

Touchdown in Glyphosate-Resistant Soybean.

00-21N-M120

OBJECTIVE: Evaluate various treatments containing Touchdown for total postemergence weed control in glyphosate-resistant soybean.

SUMMARY: Soybean injury was 5% or less from all treatments except Touchdown plus Flexstar (9 to 10% injury) at 14 days after treatment (DAT). No soybean injury was observed at 28 DAT. All treatments controlled at least 90% of giant foxtail at 28 DAT. Common ragweed control was 85 to 97% from all treatments except Roundup Ultra plus AMS which provided only 77% control. All treatments controlled 87 to 92% of common cocklebur. Tank mixing Flexstar with Touchdown tended to increase control of common ragweed and ivyleaf morningglory.

Soybean yield ranged from 7 bu/A in nontreated plots to 44 bu/A. Similar soybean yield was observed in all herbicide treated plots except Touchdown at 1.5 pt/A, which yielded only 32 bu/A.

HERBICIDES

FLEXSTAR 1.88 EC
 GLYPHOMAX PLUS 3 SL
 ROUNDUP CUSTOM 4 SL
 ROUNDUP ULTRA 3 SL
 ROUNDUP ULTRA DRY 65 WG
 TOUCHDOWN 3 SL

WEEDS

COCKLEBUR, COMMON
 FOXTAIL, GIANT
 MORNINGGLORY, IVYLEAF
 RAGWEED, COMMON

CROP

SOYBEAN

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PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Touchdown in Glyphosate-Resistant Soybean.

Project Code: 00-21N-M120 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

Weed Code	Common Name	Scientific Name
1. SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2. AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
3. IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.
4. XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1:	GLXMA SOYBEAN	Variety:	AG 4301 RR/STS
Planting Method:	SEEDED	Planting Date:	May-5-00
Rate:	75 LB/A	Depth:	1.0 IN
Row Spacing:	30 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	30 FT	Reps:	3
Tillage Type:	REDUCED-TILL	Study Design:	RCB		
Previous Crop, Year:	ZEAMX, 1999	Fertilizer applied:	N 0 LB/A,	P ₂ O ₅ 50 LB/A,	K ₂ O 150 LB/A

Soil Name:	EBBERT	% OM:	2.6	pH:	5.7	CEC:	14
Texture:	SILT LOAM	P ₁ :	72 LB/A,	K:	351 LB/A		

APPLICATION DESCRIPTION

A
 Application Date: Jun-6-00
 Time of Day: 9:30
 Application Method: SPRAY
 Application Timing: 4-6"W
 Applic. Placement: BROFOL
 Air Temp., Unit: 61 F
 % Relative Humidity: 28
 Wind Velocity, Unit: 2-3 MPH
 Soil Moisture: NORMAL
 % Cloud Cover: 0

CROP STAGE AT EACH APPLICATION

A
 Crop 1 Code, Stage: GLXMA V2
 Height, Unit: 6-8 IN

WEED STAGE AT EACH APPLICATION

A
 Weed 1 Code: SETFA
 Stage(leaves): 4-5
 Height(inches): 5-9
 Density: HIGH
 Weed 2 Code: AMBEL
 Stage(leaves): 6-8
 Height(inches): 4-7
 Density: HIGH
 Weed 3 Code: IPOHE
 Stage(leaves): 3-4
 Height(inches): 3-5
 Density: MEDIUM
 Weed 4 Code: XANST
 Stage(leaves): 5-6
 Height(inches): 5-8
 Density: MEDIUM

APPLICATION EQUIPMENT

A
 Appl. Equipment: CO₂ SPRAY
 Operating Pressure: 40 PSI
 Nozzle Type: FLAT FAN
 Nozzle Size: 8002
 Boom Length, Unit: 7.33 FT
 Spray Volume, Unit: 20 GPA

NOTES:

Harvested Oct-20-00, (2) 30 inch rows by 27 ft.

TABLE. TOUCHDOWN IN GLYPHOSATE-RESISTANT SOYBEAN. PROJECT CODE:00-21N-M120

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	GLXMA		CONTROL, DAYS AFTER 4-6"W							
								INJURY, DAT		SETFA		AMBEL		IPOHE		XANST	
								14	28	14	28	14	28	14	28	14	28
1 NONTREATED							7	0	0	0	0	0	0	0	0	0	0
2 TOUCHDOWN	3 SL	0.56	LB AE/A	1.5 PT/A	4-6"W	A	32	0	0	99	91	85	85	85	83	93	88
2 AMS	100 DRY	1.0	% W/W	8.5 LB/100 GAL	4-6"W	A											
3 TOUCHDOWN	3 SL	0.75	LB AE/A	2.0 PT/A	4-6"W	A	39	0	0	99	92	90	90	89	87	92	87
3 AMS	100 DRY	1.0	% W/W	8.5 LB/100 GAL	4-6"W	A											
4 TOUCHDOWN	3 SL	0.94	LB AE/A	2.5 PT/A	4-6"W	A	43	0	0	99	92	95	95	91	90	94	91
4 AMS	100 DRY	1.0	% W/W	8.5 LB/100 GAL	4-6"W	A											
5 TOUCHDOWN	3 SL	0.75	LB AE/A	2.0 PT/A	4-6"W	A	37	5	0	99	92	83	88	87	87	87	87
6 TOUCHDOWN	3 SL	0.75	LB A/A	2.0 PT/A	4-6"W	A	44	9	0	99	94	97	96	95	94	92	88
6 FLEXSTAR	1.88 EC	0.12	LB A/A	8.2 OZ/A	4-6"W	A											
6 AMS	100 DRY	1.0	% W/W	8.5 LB/100 GAL	4-6"W	A											
7 TOUCHDOWN	3 SL	0.75	LB AE/A	2.0 PT/A	4-6"W	A	41	10	0	99	94	99	97	95	93	94	92
7 FLEXSTAR	1.88 EC	0.176	LB A/A	12.0 OZ/A	4-6"W	A											
7 AMS	100 DRY	1.0	% W/W	8.5 LB/100 GAL	4-6"W	A											
8 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	4-6"W	A	42	0	0	99	93	82	82	86	85	90	87
9 ROUNDUP ULTRA DRY	65 WG	0.75	LB AE/A	1.15 LB/A	4-6"W	A	39	0	0	99	90	90	91	86	86	85	87
10 ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	4-6"W	A	44	0	0	99	93	77	77	80	80	95	88
10 AMS	100 DRY	1.0	% W/W	8.5 LB/100 GAL	4-6"W	A											
11 ROUNDUP CUSTOM	4 SL	0.75	LB AE/A	1.5 PT/A	4-6"W	A	40	2	0	99	92	93	93	80	80	95	88
11 ACTIVATOR 90	100 LIQ	0.25	% V/V	0.25 %V/V	4-6"W	A											
11 AMS	100 DRY	1.0	% W/W	8.5 LB/100 GAL	4-6"W	A											
12 GLYPHOMAX PLUS	3 SL	0.75	LB AE/A	2.0 PT/A	4-6"W	A	41	0	0	99	94	90	89	78	78	95	89
12 AMS	100 DRY	1.0	% W/W	8.5 LB/100 GAL	4-6"W	A											
LSD							8	0.6	0	0	3	10	9	2	3	5	6
P							0.01	0.01	1.0	1.0	0.01	0.01	0.01	0.01	0.01	0.01	0.01

1. PROTOCOL: ZENECA.
2. DAT = DAYS AFTER 4-6"W APPLICATION.
3. RATING DATES:
14 DAT, AND 28 DAT ON JUN-20-00, AND JUL-4-00, RESPECTIVELY.