

Evaluation of isoxaflutole at different rates alone and in combination with other herbicides for weed control in corn at Rochester, MN in 2002. Soderholm, Courtney L., Fritz R. Breitenbach, and Lisa M. Behnken. The objective of this trial was to evaluate the performance of isoxaflutole alone and with atrazine and acetachlor for weed control in southeastern Minnesota. The research site was a Lawler loam containing 2.4% organic matter with a pH of 6.2 and soil test P and K levels of 35 and 132 ppm, respectively. The previous crop was soybean. The area was fertilized in the fall of 2001 with 200 lb/A Pel-Lime, 200 lb/A potash and 8 tons/A turkey manure. The site was disked twice and chisel plowed. The corn hybrid, Pioneer 37-H27, was planted on April 30, 2002, at a 2-inch depth in 30-inch rows at 31,000 seeds/A. A randomized complete block design with four replications was used. All treatments were applied preemergence (PRE) with a tractor-mounted sprayer delivering 20 gpa at a pressure of 32 psi using TurboTee 11002 nozzles. Evaluations of the plot were made on May 20, June 5, and June 20, 2002. Application dates, environment conditions, and crop and weed stages are listed below.

<i>Date</i>	<i>April 30</i>
Treatment	PRE
Temperature (F)	
air	60
soil	54
Relative humidity (%)	42
Wind (mph)	7
Soil moisture	adequate
Corn	
Stage	---
height (inch)	---
Giant ragweed	
weed density/ft ²	15
height (inch)	---
Common waterhemp	
weed density/ft ²	6
height (inch)	---
Common lambsquarters	
weed density/ft ²	5.8
height (inch)	---
Giant foxtail	
weed density/ft ²	12
height (inch)	---
Rainfall after application (inch)	
week 1	0.38 inch
week 2	0.51 inch
week 3	0.05 inch

All of the isoxaflutole treatments resulted in good control of giant ragweed. Although not statistically different, control was lower with isoxaflutole alone at 0.063 lb/A and when tank mixed with atrazine at 0.5 lb/A. Acetachlor & atrazine & MON 4660, acetochlor & MON 4660, flufenacet & metribuzin + atrazine, and flufenacet & metribuzin gave poor to almost no control of giant ragweed. All isoxaflutole treatments resulted in excellent control of common lambsquarters and common waterhemp. Flufenacet & metribuzin gave significantly less control of common lambsquarters and common waterhemp compared to all other treatments. Isoxaflutole alone and with atrazine resulted in slightly lower giant foxtail control. (Southeast District, University of MN Extension Service, Rochester).

Table. Isoxaflutole weed control performance in corn on June 14 at Rochester, MN in 2002 (Soderholm, Breitenbach, and Behnken).

<i>Treatment</i>	<i>Rate</i>	<i>AMBTA control</i>	<i>CHEAL control</i>	<i>AMATA control</i>	<i>SETFA control</i>	<i>Crop Injury</i>
	(lb/A)	(%)	(%)	(%)	(%)	(%)
Isoxaflutole	0.063	71	99	98	82	0
Isoxaflutole + atrazine	0.063+0.5	73	99	98	84	0
Isoxaflutole + atrazine	0.063+0.75	77	99	98	89	0
Isoxaflutole + atrazine	0.063+1.0	80	99	99	86	0
Isft + acet & MON 4660	0.063+0.66	80	99	99	93	0
Isft + acet & MON 4660	0.063+1.31	84	99	99	97	0
Isft + acet & MON 4660	0.063+1.97	84	99	97	96	0
Isft + acet & atra & MON 4660	0.063+1.09&0.86	79	99	98	94	0
Isft + acet & atra & MON 4660	0.063+1.51&1.19	87	99	99	98	0
Isft + acet & atra & MON 4660	0.063+1.76&1.39	85	99	99	99	0
Acet & atra & MON 4660	1.93&1.52	40	91	95	90	0
Acetochlor & MON 4660	1.97	50	95	97	91	0
Isoxaflutole	0.094	83	99	97	88	0
Flufenacet & metribuzin	0.68&0.17	8	85	85	95	0
Flct & metr + atra	0.68&0.17+0.75	28	91	97	92	0
Untreated		0	0	0	0	0
	LSD (0.10)	9	5	5	5	0