

Weed control with Define, Axiom, and atrazine in corn at Lamberton, MN in 2004. Getting, Jodie K. and Bruce D. Potter. The objective of this study was to evaluate Define, Axiom and atrazine applied preemergence or early postemergence 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 2003 and was fall chiseled. The area was fertilized with 180 lb/A of nitrogen as urea. On May 3, 2004, Northrup King 'N45A6' glufosinate resistant field corn was planted in 30-inch rows at a seeding rate of 33,000 seeds/A. Cyfluthrin + tebupirimphos (Aztec 2.1G) was applied at 6.7 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 4	June 3	June 14
Treatment	PRE	POST I	POST II
Temperature (F)			
air	45	72	72
soil (4 inch)	50	66	82
Relative humidity (%)	53	36	44
Wind (mph)	NW 10	calm	W 10
Sky	clear	clear	clear
Soil moisture	dry	dry	moist
Corn			
leaf no.	-	V3	V6
height (inch)	-	5	13
Yellow foxtail			
leaf no.	-	1 to 3	2 to 4
height (inch)	-	1 to 3	2 to 4
no./ft ²	-	75	2
Common lambsquarters			
leaf no.	-	2 to 4	3 to 5
height (inch)	-	1 to 2	2 to 4
no./ft ²	-	2	<1
Redroot pigweed			
leaf no.	-	1 to 2	2 to 4
height (inch)	-	0.25 to 1	1 to 2
no./ft ²	-	4	<1
Wild buckwheat			
leaf no.	-	3 to 4	2 to 3
height (inch)	-	1 to 2	1 to 2
no./ft ²	-	<1	<1
Rainfall after application (inch)			
1 week	0.07	0.29	0.56
2 week	1.29	2.44	0.48
3 week	2.95	0.47	0.75

(Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Weed control with Define, Axiom, and atrazine in corn at Lamberton, MN in 2004 (Getting and Potter).

Treatment ^a	Rate (oz/A, pt/A or lb/A)	Yellow foxtail			Common lambsquarters			Redroot pigweed			Wild buckwheat			Yield (bu/A) ^b
		6/14	6/25	9/9	6/14	6/25	9/9	6/14	6/25	9/9	6/14	6/25	9/9	
-----(% control)-----														
<u>Preemergence/POST II (4-inch weeds)</u>														
Bicep Lite II Magnum / Buctril & Atrazine + Callisto	3 pt / 2 pt + 0.75 oz	90	90	86	95	100	100	93	100	100	88	100	100	215
Define + Atrazine / Buctril & Atrazine + Callisto	18 oz + 2 pt / 2 pt + 0.75 oz	90	93	90	97	100	100	90	100	100	88	100	100	219
Axiom + Atrazine / Buctril & Atrazine + Callisto	16 oz + 2 pt / 2 pt + 0.75 oz	86	86	81	95	100	100	88	100	100	88	100	100	215
Define + Atrazine / Define + Atrazine + COC	10 oz + 1 pt / 15 oz + 1 pt + 2 pt	98	98	96	100	100	100	100	100	100	95	99	98	217
Axiom + Atrazine / Axiom + Atrazine + COC	10 oz + 1 pt / 10 oz + 1 pt + 2 pt	98	96	94	100	100	100	100	100	100	95	100	99	205
<u>POST I (1 to 3-inch weeds)</u>														
Define + Liberty + Atrazine + AMS	18 oz + 32 oz + 1 pt + 3.0 lb	100	99	97	100	100	100	100	100	100	99	100	99	220
Axiom + Liberty + Atrazine + AMS	16 oz + 32 oz + 1 pt + 3.0 lb	100	100	98	100	100	100	100	100	100	100	100	100	221
<u>Check</u>														
Weedy check		0	0	0	0	0	0	0	0	0	0	0	0	145
	LSD (0.10)	1.4	2.6	2.4	2.0	ns	ns	4.8	ns	ns	4.7	1.1	2.2	12.3

^a COC = crop oil concentrate; AMS = spray grade ammonium sulfate.

^b Yield adjusted to 15.5% moisture.