Influence of Late Season Postemergence Herbicides on Soybean Growth and Development.

00-20A-W90

OBJECTIVE: Determine the effect of postemergence herbicide stress from Blazer, Pursuit, and Roundup Ultra in typical and late season applications on soybean yield.

SUMMARY: Soybean injury 7 days after treatment (DAT) ranged from 5 to 20% from Blazer and 0 to 7% from Pursuit. Significantly less soybean injury was observed from Blazer applications at the V8 and V16 soybean stages compared to V2 and V4. By 28 DAT, soybean injury was 0 to 1% from all herbicide treatments. Soybean yield ranged from 58 bu/A to 63 bu/A. Soybean yield was slightly reduced (4 to 5 bu/A) in plots treated with Pursuit at V2 or V8 soybean stages or Blazer at the V16 soybean stage.

HERBICIDES	WEEDS	CROP
BLAZER 2 EC PURSUIT 70 WG ROUNDUP ULTRA 3 SL	CROP TOLERANCE ONLY	SOYBEAN

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Influence of Late Season Postemergence Herbicides on Soybean Growth and Development.

Project Code: 00-20A-W90 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

Weed Code	Common Name	Scientific Name
1. NA	CROP TOLERANCE ONLY	

Crop 1:	GLXMA SOYBEAN		Variety:	AG3701 RR	
Planting Method:	SEEDED		Planting Date:	May-15-00	
Rate:	75 LB/A		Depth:	1.0 IN	
Row Spacing:	30 IN				
Plot Width, Unit:	10 FT		Plot Length, Unit:	35 FT	Reps: 4
Tillage Type:	REDUCED-TILL		Study Design:	RCB	
Previous Crop, Year:	TRZAW, 1999		Fertilizer applied:	N 0 LB/A,	P_2O_5 0 LB/A, K_2O 0 LB/A
Soil Name:	EBBERT		% OM: 2.1	pH: 6.3	CEC: 12
Texture:	SILT LOAM		P_1: 65 LB/A,	K: 270 LB/A	

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	Jun-12-00	Jun-19-00	Jun-28-00	Jul-18-00
Time of Day:	11:30			
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	V2	V4	V8	V16
Applic. Placement:	BROFOL	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	82 F	78 F	74 F	82 F
% Relative Humidity:	70	80	82	92
Wind Velocity, Unit:	2-4 MPH	3-6 MPH	2-4 MPH	0 MPH
Soil Moisture:	NORMAL	WET	WET	NORMAL
% Cloud Cover:	90	80	20	

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	GLXMA V2-V3	GLXMA V4	GLXMA V8	GLXMA V16
Height, Unit:	6-8 IN	7-8 IN	18-21 IN	24-33 IN

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code:	NA

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:	8002	8002	8002	8002
Boom Length, Unit:	10 FT	10 FT	10 FT	10 FT
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA

NOTES:

Harvested Oct-3-00, (2) 30 inch rows by 32 ft.

TABLE. INFLUENCE OF LATE SEASON POSTEMERGENCE HERBICIDES ON SOYBEAN GROWTH AND DEVELOPMENT.
PROJECT CODE:00-20A-W90

	TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	GLXMA INJURY, DAT 7	GLXMA INJURY, DAT 28	GLXMA PLANTS JUNE 27	GLXMA PLANTS EOS
								BU/A	%	%	000/A	
1	NONTREATED							63	0	0	167	160
2	ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	V2	A	64	1	0	171	163
2	AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	V2	A					
3	PURSUIT	70 WG	0.063	LB A/A	1.44 OZ/A	V2	A	59	7	0	166	156
3	SUN-IT II	100 LIQ	1.5	PT/A	1.5 PT/A	V2	A					
3	28% UAN	100 LIQ	2.0	PT/A	2.0 PT/A	V2	A					
4	BLAZER	2 EC	0.375	LB A/A	1.5 PT/A	V2	A	64	20	1	171	169
4	PRIME OIL COC	100 LIQ	2.0	PT/A	2.0 PT/A	V2	A					
5	ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	V4	B	63	0	0	179	163
5	AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	V4	B					
6	PURSUIT	70 WG	0.063	LB A/A	1.44 OZ/A	V4	B	61	4	0	170	166
6	SUN-IT II	100 LIQ	1.5	PT/A	1.5 PT/A	V4	B					
6	28% UAN	100 LIQ	2.0	PT/A	2.0 PT/A	V4	B					
7	BLAZER	2 EC	0.375	LB A/A	1.5 PT/A	V4	B	65	20	0	168	158
7	PRIME OIL COC	100 LIQ	2.0	PT/A	2.0 PT/A	V4	B					
8	ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	V8	C	63	0	0	172	161
8	AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	V8	C					
9	PURSUIT	70 WG	0.063	LB A/A	1.44 OZ/A	V8	C	59	6	0	180	168
9	SUN-IT II	100 LIQ	1.5	PT/A	1.5 PT/A	V8	C					
9	28% UAN	100 LIQ	2.0	PT/A	2.0 PT/A	V8	C					
10	BLAZER	2 EC	0.375	LB A/A	1.5 PT/A	V8	C	64	8	0	177	163
10	PRIME OIL COC	100 LIQ	2.0	PT/A	2.0 PT/A	V8	C					
11	ROUNDUP ULTRA	3 SL	0.75	LB AE/A	2.0 PT/A	V16	D	63	3	0	165	160
11	AMS	100 DRY	2.0	% W/W	17.0 LB/100 GAL	V16	D					
12	PURSUIT	70 WG	0.063	LB A/A	1.44 OZ/A	V16	D	61	0	0	180	173
12	SUN-IT II	100 LIQ	1.5	PT/A	1.5 PT/A	V16	D					
12	28% UAN	100 LIQ	2.0	PT/A	2.0 PT/A	V16	D					
13	BLAZER	2 EC	0.375	LB A/A	1.5 PT/A	V16	D	58	5	0	177	170
13	PRIME OIL COC	100 LIQ	2.0	PT/A	2.0 PT/A	V16	D					
LSD								4	2	1	10	12
P								0.01	0.01	0.5	0.01	0.24

1. PROTOCOL: ILL/IOWA 'PRODUCTION RESEARCH TO INCREASE SOYBEAN YIELD, OBJECTIVE 2, SUPPLEMENTAL STUDY'.
2. DAT = DAYS AFTER TREATMENT. V16 APPLICATION STAGE = R3.
3. RATING DATES:
   7 DAYS AFTER V2, V4, V8, AND V16 APPLICATIONS ON JUN-19-00, JUN-26-00, JUL-5-00, AND JUL-25-00, RESPECTIVELY.
   28 DAYS AFTER V2, V4, V8, AND V16 APPLICATIONS ON JUL-10-00, JUL-17-00, JUL-26-00, AND AUG-17-00, RESPECTIVELY.
4. BLANKET PREEMERGENCE APPLICATION OF DUAL II MAGNUM AT 1.27 LBAI/A ON MAY-15-00.