

Weed control with nicosulfuron and rimsulfuron in corn at Lamberton, MN in 2002. Getting, Jodie K. and Bruce D. Potter. The objective of this study was to evaluate rates of nicosulfuron tank-mixed with rimsulfuron for annual grass and annual broadleaf weed control in corn. This study was conducted on a Normania loam soil containing 4.2% organic matter, pH 6.5 and soil test P and K levels of 60 and 316 lb/A, respectively. A randomized complete block design with four replications and a plot size of 10 by 30 ft was used. The site was planted to oats in 2001 and was fall chiseled. The area was fertilized with 180 lb/A of nitrogen as urea. On May 2, 2002, Mycogen '4150LL' glufosinate resistant field corn was planted in 30-inch rows at a seeding rate of 33,000 seeds/A. Tefluthrin (Force 3G) was applied at 4 oz/1000 row feet in a T-band for the control of northern corn rootworm larvae. All treatments were applied with a tractor-mounted sprayer delivering 20 gpa at a pressure of 40 psi. The sprayer was equipped with 8002 flat-fan nozzles spaced 15 inches apart on the boom. Application dates, environmental conditions, plant sizes and rainfall data are listed below:

Date	May 3	June 5
Treatment	PRE	POST
Temperature (F)		
air	48	64
soil (4 inch)	42	68
Relative humidity (%)	30	68
Wind (mph)	SE 10	NNE 3
Sky	clear	sunny
Soil moisture	dry	moist
Corn		
leaf no.	-	3-collar
height (inch)	-	4
Yellow foxtail		
leaf no.	-	1 to 4
height (inch)	-	1 to 3
no./ft ²	-	28
Common lambsquarters		
leaf no.	-	3 to 5
height (inch)	-	1 to 2
no./ft ²	-	4
Redroot pigweed		
leaf no.	-	3 to 5
height (inch)	-	1 to 2
no./ft ²	-	5
Rainfall after application (inch)		
1 week	1.25	0.57
2 week	0.36	0.24
3 week	0.00	1.18

None of the herbicide treatments caused visible crop injury. On June 20, nicosulfuron at 0.012 lb/A, 0.023 lb/A and 0.035 lb/A + rimsulfuron at 0.012 lb/A provided 87, 90, and 93% yellow foxtail control, respectively. Nicosulfuron applied at 0.031 lb/A and 0.047 lb/A resulted in 84 and 90% control, respectively. Nicosulfuron at 0.023 lb/A + rimsulfuron at 0.012 lb/A tank-mixed with either dicamba, atrazine, or mesotrione gave 90 to 92% control. Nicosulfuron applied at 0.031 lb/A and 0.047 lb/A resulted in 85 and 86% common lambsquarters control, respectively. All other treatments provided 93% or greater control. In September, nicosulfuron applied at either 0.031 lb/A or 0.047 lb/A resulted in 78 and 89% yellow foxtail control, respectively. All other treatments gave 84 to 86% control. Nicosulfuron applied at 0.031 lb/A resulted in 83% common lambsquarters control. All other treatments gave 89% or greater control. Nicosulfuron at 0.023 lb/A + rimsulfuron at 0.012 lb/A tank-mixed with either dicamba, atrazine, or mesotrione gave 96% or greater common lambsquarters and redroot pigweed control. (Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Weed control with nicosulfuron and rimsulfuron in corn at Lamberton, MN in 2002 (Getting and Potter).

Treatment ^a	Rate (lb/A or %)	SETLU			CHEAL			AMARE		
		6/20	6/28	9/9	6/20	6/28	9/9	6/20	6/28	9/9
-----(% control)-----										
<u>POST (2 to 4-inch weeds)</u>										
Nicosulfuron+rimsulfuron+COC+AMS	0.012+0.012+1.0%+2.0	87	85	84	94	95	93	97	93	90
Nicosulfuron+rimsulfuron+COC+AMS	0.023+0.012+1.0%+2.0	90	90	85	93	91	90	97	91	93
Nicosulfuron+rimsulfuron+COC+AMS	0.035+0.012+1.0%+2.0	93	90	86	95	94	93	95	93	93
Nicosulfuron+COC+AMS	0.031+1.0%+2.0	84	82	78	85	84	83	94	89	89
Nicosulfuron+COC+AMS	0.047+1.0%+2.0	90	88	89	86	90	89	95	93	91
Nicosulfuron+rimsulfuron+dicamba +COC+AMS	0.023+0.012+0.125 +1.0%+2.0	90	89	86	96	97	96	97	95	96
Nicosulfuron+rimsulfuron+atrazine +COC+AMS	0.023+0.012+0.5 +1.0%+2.0	92	88	86	98	98	97	98	97	97
Nicosulfuron+rimsulfuron+mesotrione +atrazine+COC+AMS	0.023+0.012+0.063 +0.25+1.0%+2.0	92	90	86	99	97	96	99	95	97
<u>Checks</u>										
Weedy check		0	0	0	0	0	0	0	0	0
Weed-free		100	100	100	100	100	100	100	100	100
	LSD (0.10)	2.0	3.4	5.9	3.7	2.4	3.7	2.4	3.0	4.3

^a Atrazine = Aatrex 90DF; dicamba = Clarity 4L; mesotrione = Callisto 4L; nicosulfuron = Accent 75DF; COC = crop oil concentrate; AMS = spray grade ammonium sulfate.