

Topramezone for weed control corn at Waseca, MN in 2005. Hoverstad, Thomas R. The objective of this trial was to evaluate topramezone for weed control in corn. This site had an especially high population of common cocklebur. The research site was a Webster clay loam soil containing 7% organic matter, pH = 7.6 and soil test P and K levels of 42 and 168 ppm, respectively. The previous crop was corn that had been chisel plowed in the fall. The area was fertilized in the spring with 150 lb N/A as anhydrous ammonia and field cultivated once to a depth of 3 inches prior to planting to prepare a seedbed. Dekalb 'DKC 4710' was planted on May 22, 2005 in 30-inch rows. All treatments were applied with a tractor-mounted sprayer delivering 20 gpa at 40 psi using 8002 flat-fan nozzle tips. Visual estimates of weed control were taken on August 23, 2005. Application dates, environmental conditions, crop and weed stages are listed below.

Date	June 9	June 15
Treatment	Post I	Post II
air temp °F	78	72
soil temp (4-inch) °F	70	66
Relative humidity (%)	30	56
Wind	E 6	N 8
Soil moisture	Moist	Moist
Corn		
Stage	V2	V4
height (inch)	4	6
Giant foxtail		
leaf no.	1	3
height (inch)	1	3
Common cocklebur		
leaf no.	3	4
height (inch)	3	5
Common lambsquarters		
leaf no.	3	4
height (inch)	2	3
Velvetleaf		
leaf no.	2	3
height (inch)	1	2
Redroot pigweed		
leaf no.	2	3
height (inch)	1	2
Rainfall after application (inch)		
Week 1	0.55	1.00
Week 2	0.99	1.67
Week 3	2.55	1.15

Topramezone and atrazine tank mixed with nicosulfuron & rimsulfuron provided much better control of common cocklebur than nicosulfuron & rimsulfuron applied alone. Toprazmezone provided control of common cocklebur and other broadleaf weeds in a very similar manor to mesotrione. There was a trend toward better control of common cocklebur with the 2 to 4-inch weed applications as compared to the 1 to 2-inch weed applications. Yield levels however were similar for either herbicide timing. (University of Minnesota, Southern Research and Outreach Center, Waseca, MN and Dept of Agronomy and Plant Genetics, University of Minnesota, St Paul).

Table. Topramezone for weed control corn at Waseca, MN in 2005 (Hoverstad).

Treatment ^a	Rate (lb/A or %)	SETFA	XANST	ABUTH	CHEAL	AMARE	Yield Bu/A ^b
		-----(% control)-----					
<u>POST I (2-4 inch weeds)</u>							
[Nico&rims]+MSO+28%N	[0.023&0.012]+1%+2.5%	98	71	94	99	94	140
Topr+[Nico&rims]+atra+MSO+28%N	0.011+[0.023&0.012]+0.5+1%+2.5%	97	94	98	99	99	182
Topr+[Nico&rims]+atra+MSO+28%N	0.016+[0.023&0.012]+0.5+1%+2.5%	99	92	98	99	99	190
Meso+[Nico&rims]+atra+MSO+28%N	0.094+[0.023&0.012]+0.25+1%+2.5%	99	95	99	99	99	186
Topr+Nico+atra+MSO+28%N	0.016+0.031+0.5+1%+2.5%	99	94	97	99	99	190
Topr+Fora+atra+MSO+28%N	0.016+0.033+0.5+1%+2.5%	99	95	99	99	99	192
Fora+[dica&difl]+MSO+28%N	0.033+[0.125&0.05]+1%+2.5%	99	97	95	99	99	187
<u>POST I (1-2 inch weeds)</u>							
Dime-P+topr+atra+COC+28%N	0.75+0.016+1+1%+2.5%	99	92	92	99	99	189
Pend+topr+atra+COC+28%N	0.95+1.016+1+1%+2.5%	99	89	99	99	99	191
[S-meto & meso & atra]+ [Nico&rims]+NIS	[0.84&0.84&0.31]+ [0.023&0.012]+0.25%	99	84	99	99	99	185
<u>Checks</u>							
Weedy	-	0	0	0	0	0	140
Hand-Weeded	-	100	100	100	100	100	186
	LSD (0.10)	2	7	5	1	3	6

^a Atra =atrazine = Aatrex 90DF; [Dica&difl] = [dicamba & diflufenzopyr] = Distinct 70WG; Dime-P= Dimethenamid-P=Outlook 6L; Fora = foramsulfuron= Option 35DF; Meso = mesotrione = Callisto 4L; [Nico&rims] = [nicosulfuron & rimsulfuron] = Steadfast 75DF; [S-meto&meso&atra] = [S-metolochlor & mesotrione & atrazine] = Lumax 3.95L; Topr = topramezone = Impact 2.8SC; COC = crop oil concentrate, Prime Oil; NIS = nonionic surfactant, Class Preference; MSO = Methylated seed oil = Destiny; 28%N = an aqueous solution of urea and ammonium nitrate.

^b Yield adjusted to 15.5% moisture.