

Evaluation of soybean injury with sulfentrazone and flumioxazin. Krausz, Ronald F. and Bryan G. Young. This study was designed to evaluation of soybean injury following preplant incorporated and preemergence applications of sulfentrazone or flumioxazin. The study was conducted on a Weir silt loam with 1.7% organic matter and pH 6.8 at the Belleville Research Center. Fertilizer applied was 50 and 200 lb/A P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O, respectively, to an area that had been cropped to corn in 2001. Pioneer brand '94B01 RR' glyphosate-resistant soybean was planted 1.0 inch deep at 75 lb/A into a reduced-till seedbed on June 4. Plots consisted of four rows with 30 inch row spacing, 27 ft long arranged in a randomized complete block design with 3 replications. The herbicides were broadcast applied with a CO<sub>2</sub> pressurized sprayer using 8003 flat fan tips at 40 PSI in 20 GPA water. Application timing were preplant incorporated (PPI), preemergence (PRE) and 4 to 6 inch weeds (4-6"W). Monthly rainfall in inches was 4.9, 6.6, 1.7, 3.7 and 3.6 in April, May, June, July and August, respectively. The study was weed-free.

Application information is listed below.

Date	Jun-4-02	Jun-4-02	Jul-1-02
Treatment	PPI	PRE	4-6"W
Air temperature (F)	76	90	92
Relative humidity (%)	52	48	36
Soil moisture	normal	normal	normal
soybean			
leaf no.			V3
height (inch)			8

Sulfentrazone and flumioxazin caused no stand reduction regardless of rate or application timing. Sulfentrazone caused minimal (2 to 3%) height reduction 21 days after application regardless of application timing. Flumioxazin applied preplant incorporated caused no height reduction regardless of rate. However, flumioxazin applied preemergence caused 7 to 12% height reduction 21 days after application with injury tending to increase as rate increased. Despite the injury, there was no difference in yield due to herbicide treatment. (Dept. of Plant, Soil and General Agriculture, Southern Illinois University, Carbondale).

Table. Evaluation of soybean injury with sulfentrazone and flumioxazin. (Krausz and Young)

Treatment <sup>a</sup>	Application		Soybean yield	Soybean, days after PPI or PRE application								Soybean
				Stand reduction				Stunting				height
	Rate	Time		14	21	28	56	14	21	28	56	Oct 1
	(lb/A)		bu/A	%	%	%	%	%	%	%	inch	
Handweed, no herbicide			58	0	0	0	0	0	0	0	43	
Sulfentrazone+glyphosate	0.2+0.75	PPI+4-6"W	57	0	0	0	0	0	0	0	41	
Sulfentrazone+glyphosate	0.25+0.75	PPI+4-6"W	56	0	0	0	0	3	2	0	40	
Sulfentrazone+glyphosate	0.313+0.75	PPI+4-6"W	58	0	0	0	0	3	2	0	41	
Flumioxazin+glyphosate	0.063+0.75	PPI+4-6"W	57	0	0	0	0	0	0	0	41	
Flumioxazin+glyphosate	0.078+0.75	PPI+4-6"W	57	0	0	0	0	0	0	0	41	
Flumioxazin+glyphosate	0.094+0.75	PPI+4-6"W	57	0	0	0	0	0	0	0	42	
Sulfentrazone+glyphosate	0.2+0.75	PRE+4-6"W	54	0	0	0	0	0	0	0	40	
Sulfentrazone+glyphosate	0.25+0.75	PRE+4-6"W	55	0	0	0	0	3	0	0	39	
Sulfentrazone+glyphosate	0.313+0.75	PRE+4-6"W	56	0	0	0	0	3	3	0	41	
Flumioxazin+glyphosate	0.063+0.75	PRE+4-6"W	52	0	0	0	0	7	7	0	39	
Flumioxazin+glyphosate	0.078+0.75	PRE+4-6"W	55	0	0	0	0	15	10	0	40	
Flumioxazin+glyphosate	0.094+0.75	PRE+4-6"W	53	0	0	0	0	13	12	0	39	
Glyphosate	0.75	4-6"W	52	0	0	0	0	0	0	0	37	
LSD			2	0	0	0	0	5	3	0	4	
P			0.01	1.0	1.0	1.0	1.0	0.01	0.01	1.0	1.0	0.09

<sup>a</sup>All glyphosate was Roundup UltraMax. Study is weed free.