

Simulated ZA1296 Drift to Soybean.

00-5C-N80

OBJECTIVE: Evaluate the influence of simulated drift of ZA1296 for potential visual soybean injury and impact on soybean yield.

SUMMARY: The greatest level of soybean injury in the form of leaf bleaching was observed at 14 days after treatment (DAT) with injury increasing from 24 to 66% as the rate of ZA 1296 was increased from 0.03 to 3 oz/A (the 1X field use rate in postemergence applications). By 28 DAT, soybean injury was less than 10% from ZA 1296 at 0.03, 0.091, and 0.3 oz/A, but was still evident for all treatments. However, more severe soybean injury of 28 and 61% was observed from ZA 1296 at 1 and 3 oz/A at 28 DAT. At 56 DAT soybean injury was 5% or less from the four lowest rates of ZA 1296 and 14% from ZA 1296 at 3 oz/A. Height reduction at 56 DAT was insignificant at the 3 lowest rates and was 4 and 11% for ZA 1296 at 1 and 3 oz/A, respectively.

Soybean yield was 46 bu/A in the nontreated plots. No reduction in soybean yield was observed with ZA 1296 at 0.03, 0.091, and 0.3 oz/A. However, soybean yield was reduced by 6 and 11 bu/A, respectively, in plots treated with ZA 1296 at 1 and 3 oz/A.

HERBICIDES

ZA1296 4 EC

WEEDS

CROP TOLERANCE ONLY

CROP

SOYBEAN

Bryan Young and Julie Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Simulated ZA1296 Drift to Soybean.

Project Code: 00-5C-N80 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:	B-T 386C
Planting Method:	SEEDED	Planting Date:	May-18-00
Rate:	75 LB/A	Depth:	1.0 IN
Row Spacing:	30 IN		

Plot Width, Unit:	10 FT	Plot Length, Unit:	26 FT	Reps:	4
Tillage Type:	REDUCED-TILL	Study Design:	RCB		
Previous Crop, Year:	SORVU, 1999	Fertilizer applied:	N 0 LB/A,	P ₂ O ₅ 0 LB/A,	K ₂ O 0 LB/A

Soil Name:	WEIR	% OM:	1.8	pH:	6.2	CEC:	6
Texture:	SILT LOAM	P ₁ :	45 LB/A,	K:	135 LB/A		

APPLICATION DESCRIPTION

Application Date:	Jun-13-00
Time of Day:	19:00
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	86 F
% Relative Humidity:	50
Wind Velocity, Unit:	1-2 MPH
Soil Moisture:	DRY

CROP STAGE AT EACH APPLICATION

Crop 1 Code, Stage:	GLXMA V1
Height, Unit:	4 IN

WEED STAGE AT EACH APPLICATION

Weed 1 Code:	NA
--------------	----

APPLICATION EQUIPMENT

Appl. Equipment:	CO ₂ 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-13-00, (2) 30 inch rows by 27 ft.

TABLE. SIMULATED ZA1296 DRIFT TO SOYBEAN. PROJECT CODE:00-5C-N80

TREATMENT	FORM.	RATE	UNIT	PROD RATE	APPL TIME	APPL CODE	YIELD	GLXMA				
								INJURY				HEIGHT
								DAYS AFTER TREATMENT				
							7	14	28	56		
							BU/A	%	%	%	%	%
1 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	POST A	46	1	4	1	0	0
1 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	POST A						
2 ZA1296	4 EC	0.00094	LB A/A	0.03	OZ/A	POST A	45	18	24	9	1	1
2 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	POST A						
2 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	POST A						
3 ZA1296	4 EC	0.00285	LB A/A	0.091	OZ/A	POST A	44	21	29	8	5	0
3 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	POST A						
3 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	POST A						
4 ZA1296	4 EC	0.0094	LB A/A	0.3	OZ/A	POST A	44	30	40	8	1	0
4 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	POST A						
4 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	POST A						
5 ZA1296	4 EC	0.031	LB A/A	1.0	OZ/A	POST A	40	30	53	28	5	4
5 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	POST A						
5 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	POST A						
6 ZA1296	4 EC	0.094	LB A/A	3.0	OZ/A	POST A	35	38	66	61	14	11
6 PRIME OIL COC	100 LIQ	1.0	% V/V	1.0	%V/V	POST A						
6 28% UAN	100 LIQ	2.5	% V/V	2.5	%V/V	POST A						
7 NONTREATED							46	0	0	0	0	0
LSD							6	5	7	7	6	3
P							0.01	0.01	0.01	0.01	0.01	0.01

1. PROTOCOL: SIU - BGY.

2. RATING DATES:

7 DAT, 14 DAT, 28 DAT, AND 56 DAT ON JUN-20-00, JUN-27-00, JUL-11-00, AND AUG-12-00, RESPECTIVELY.