

Weed control with FOE 5043 in corn at Lamberton, MN in 2001. Getting, Jodie K. and Bruce D. Potter. The objective of this study was to evaluate FOE 5043 applied either preemergence or postemergence for annual grass control in corn. This study was conducted on a Normania loam soil containing 4.4% organic matter, pH 6.2 and soil test P and K levels of 60 and 422 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 2000 and was fall chiseled. The area was fertilized with 180 lb/A of nitrogen as urea. On May 17, 2001, Northrup King 'N42-B7' imidazolinone tolerant/glufosinate resistant field corn was planted in 30-inch rows at a seeding rate of 33,000 seeds/A. 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 18	June 16
Treatment	PRE	POST
Temperature (F)		
air	51	66
soil (4 inch)	60	68
Relative humidity (%)	80	64
Wind (mph)	calm	W 5-8
Sky	p. cloudy	clear
Soil moisture	dry	dry
Corn		
leaf no.	-	3-collar
height (inch)	-	5
Yellow foxtail		
leaf no.	-	2 to 4
height (inch)	-	1 to 4
no./ft ²	-	45
Common lambsquarters		
leaf no.	-	1 to 3
height (inch)	-	1 to 2
no./ft ²	-	6
Rainfall after application (inch)		
1 week	0.89	0.01
2 week	0.40	0.33
3 week	0.75	0.17

None of the herbicide treatments caused visible crop injury. On June 12, prior to the POST treatments, the respective rates of FOE 5043 gave 88 to 93% yellow foxtail control and 48 to 74% common lambsquarters control. In September, those same treatments with POST [bromoxynil & atrazine] resulted in 78 to 90% yellow foxtail control. POST applied FOE 5043 + glufosinate + atrazine + AMS gave 90 to 94% yellow foxtail control. POST applied glufosinate + atrazine + AMS resulted in 85% control. FOE 5043 tank-mixed with the 61 WG formulation of AE F130360 gave 69% control and FOE 5043 tank-mixed with the 70 WG formulation of AE F130360 gave 79% control. All treatments provided excellent common lambsquarters control. (Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Weed control with FOE 5043 in corn at Lamberton, MN in 2001 (Getting and Potter).

Treatment ^a	Rate (lb/A or %)	SETLU				CHEAL				Yield (bu/A) ^b
		6/12	6/28	7/9	9/11	6/12	6/28	7/9	9/11	
<u>Preemergence/POST (3-collar corn)</u>										
FOE 5043/[Brox&Atra]	0.3/[0.25&0.5]	88	86	86	79	48	100	100	100	137
FOE 5043/[Brox&Atra]	0.375/[0.25&0.5]	90	83	81	78	55	100	99	100	129
FOE 5043/[Brox&Atra]	0.45/[0.25&0.5]	89	84	83	79	58	100	100	100	133
FOE 5043/[Brox&Atra]	0.525/[0.25&0.5]	92	88	90	83	43	100	100	100	140
FOE 5043/[Brox&Atra]	0.675/[0.25&0.5]	93	91	91	86	70	100	99	100	146
FOE 5043/[Brox&Atra]	0.7875/[0.25&0.5]	93	93	93	90	74	100	99	100	140
CGA 77102/[Brox&Atra]	0.86/[0.25&0.5]	93	86	85	80	68	100	100	100	131
CGA 77102/[Brox&Atra]	1.05/[0.25&0.5]	92	88	88	80	64	100	99	100	143
CGA 77102/[Brox&Atra]	1.59/[0.25&0.5]	94	91	90	84	70	100	100	100	150
CGA 77102/[Brox&Atra]	1.91/[0.25&0.5]	95	93	96	90	83	100	100	100	145
<u>POST (3-collar corn)</u>										
Gluf+Atra+AMS	0.36+0.5+3.0	-	95	93	85	-	100	99	100	146
FOE 5043+Gluf+Atra+AMS	0.225+0.36+0.5+3.0	-	96	94	90	-	100	100	100	154
FOE 5043+Gluf+Atra+AMS	0.34+0.36+0.5+3.0	-	96	95	94	-	100	100	100	141
FOE 5043+Gluf+Atra+AMS	0.45+0.36+0.5+3.0	-	97	96	93	-	100	100	100	147
FOE 5043+AE F130360 ¹	0.3+0.067	-	84	76	69	-	100	100	100	129
+Atra+MSO+28%N	+0.5+0.94%+2.5%	-				-				
FOE 5043+AE F130360 ²	0.3+0.066	-	83	81	79	-	100	100	100	141
+Atra+MSO+28%N	+0.5+0.94%+2.5%	-				-				
<u>Checks</u>										
Weedy check		0	0	0	0	0	0	0	0	10
Weed-free		100	100	100	100	100	100	100	100	148
	LSD (0.10)	3.2	3.8	4.6	5.6	17.9	ns	ns	ns	12.1

^a AE F130360¹ = 61WG; AE F130360² = 70WG; Atra = Aatrex 4L; [Brox&Atra] = Buctril & atrazine 3F; CGA 77102 = Dual II Magnum 7.64EC; Foe 5043 = Define 60DF; Gluf = Liberty 1.67L; COC = crop oil concentrate, Class Additive 17%; NIS = nonionic surfactant, Class Preference; MSO = methylated seed oil, Sun It II; 28%N = an aqueous solution of urea and ammonium nitrate; AMS = spray grade ammonium sulfate.

^b Yield adjusted to 15.5% moisture.