Conventional Soybean Herbicide Programs.

00-21N-E120

OBJECTIVE: Evaluate various herbicide programs for use in conventional and STS soybean.

SUMMARY: No soybean injury was observed from preemergence or pre-plant incorporated herbicides at 14 days after planting. Soybean injury 14 days after postemergence herbicide application (DAPO) was 10 to 22% from treatments that included Flexstar or Cobra. By 28 DAPO, soybean injury was less than 5% from all herbicide treatments except Cobra at 8 oz/A plus Select.

Giant foxtail control 28 DAPO was at least 93% for all treatments that included a postemergence herbicide application. Common ragweed control was 99% from all treatments that included Cobra, Flexstar or FirstRate postemergence. Common cocklebur control was also greatest from treatments that included Flexstar, Cobra or FirstRate postemergence. No herbicide treatment controlled greater than 87% of Ivyleaf morningglory. Common waterhemp control was 90 to 99% from treatments that included Cobra or Flexstar and 0 to 57% from all other treatments.

Soybean yield ranged from 11 bu/A in nontreated plots to 37 bu/A. Soybean yield tended to be lower in plots with poor waterhemp and common cocklebur control.

HERBICIDES	WEEDS	CROP
AUTHORITY 75 WG	COCKLEBUR, COMMON	SOYBEAN
COBRA 2 EC	FOXTAIL, GIANT	
FIRSTRATE 84 WG	MORNINGGLORY, IVYLEAF	
FLEXSTAR 1.88 EC	RAGWEED, COMMON	
FUSION 2.66 EC	WATERHEMP, COMMON	
PROWL 3.3 EC		
PURSUIT 70 WG		
PYTHON 80 WG		
RAPTOR 1 AS		
SELECT 2 EC		
SENCOR 75 WG		
SYNCHRONY STS 42 WG		
TREFLAN HFP 4 EC		

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Conventional Soybean Herbicide Programs.

Project Code: 00-21N-E120 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. AMATA	WATERHEMP, COMMON	AMARANTHUS RUDIS SAUER
3. AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
4. IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.
5. 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_2O_5 50 LB/A,	K_2O 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	B	C	D
Application Date:	May-5-00	May-5-00	May-30-00	Jun-6-00
Time of Day:	7:00	18:00	12:00	10:00
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PPI	PRE	3-4"W	4-6"W
Applic. Placement:	BROSOI	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	70 F	80 F	78 F	61 F
% Relative Humidity:	94	96	70	28
Wind Velocity, Unit:	0 MPH	5 MPH	5 MPH	2-4 MPH
Soil Moisture:	NORMAL	DRY	WET	NORMAL

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	NA	NA	GLXMA V1	GLXMA V2
Height, Unit:	NA	NA	5 IN	6-8 IN

WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code:			SETFA	SETFA
Stage(leaves):			2-4	4-5
Height(inches):			4-6	4-8
Density:			MEDIUM	HIGH
Weed 2 Code:			AMATA	AMATA
Stage(leaves):			2	5-7
Height(inches):			<1	2-4
Density:			LOW	MEDIUM
Weed 3 Code:			AMBEL	AMBEL
Stage(leaves):			4	6-8
Height(inches):			1-2	4-6
Density:			MEDIUM	MEDIUM
Weed 4 Code:			IPOHE	IPOHE
Stage(leaves):			3	4-5
Height(inches):			2	4-5
Density:			LOW	MEDIUM
Weed 5 Code:			XANST	XANST
Stage(leaves):			2-3	5-6
Height(inches):			2-4	5-7
Density:			MEDIUM	HIGH

APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	CO_2 SPRAY	CO_2 SPRAY	CO_2 SPRAY	CO_2 SPRAY
Operating Pressure:	40 PSI	40 PSI	40 PSI	40 PSI
Nozzle Type:	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:	8003	8003	8002	8002
Boom Length, Unit:	7.33 FT	7.33 FT	7.33 FT	7.33 FT
Incorporation Equip.:	POWHAR 1X			
Hours to Incorp.:	2			
Incorp. Depth, Unit:	2-4 IN			
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA

NOTES:

Harvested Oct-20-00, (5) 30 inch rows by 27 ft.

