

Weed control with ZA 1296 in corn at Lamberton, MN in 2001. Getting, Jodie K. and Bruce D. Potter.

The objective of this study was to evaluate ZA 1296 applied either preemergence or postemergence for annual weed control in corn. This study was conducted on a Ves-Storden loam soil containing 4.6% organic matter, pH 7.2 and soil test P and K levels of 31 and 282 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 soybeans in 2000. The area was fertilized with 150 lb/A of nitrogen as anhydrous ammonia. On May 29, 2001, Cargill '4150LL' 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 29	June 19
Treatment	PRE	POST
Temperature (F)		
air	66	52
soil (4 inch)	62	62
Relative humidity (%)	49	88
Wind (mph)	calm	W 0-5
Sky	cloudy	clear
Soil moisture	moist	dry
Corn		
leaf no.	-	4-collar
height (inch)	-	7
Green foxtail		
leaf no.	-	2 to 4
height (inch)	-	1 to 4
no./ft ²	-	4
Common ragweed		
leaf no.	-	2 to 4
height (inch)	-	2 to 4
no./ft ²	-	5
Common lambsquarters		
leaf no.	-	2 to 4
height (inch)	-	2 to 4
no./ft ²	-	<1
Rainfall after application (inch)		
1 week	0.47	0.01
2 week	0.61	0.50
3 week	0.81	0.00

None of the herbicide treatments caused visible crop injury. On June 19, prior to the POST treatments, [Acet & ZA 1296] either with or without [Flms & Clpy] provided greater than 95% control of green foxtail, common ragweed, and common lambsquarters. CGA 77102 + ZA 1296 and CGA 77102 + Za 1296 + atrazine resulted in 93 and 97% common ragweed control, respectively. CGA 77102 applied alone provided 60 to 86% control. In September, all preemergence and preemergence/POST treatments resulted in 93% or greater green foxtail control, 95% or greater common ragweed control, and 99% or greater common lambsquarters control. (Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Weed control with ZA 1296 in corn at Lamberton, MN in 2001 (Getting and Potter).

Treatment ^a	Rate	SETVI				AMBEL				CHEAL			
		6/19	7/2	7/11	9/11	6/19	7/2	7/11	9/11	6/19	7/2	7/11	9/11
Preemergence	(lb/A or %)	-----(% control)-----											
[Acetochlor&ZA 1296]	[2.0&0.18]	97	95	94	94	97	98	98	98	97	98	99	99
[Acetochlor&ZA 1296]	[2.0&0.18]	96	95	92	93	95	97	96	97	97	97	97	99
+ [Flms&Clpy]	+ [0.023&0.063]												
[Acetochlor&ZA 1296]	[2.0&0.18]	97	95	95	95	98	99	100	99	98	99	100	99
+ [Flms&Clpy]	+ [0.034&0.094]												
S-metolachlor+ZA 1296	1.91+0.19	91	90	90	93	93	94	94	95	97	98	100	100
S-metolachlor+ZA 1296+Atra	1.91+0.19+1.0	97	95	96	96	97	99	100	100	97	100	100	100
S-metolachlor+Atra	1.91+1.0	95	94	95	94	94	95	95	96	97	98	99	99
<u>Preemergence/POST</u>													
S-metolachlor/	1.91/	95	96	96	97	86	95	97	99	96	99	99	100
ZA 1296+COC+28%N	0.094+1.0%+2.5%												
S-metolachlor+Atra/	1.91+1.0/	95	98	97	97	83	99	100	100	97	99	100	100
ZA 1296+COC+28%N	0.094+1.0%+2.5%												
S-metolachlor/	1.91/	95	97	97	97	85	99	100	99	97	99	100	100
ZA 1296+Atra+COC+28%N	0.094+0.25+1.0%+2.5%												
Dimt-P/[Dica&San 1269H]	0.94/[0.128&0.051]	94	97	95	95	70	91	95	98	95	99	100	100
+NIS+AMS	+0.25%+1.0												
S-metolachlor/[Prim&Dica]	1.91/[0.023&0.125]	93	93	92	93	60	86	94	97	92	99	99	99
+COC+28%N	+1.0%+2.5%												
Weedy check		0	0	0	0	0	0	0	0	0	0	0	0
Weed-free		100	100	100	100	100	100	100	100	100	100	100	100
	LSD (0.10)	2.9	3.4	3.7	2.8	10.0	3.4	3.8	2.6	3.6	1.6	1.8	0.8

^a Atra or atrazine = Aatrex 4L; [Dica& San 1269H] or [dicamba & San 1269H] = Distinct 70WG; Dimt-P or dimethenamid-P = Outlook 6L; [Flms&Clpy] or [flumetsulam & clopyralid] = Hornet 68.5 WDG; [Prim&Dica] or [primisulfuron & dicamba] = Northstar 47.4WG; S-metolachlor = Dual II Magnum 7.64EC; ZA 1296 = Callisto 4SC; COC = crop oil concentrate, Class Additive 17%; NIS = nonionic surfactant, Class Preference; 28%N = an aqueous solution of urea and ammonium nitrate; AMS = spray grade ammonium sulfate.