Weed control in glufosinate resistant corn at Lamberton, MN in 2000. Getting, Jodie K. The objective of this study was to evaluate herbicide combinations for annual grass and annual broadleaf weed control in glufosinate resistant 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 64 and 396 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 1999 and was fall moldboard plowed. The area was fertilized with 180 lb/A of nitrogen as urea. On April 28, 2000, 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	April 28	June 2
Treatment	PRE	POST
Temperature (F)		
air	63	63
soil (4 inch)	56	58
Relative humidity (%)	52	59
Wind (mph)	N 12	NW 12
Sky	clear	cloudy
Soil moisture	moist	dry
Corn		
leaf no.	-	5-collar
height (inch)	-	6
Yellow foxtail		
leaf no.	-	3 to 5
height (inch)	-	2 to 4
no./ft^2	-	47
Common lambsquarters		
leaf no.	-	3 to 5
height (inch)	-	1 to 3
no./ft^2	-	6
Rainfall after application (inch)		
1 week	0.03	0.49
2 week	1.41	0.77
3 week	2.86	0.47

Late season control of yellow foxtail for either formulation of AE F130360 applied alone had 75 or 69% control, respectively. Nicosulfuron had 71% control. AE F130360 combined with bromoxynil provided 68 and 65% control, respectively. Nicosulfuron tank-mixed with V-10064 had 60% control. Glufosinate tank-mixed with carfentrazone resulted in 68% control. All other treatments resulted in greater than 89% control. All of the treatments provided 90% or greater common lambsquarters control. There were no differences in grain yield for any of the herbicide treatments compared to the hand-weeded check. Severe winds on August 8th caused extensive root lodging and harvest difficulty. The severe lodging contributed to corn yield variability. (Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Weed control in glufosinate resistant corn at Lamberton, MN in 2000 (Getting).

Treatment[a]	Rate	SETLU 5/31	SETLU 6/14	SETLU 8/8	CHEAL 5/31	CHEAL 6/14	CHEAL 8/8	Yield
Preemergence	(lb/A or %)	-------(% control)-------						(bu/A)[b]
[ICIA 5676&ZA 1296]	[1.8&0.16]	97	93	89	97	96	96	165
[ICIA 5676&ZA 1296]	[2.0&0.18]	98	91	90	97	98	96	156
Preemergence/POST (2 to 4-inch weeds)								
Acet[1]/ZA 1296+COC+28%N	2.0/0.094+1.0%+2.5%	98	96	91	90	98	98	168
[Acet&Atra]/	[1.8&1.2]/	98	97	97	97	98	98	170
ZA 1296+COC+28%N	0.094+1.0%+2.5%							
Acet[1]/ ZA	2.0/0.094+0.25+1.0%+2.5%	98	97	95	88	98	98	174
1296+Atra+COC+28%N								
POST (2 to 4-inch weeds)								
AE F130360[1]+MSO+28%N	0.055+0.94%+2.5%	0	83	75	0	87	95	167
Nico+COC+28%N	0.031+0.94%+2.5%	0	80	71	0	90	90	159
AE F130360[2]+MSO+28%N	0.048+0.94%+2.5%	0	83	69	0	83	93	172
Preemergence/POST (2 to 4-inch weeds)								
RPA 201772+Atra/	0.058+1.0/	97	98	97	98	98	98	167
AE F130360[1]+MSO+28%N	0.055+0.94%+2.5%							
RPA 201772/	0.058/	97	98	91	97	98	98	155
AE F130360[2]+MSO+28%N	0.048+0.94%+2.5%							
POST (2 to 4-inch weeds)								
AE F130360[1]+Brox+MSO+28%N	0.055+0.25+0.94%+2.5%	0	79	68	0	98	98	160
AE F130360[2]+Brox+MSO+28%N	0.048+0.25+0.94%+2.5%	0	78	65	0	98	98	165
Preemergence/POST (2 to 4-inch weeds)								
Acet[2]/V-10064+COC	2.0/0.514+1.25%	98	96	95	93	98	98	159
Acet[2]/V-10064+COC	2.0/0.768+1.25%	98	96	95	91	97	98	165
POST (2 to 4-inch weeds)								
Nico+V-10064+COC	0.031+0.514+1.25%	0	79	60	0	97	98	147
Preemergence/POST (2 to 4-inch weeds)								
Acet/Carf+Atra+NIS	2.0/0.008+0.75+0.25%	98	97	97	89	98	98	170
Gluf+Carf+AMS	0.26+0.008+2.5	0	76	68	0	98	95	154
CGA 77102+Atra/	1.91+0.75/	95	93	91	88	90	97	167
[Prim&Dica]+COC+AMS	[0.023&0.125]+1.25%+2.5							
Checks								
Hand-weeded check (Gluf POST)		98	100	100	91	100	100	164
Weedy check	-	0	0	0	0	0	0	89
	LSD (0.10)	2	4	5	5	7	4	20

[a] Acet[1] = Topnotch 3.2CS; Acet[2] = Surpass 6.4EC; [Acet&Atra] = Fultime 4CS; AE F130360[1] = 70WG; AE F130360[2] = 62WG; Atra = Aatrex 90DF; Brox = Connect 20WP; Carf = Aim 40DF; CGA 77102 = Dual II Magnum 7.64EC; Gluf = Liberty 1.67L; Nico = Accent 75DF; [Prim&Dica] = Northstar 47.4WG; RPA 201772 = Balance Pro 4L; COC = crop oil concentrate, Class Additive 17%; NIS = nonionic surfactant, Class Preference; 28%N = an aqueous solution of urea and ammonium nitrate; MSO = methylated seed oil, Sun It II; AMS = spray grade ammonium sulfate.

[b] Yield adjusted to 15.5% moisture.