

Herbicide performance in corn at Waseca, MN common ragweed site in 2005. Hoverstad, Thomas R. and Jeffrey L. Gunsolus. The objective of this trial was to evaluate weed management systems available to corn producers in southern Minnesota on several annual weed species. This site had an especially high population of common ragweed. The research site was a Webster clay loam soil containing 7% organic matter, pH = 7.0 and soil test P and K levels of 38 and 155 ppm, respectively. The previous crop was oats that had been moldboard 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. Pioneer '38H69' was planted on May 23, 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 September 3, 2005. Application dates, environmental conditions, crop and weed stages are listed below.

Date	May 23	June 9	June 13	June 16
Treatment	Pre	Post I	Post II	Post III
air temp °F	79	79	75	81
soil temp (4-inch) °F	57	66	68	69
Relative humidity (%)	32	40	45	23
Wind	NE 6	E 1	E 5	N 5
Soil moisture	Moist	Wet	Moist	Moist
Corn				
stage	-	V2	V3	V4
height (inch)	-	4	5	6
Giant foxtail				
leaf no.	-	2	3	4
height (inch)	-	1	2	4
Common ragweed				
leaf no.	-	4	5	6
height (inch)	-	2	3	4
Redroot pigweed				
leaf no.	-	2	3	4
height (inch)	-	0.5	1	2
Common lamsquarters				
leaf no.	-	4	5	6
height (inch)	-	2	2	3
Rainfall after application (inch)				
Week 1	0.74	0.55	0.32	1.00
Week 2	0.24	0.99	1.94	2.54
Week 3	1.61	2.55	1.95	0.35

Broadleaf weed control was excellent with all treatments. Grass control was slightly less than average for the following treatments: 1.) S-metolachlor&mesotrione&atrazine preemergence, 2.) KIH-485 preemergence followed by flumetsulam&clopyralid plus mesotrione plus atrazine, and 3.) dimethenamid-P preemergence followed by carfentrazone plus atrazine plus dicamba. These slight reductions in giant foxtail control did not result in reduced yields. (University of Minnesota, Southern Research and Outreach Center, Waseca, MN and Dept of Agronomy and Plant Genetics, University of Minnesota, St Paul).

Table. Herbicide performance in corn at a common ragweed site at Waseca, MN in 2005 (Hoverstad and Gunsolus).

Treatment ^a	Rate (lb/A or %)	SETFA	AMBEL	CHEAL	AMARE	Yield Bu/A ^b
		-----(% control)-----				
<u>Preemergence</u>						
[Acet&dcmd&atra]+[Flms&clpy]	[2.2&0.8]+[0.046&0.125]	97	99	99	99	194
[S-meto&meso&atra]	[2&0.2&0.75]	92	99	99	99	207
<u>Preemergence/POST III (V4 corn)</u>						
Acet ¹ /	2.2/					
[Flms&clpy]+Meso+Atra+COC+AMS	[0.035&0.09]+0.023+0.25+1%+2.5	98	94	99	99	191
KIH-485/	[2.2&0.8]/					
[Flms&clpy]+Meso+Atra+COC+AMS	[0.035&0.09]+0.023+0.25+1%+2.5	90	99	99	99	209
Dime-P/	0.98/					
[Dica&difl]+Atra+NIS+AMS	[0.125&0.05]+0.5+0.25%+2.5	99	99	99	99	198
Fict/Gluf+Atra+AMS	0.38/0.42+0.5+3	99	99	99	99	209
Fict/	0.38/					
Fora+[Dica&difl]+MSO+28%	0.033+[0.06&0.025]+1.5pt+3pt	98	99	99	99	176
[S-meto&beno]/	0.95/					
[Nico&rims]+Meso+Atra+COC+AMS	[0.023&0.012]+0.06+0.5+1%+2	99	99	99	99	196
[S-meto&beno]/	1.91/					
Meso+Atra+COC+28%N	0.094+0.5+1%+2.5%	96	99	99	99	189
Dime-P/	0.98/					
Carf+Atra+Dica+NIS	0.008+0.5+0.94+0.25%	91	99	99	99	186
Acet ² /Glyt ¹ +AMS	1.1/0.77+2.5	99	99	99	99	188
[Acet&dcmd&atra]/Glyt ² +AMS	[1.1&0.4]/.75+2.5	99	99	99	99	190
Dime-P/[Dica&difl]+Glyt ¹ +NIS+AMS	0.56/[0.094&0.04]+0.39+0.25%+2.5	99	99	99	99	203
[Rims&thif]+atra/Glyt ³	[0.012&0.006]+0.38/0.77	98	99	99	99	209
<u>POST I (V2 Corn)</u>						
[Rims&thif]+	[0.01&0.005]+					
[S-meto&meso&atra]+NIS	[1.2&0.12&0.44]+0.25%	95	99	99	99	205
[S-meto&meso&atra]+Glyt ⁴ +AMS	[1&0.1&0.38]+0.78+1.7	97	99	99	99	208
[S-meto&meso&atra]+Gluf+AMS	[1&0.1&0.38]+0.26+1.7	99	99	99	99	190
[Nico&rims]+	[0.023&0.012]+					
[S-meto&meso&atra]+NIS	[0.67&0.067&0.25]+0.25%	98	99	99	99	212
<u>POST II (V3 corn)</u>						
Fora+Meso+MSO+AMS	0.035+0.047+1.5pt+3pt	96	99	99	99	206
<u>POST III (V4 corn)</u>						
[Nico&rims]+Meso+Atra+COC+AMS	[0.023&0.012]+0.06+0.5+1%+2.5	99	99	99	99	210
DPX-E9636+Glyt ³ +AMS	0.016+0.77+2	99	99	99	99	193
DPX-E9636+Atra+Glyt ³ +AMS	0.016+0.5+0.77+2	99	99	99	99	215
<u>Checks</u>						
Weedy	-	0	0	0	0	144
Hand-Weeded	-	100	100	100	100	194
	LSD (0.10)	4	2	1	1	17

^aAcet¹ = acetochlor = Surpass 6.4E; Acet² = acetochlor = Harness 7E; [Acet&dcmd&atra] = [acetochlor & dichlormid & atrazine] = Keystone LA 5.5 SE; Atra = atrazine = Aatrex 90DF; Carf = carfentrazone = Aim EW; Dica = dicamba = Clarity 4S; [Dica&difl] = [dicamba & diflufenzopyr] = Distinct 70WG; Dime-P = Dimethenamid-P = Outlook 6L; Fict = flufenacet = DefineSC 4L; Fora = foramsulfuron = Option 35DF; [Flms&clpy] = [flumetsulam & clopyralid] = Hornet WDG; Glyt¹ = glyphosate = Roundup Weather MAX; Glyt² = glyphosate = Glyphomax XRT; Glyt³ = glyphosate = Roundup OriginalMAX; Glyt⁴ = glyphosate = Touchdown Total; Gluf = glufosinate = Liberty 1.67L; Meso = mesotrione = Callisto 4L; [Nico&rims] = [nicosulfuron & rimsulfuron] = Steadfast 75DF; [S-meto&beno] = [S-metolachlor & benoxacor] = Cinch 7.64EC; [S-meto&meso&atra] = [S-metolachlor & mesotrione & atrazine] = Lumax 3.95L; 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; AMS = N-Pa-K liquid ammonium sulfate.

^b Yield adjusted to 15.5% moisture.