FALL	A												
11	EXPRESS	75	WG	0.0078	LB A/A	0.166	OZ/A	FALL	A												
11	SALVO	5	EC	0.5	LB A/A	12.8	OZ/A	FALL	A												
11	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	FALL	A												
12	VALOR	51	WG	0.063	LB A/A	2	OZ/A	FALL	A	100	97	100	100	50	50	17	30	27	0	32	40
12	SALVO	5	EC	0.5	LB A/A	12.8	OZ/A	FALL	A												
12	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	FALL	A												
13	VALOR	51	WG	0.078	LB A/A	2.45	OZ/A	FALL	A	50	90	100	100	50	47	23	17	0	0	0	63
13	SALVO	5	EC	0.5	LB A/A	12.8	OZ/A	FALL	A												
13	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	FALL	A												
14	COMMAND XTRA (CO-PACK)									100	100	100	100	77	83	23	13	0	0	0	0
14	->COMMAND	3	ME	0.24	LB A/A	10.2	OZ/A	FALL	A												
14	->SULFENTRAZONE	4	F	0.12	LB A/A	3.84	OZ/A	FALL	A												
14	EXPRESS	75	WG	0.00469	LB A/A	0.1	OZ/A	FALL	A												
14	SALVO	5	EC	0.5	LB A/A	12.8	OZ/A	FALL	A												
14	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	FALL	A												
15	COMMAND XTRA (CO-PACK)									100	97	100	100	50	70	17	30	0	0	0	0
15	->COMMAND	3	ME	0.3	LB A/A	12.8	OZ/A	FALL	A												
15	->SULFENTRAZONE	4	F	0.15	LB A/A	4.8	OZ/A	FALL	A												
15	EXPRESS	75	WG	0.00469	LB A/A	0.1	OZ/A	FALL	A												
15	SALVO	5	EC	0.5	LB A/A	12.8	OZ/A	FALL	A												
15	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	FALL	A												
16	COMMAND XTRA (CO-PACK)									100	100	100	100	63	83	48	58	13	0	13	0
16	->COMMAND	3	ME	0.36	LB A/A	15.4	OZ/A	FALL	A												
16	->SULFENTRAZONE	4	F	0.18	LB A/A	5.76	OZ/A	FALL	A												
16	EXPRESS	75	WG	0.00469	LB A/A	0.1	OZ/A	FALL	A												
16	SALVO	5	EC	0.5	LB A/A	12.8	OZ/A	FALL	A												
16	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	FALL	A												
17	COMMAND XTRA (CO-PACK)									100	100	100	100	50	82	47	90	0	0	27	0
17	->COMMAND	3	ME	0.45	LB A/A	19.2	OZ/A	FALL	A												
17	->SULFENTRAZONE	4	F	0.23	LB A/A	7.36	OZ/A	FALL	A												
17	EXPRESS	75	WG	0.00469	LB A/A	0.1	OZ/A	FALL	A												
17	SALVO	5	EC	0.5	LB A/A	12.8	OZ/A	FALL	A												
17	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	FALL	A												

Weed Code	HORPU	HORPU	LAMAM	LAMAM	ALLVI	ALLVI	SETFA	ECHCG	AMBEL	AMBTR	POLPY	AMATA
Crop Code												
Rating Data Type	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	11-28-01	3-7-02	11-28-01	3-7-02	11-28-01	3-7-02	5-30-02	5-30-02	5-30-02	5-30-02	5-30-02	5-30-02
Trt-Eval Interval	28 DA-A	127 DA-A	28 DA-A	127 DA-A	28 DA-A	127 DA-A	0 DAP	0 DAP	0 DAP	0 DAP	0 DAP	0 DAP

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code												
18	CANOPY XL	56.3	WG			4.5	OZ/A	FALL	A	100	100	100	100	47	80	77	90	83	80	96	75
18	->CLASSIC	25	WG	0.0264	LB A/A			FALL	A												
18	->AUTHORITY	75	WG	0.132	LB A/A			FALL	A												
18	EXPRESS	75	WG	0.0078	LB A/A	0.166	OZ/A	FALL	A												
18	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	FALL	A												
19	VALOR	51	WG	0.063	LB A/A	2	OZ/A	FALL	A	100	100	100	100	47	17	33	23	27	23	20	82
19	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	FALL	A												
20	VALOR	51	WG	0.078	LB A/A	2.45	OZ/A	FALL	A	100	100	100	100	33	50	37	30	33	0	23	53
20	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	FALL	A												
LSD (P=.05)										10.7	13.8	0.0	0.0	43.4	31.5	48.5	52.5	30.4	29.0	38.5	49.9
Replicate F										1.000	0.256	0.000	0.000	1.584	0.689	2.759	1.962	1.555	1.983	1.681	1.322
Replicate Prob(F)										0.3774	0.7758	1.0000	1.0000	0.2183	0.5084	0.0761	0.1546	0.2244	0.1517	0.1998	0.2786
Treatment F										57.842	39.448	0.000	0.000	1.666	5.224	2.313	3.398	6.381	5.057	4.548	3.558
Treatment Prob(F)										0.0001	0.0001	1.0000	1.0000	0.0890	0.0001	0.0137	0.0007	0.0001	0.0001	0.0001	0.0004

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Project Code: 02-2B-E100 Location: Belleville Research Center

Trial Comments

1. Protocol: FMC (7-10 and 14-17); DuPont (11 and 18); BASF (5 and 6); Monsanto (2 and 3); Valent (12, 13, 19 and 20); and Syngenta (4).
2. Blanket application of Roundup Ultra Max + AMS at 40 oz/A + 2.0%v/v planned for 3 WAP applied on 6-11-02.
3. DA-A = days after FALL application. DAP = days after planting. 0 DAP = at planting.
4. Ratings and weed populations were variable from inconsistent residue cover from previous corn and winter annual weeds.