

Flufenacet & isoxaflutole comparisons in corn – study 1. Young, Bryan, G. and Sean D. Nettleton.

This study was designed to compare weed control and crop tolerance of various flufenacet & isoxaflutole rates to other products. The study was conducted on a Weir silt loam with 2.2% organic matter and pH 6.9 at the Belleville Research Center. Fertilizer applied was 150 and 100 lb/A of N and K<sub>2</sub>O, respectively, to an area that had been cropped to soybean in 2004. Pioneer brand 33P65 RR field corn was planted 1.5 inch deep at 28000 seed/A into a reduced-till seedbed on May 6, 2005. Plots consisted of four 30 inch rows, 25 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. Monthly rainfall in inches was 2.9, 0.8, 1.6, 4.8 and 3.2 in April, May, June, July and August, respectively. Rainfall in May was sparse; 0.07 inches on the 9<sup>th</sup>, 0.4 inches on the 14<sup>th</sup>, and 0.32 inches on the 20<sup>th</sup>. Weed population per 0.25m<sup>2</sup> in the nontreated plots, mid-season, was 26 giant foxtail, 23 velvetleaf, <1 giant ragweed, and 3 ivyleaf morningglory. The application was made preemergence (PRE). Application information is listed below.

Date	May-06-05
Treatment	PRE
Air temperature (F)	76
Relative humidity (%)	30
Soil moisture	NORMAL

No corn injury was observed from any herbicide treatment. Flufenacet & isoxaflutole + atrazine controlled at least 92% of giant foxtail and velvetleaf regardless of herbicide rates. However, control of ivyleaf morningglory was less than 40% from flufenacet & isoxaflutole + atrazine and control of giant ragweed was highly variable, ranging from 67 to 92%. In general, flufenacet & isoxaflutole + atrazine provided control of giant foxtail, velvetleaf and giant ragweed that was similar to or greater than that observed with s-metolachlor & atrazine & mesotrione & benoxacor. (Dept. of Plant, Soil and Agricultural Systems, Southern Illinois University, Carbondale).

Table. Flufenacet &amp; isoxaflutole comparisons in corn - study 1. (Young and Nettleton)

Treatment	Application		Corn injury, days after treatment		Control, days after treatment									
	Rate (lb/A)	Time	14 %	28 %	SETFA			ABUTH			AMBTR		IPOHE	
					14 %	28 %	49 %	14 %	28 %	49 %	28 %	49 %	28 %	49 %
Nontreated			0	0	0	0	0	0	0	0	0	0	0	0
Flufenacet & isoxaflutole + atrazine	0.446 & 0.0535 + 1.5	PRE	0	0	99	94	95	92	92	93	75	87	38	39
Flufenacet & isoxaflutole + atrazine	0.56 & 0.067 + 1.5	PRE	0	0	98	96	92	95	92	92	60	67	37	29
Flufenacet & isoxaflutole + atrazine	0.67 & 0.08 + 1.5	PRE	0	0	99	97	94	97	97	95	72	92	37	33
S-metolachlor & atrazine & mesotrione & benoxacor	1.67 & 0.624 & 0.166	PRE	0	0	97	91	63	92	98	97	63	87	45	38
S-metolachlor & atrazine & mesotrione & benoxacor	2.0 & 0.75 & 0.2	PRE	0	0	99	87	90	97	97	93	70	89	47	43
S-metolachlor & atrazine & mesotrione & benoxacor	1.31 & 1.31 & 0.167	PRE	0	0	66	60	50	62	62	61	33	59	23	17
S-metolachlor & atrazine & mesotrione & benoxacor	1.52 & 1.52 & 0.194	PRE	0	0	98	87	57	97	97	96	93	82	52	35
Acetochlor & atrazine & MON 4660 + isoxaflutole	1.96 & 1.54 + 0.047	PRE	0	0	99	97	96	96	97	98	77	92	43	29
Acetochlor & atrazine & MON 4660 + flumetsulam & clopyralid	1.96 & 1.54 & 0.0 + 0.046 & 0.125	PRE	0	0	98	97	91	92	88	80	94	89	55	63
Acetochlor & atrazine & dichlormid + flumetsulam & clopyralid	2.0 & 1.5 + 0.0346 & 0.093	PRE	0	0	99	98	90	97	87	73	83	87	57	49
Dimethenamid-P & atrazine + isoxaflutole	0.85 & 1.65 + 0.047	PRE	0	0	98	97	80	98	97	93	77	83	47	45
LSD			0	0	28	26	30.8	26.5	26.2	27	28.6	35.5	20.7	19.2
P			1.0	1.0	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01