

Isoxaflutole and flufenacet & isoxaflutole for weed control in corn. Nolte, Scott A., Bryan G. Young, Julie M. Young and Ronald F. Krausz. This study was designed to determine the best rate and ratio of isoxaflutole with atrazine and flufenacet compared with competitive products. The study was conducted on a Weir silt loam with 2.2 % organic matter and pH 6.7 at the Belleville Research Center. Fertilizer applied was 150, 50, and 100 lb/A of N, P₂O₅, and K₂O, respectively, to an area that had been cropped to soybean in 2003. Pioneer 'P33P69 LL' corn was planted 1.5 inch deep at 28000 seeds per acre into a reduced-till seedbed on May 11, 2004. 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 CO₂ pressurized sprayer using 8003 flat fan tips at 40 PSI and 20 GPA water. Monthly rainfall in inches was 1.3, 8.7, 2.8, 6.6, and 5.2 in April, May, June, July and August, respectively. Weed populations per 0.25 M² in the nontreated plots, mid-season, were: less than 1 giant foxtail; 9 fall panicum; 5 yellow nutsedge; less than 1 giant ragweed; less than 1 morningglory species; and 18 common waterhemp. Application timing was preemergence (PRE). Total rainfall for the 7 days following the PRE application was 2.0 inches. Application information is listed below.

Date	5-13-04
Treatment	PRE
Air temperature (F)	71
Relative humidity (%)	96

No corn injury was observed from any herbicide treatment. Isoxaflutole plus atrazine and flufenacet & isoxaflutole provided at least 94% control of giant foxtail, fall panicum, morningglory species, and common waterhemp at 56 days after treatment regardless of herbicide rates. Control of yellow nutsedge with isoxaflutole plus atrazine and flufenacet & isoxaflutole was highly variable but tended to increase as the rate of flufenacet increased. Combining atrazine at 1.5 lb/A with flufenacet & isoxaflutole or increasing the isoxaflutole rate increased control of giant ragweed in some instances. (Dept. of Plant, Soil and Agricultural Systems, Southern Illinois University, Carbondale)

Table. Isoxaflutole and flufenacet & isoxaflutole for weed control in corn. (Nolte, Young, Young and Krausz)

Treatment	Application		Corn injury ^a 14 DA	Control, days after preemergence application																	
	Rate (lb/A)	Time		SETFA			PANDI			CYPES			AMBTR			IPOSS			AMATA		
			PRE	14	28	56	14	28	56	14	28	56	14	28	56	14	28	56	14	28	56
Nontreated			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Isoxaflutole + atrazine	0.047 + 1.0	PRE	0	99	99	99	99	99	99	73	82	77	99	94	88	99	98	95	99	99	96
Isoxaflutole + atrazine	0.086 + 1.0	PRE	0	99	99	99	99	99	99	76	91	87	98	96	90	99	98	98	99	99	95
Isoxaflutole + flufenacet	0.039 + 0.375	PRE	0	99	99	99	99	99	99	67	87	92	97	88	78	97	97	90	99	99	97
S-metolachlor & mesotrione & benoxacor	2.1 & 0.21	PRE	0	99	99	99	99	99	99	99	99	99	98	94	86	99	98	97	99	99	99
Isoxaflutole + flufenacet	0.078 + 0.375	PRE	0	99	99	99	99	99	99	89	97	95	98	95	90	99	96	95	99	99	99
Isoxaflutole + flufenacet + atrazine	0.039 + 0.375 + 1.0	PRE	0	99	99	99	99	99	99	86	95	93	98	93	82	99	96	94	99	99	99
S-meto & atra & mesotrione & benoxacor	1.67 & 0.624 & 0.166	PRE	0	99	99	99	99	99	99	99	97	95	98	93	87	99	97	96	99	99	99
Isoxaflutole + flufenacet + atrazine	0.07 + 0.375 + 1.0	PRE	0	99	99	99	99	99	99	75	80	86	99	93	80	99	99	97	99	99	93
S-meto & atra & mesotrione & benoxacor	2.0 & 0.75 & 0.2	PRE	0	99	99	99	99	99	99	99	99	99	99	95	91	99	97	95	99	99	99
Isoxaflutole + acetochlor & atra & MON 4660	0.07 + 1.56 & 1.24	PRE	0	99	99	99	99	99	99	99	97	97	99	97	90	99	98	92	99	99	99
Flufenacet & isoxaflutole	0.556 & 0.069	PRE	0	99	99	99	99	99	99	89	92	85	98	94	91	99	95	94	99	99	99
Flufenacet & isoxaflutole + atrazine	0.556 & 0.069 + 1.0	PRE	0	99	99	99	99	99	99	90	90	94	98	95	88	99	98	95	99	99	99
Flufenacet & isoxaflutole + atrazine	0.556 & 0.069 + 1.5	PRE	0	99	99	99	99	99	99	99	97	97	99	96	93	99	96	95	99	99	99
Flufenacet & isoxaflutole	0.445 & 0.055	PRE	0	99	99	99	99	99	99	70	86	75	95	90	73	99	97	95	99	99	96
Flufenacet & isoxaflutole + atrazine	0.445 & 0.055 + 1.5	PRE	0	99	99	99	99	99	99	83	88	83	99	93	89	99	98	96	99	99	99
LSD			0	1	1	0	1	1	0	26	14	16	2	4	12	1	2	6	0	1	3
P			1.0	0.01	0.01	1.0	0.01	0.01	1.0	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	1.0	0.01	0.01

^aCorn was also evaluated at 28 and 56 days after preemergence application with no observable injury at any time.