TABLE. CONVENTIONAL SOYBEAN HERBICIDE PROGRAMS. PROJECT CODE:00-21N-E120

										GLXMA INJURY			CONTROL, DAYS AFTER TREATMENT									
							APPL	APPL		14	DAT		SETFA		AMBEL		XANST		IPOHE		AMATA	
	TREATMENT	FORM.	RATE	UNIT	PROD RATE		TIME	CODE	YIELD	DAP	14	28	14	28	14	28	14	28	14	28	14	28
									BU/A	%	%	%	%	%	%	%	%	%	%	%	%	%
1	NONTREATED								11	0	0	0	0	0	0	0	0	0	0	0	0	0
2	TREFLAN HFP	4 EC	1.0	LB A/A	1.0	QT/A	PPI	A	24	0	0	0	90	82	92	83	83	62	72	63	57	57
2	FIRSTRATE	84 WG	0.031	LB A/A	0.6	OZ/A	PPI	A														
2	AUTHORITY	75 WG	0.188	LB A/A	4.0	OZ/A	PPI	A														
3	TREFLAN HFP	4 EC	1.0	LB A/A	1.0	QT/A	PPI	A	35	0	0	0	92	85	95	88	92	85	77	63	37	40
3	PYTHON	80 WG	0.05	LB A/A	1.0	OZ/A	PPI	A														
3	FIRSTRATE	84 WG	0.023	LB A/A	0.44	OZ/A	PPI	A														
4	TREFLAN HFP	4 EC	1.0	LB A/A	1.0	QT/A	PPI	A	37	0	10	0	95	96	99	99	95	93	95	87	66	99
4	FIRSTRATE	84 WG	0.016	LB A/A	0.3	OZ/A	3-4"W	C														
4	FLEXSTAR	1.88 EC	0.235	LB A/A	1.0	PT/A	3-4"W	C														
4	PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	3-4"W	C														
4	28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	3-4"W	C														
5	FIRSTRATE	84 WG	0.016	LB A/A	0.3	OZ/A	3-4"W	C	36		10	2	97	99	99	99	95	94	95	85	99	96
5	SELECT	2 EC	0.094	LB A/A	6.0	OZ/A	3-4"W	C														
5	COBRA	2 EC	0.094	LB A/A	6.0	OZ/A	3-4"W	C														
5	PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	3-4"W	C														
5	28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	3-4"W	C														
6	SENCOR	75 WG	0.125	LB A/A	2.67	OZ/A	PRE	B	36	0	15	0	98	95	99	99	96	95	92	82	99	99
6	FLEXSTAR	1.88 EC	0.294	LB A/A	20.0	OZ/A	4-6"W	D														
6	FUSION	2.66 EC	0.208	LB A/A	10.0	OZ/A	4-6"W	D														
6	DESTINY MSO	100 LIQ	1.0	% V/V	1.0	%V/V	4-6"W	D														
6	28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	4-6"W	D														
7	FLEXSTAR	1.88 EC	0.294	LB A/A	20.0	OZ/A	4-6"W	D	31		15	0	97	93	99	99	98	94	90	75	99	99
7	FUSION	2.66 EC	0.208	LB A/A	10.0	OZ/A	4-6"W	D														
7	SYNCHRONY STS	42 WG	0.0066	LB A/A	0.25	OZ/A	4-6"W	D														
7	DESTINY MSO	100 LIQ	1.0	% V/V	1.0	%V/V	4-6"W	D														
7	28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	4-6"W	D														
8	SELECT	2 EC	0.094	LB A/A	6.0	OZ/A	4-6"W	D	34		22	10	95	95	99	99	98	93	73	75	93	90
8	COBRA	2 EC	0.125	LB A/A	8.0	OZ/A	4-6"W	D														
8	PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	4-6"W	D														

(CONTINUED)

TABLE. CONVENTIONAL SOYBEAN HERBICIDE PROGRAMS. PROJECT CODE:00-21N-E120 (CONTINUED)

	TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	GLXMA INJURY 14 DAP	GLXMA INJURY DAT 14	GLXMA INJURY DAT 28	CONTROL, DAYS AFTER TREATMENT SETFA 14	SETFA 28	AMBEL 14	AMBEL 28	XANST 14	XANST 28	IPOHE 14	IPOHE 28	AMATA 14	AMATA 28
								BU/A	%	%	%	%	%	%	%	%	%	%	%	%	%
9	PROWL	3.3 EC	1.25	LB A/A	3.0 PT/A	PRE	B	33	0	2	0	97	98	67	72	96	92	67	72	57	50
9	PURSUIT	70 WG	0.063	LB A/A	1.44 OZ/A	4-6"W	D														
9	DESTINY MSO	100 LIQ	1.0	% V/V	1.0 %V/V	4-6"W	D														
9	28% UAN	100 LIQ	2.5	% V/V	2.5 %V/V	4-6"W	D														
10	RAPTOR	1 AS	0.039	LB A/A	5.0 OZ/A	4-6"W	D	29		3	0	92	95	73	78	96	94	63	50	10	0
10	DESTINY MSO	100 LIQ	1.0	% V/V	1.0 %V/V	4-6"W	D														
10	28% UAN	100 LIQ	2.5	% V/V	2.5 %V/V	4-6"W	D														
11	RAPTOR	1 AS	0.039	LB A/A	5.0 OZ/A	3-4"W	C	27		2	0	90	97	77	80	80	83	60	53	3	0
11	ACTIVATOR 90	100 LIQ	0.25	% V/V	0.25 %V/V	3-4"W	C														
11	28% UAN	100 LIQ	1.0	QT/A	1.0 QT/A	3-4"W	C														
12	RAPTOR	1 AS	0.039	LB A/A	5.0 OZ/A	3-4"W	C	31		0	2	90	94	90	99	90	93	82	85	7	0
12	FIRSTRATE	84 WG	0.016	LB A/A	0.3 OZ/A	3-4"W	C														
12	ACTIVATOR 90	100 LIQ	0.25	% V/V	0.25 %V/V	3-4"W	C														
12	28% UAN	100 LIQ	1.0	QT/A	1.0 QT/A	3-4"W	C														
LSD								7	0	3	3	5	5	7	4	5	8	15	12	34	18
P								0.01	1.0	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

1. PROTOCOL: DOW TRTS 2-5; ZENECA TRTS 6-10; AMCY TRTS 11-12.
2. DAP = DAYS AFTER PLANTING
3. RATING DATES:
   14 DAYS AFTER PLANTING ON MAY-19-00.
   14 DAYS AFTER 3-4"W AND 4-6"W APPLICATION ON JUN-13-00 AND JUN-20-00, RESPECTIVELY.
   28 DAYS AFTER 3-4"W AND 4-6"W APPLICATION ON JUN-27-00 AND JUL-4-00, RESPECTIVELY.