Herbicide performance in corn at Waseca, MN common ragweed site in 2004. 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 to prior to planting to prepare a seedbed. Two corn hybrids were used to evaluate the products for weed control in this trial. Those treatments that included glyphosate were evaluated using Pioneer '38H66'. The treatments using glufosinate and those treatments that require no special herbicide resistance were evaluated using Pioneer '38H68'. All corn was planted on May 5, 2004 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 29, 2004. Application dates, environmental conditions, crop and weed stages are listed below.

Date	May 6	June 3	June 14	June 30
Treatment	Pre	V3 corn	V4 corn	4-inch regrowth
air temp °F	72	70	72	82
soil temp (4-inch) °F	74	65	70	75
Relative humidity (%)	25	45	35	35
Wind	NE 8	W 5	W 9	S 4
Soil moisture	Dry	Moist	Moist	Moist
Corn				
stage	--	V3	V4	V9
height (inch)	--	4	6	30
Giant foxtail				
leaf no.	--	1-2	2-3	2-4
height (inch)	--	1-2	2-3	3-5
Common ragweed				
leaf no.	--	2-4	4-6	2-4
height (inch)	--	1-2	3	2-4
Common lamsquarters				
leaf no.	--	2-4	6	6-10
height (inch)	--	1-2	3-4	3-4
Rainfall after application (inch)				
Week 1	1.66	4.29	0.15	2.09
Week 2	0.73	1.18	0.37	2.49
Week 3	2.47	0.37	0.88	1.85

Ample soil moisture after planting and throughout the spring resulted in excellent activity for preemergence treatments. Postemergence treatments that failed to control common ragweed included [nicosulfuron & rimsulfuron] tank mixed with either mesotrione or [S-metolachlor & mesotrione & atrazine]. Using [nicosulfuron & rimsulfuron & clopyalid & flumetsulam] postemergence resulted in better common ragweed control than the tank mixes that included [nicosulfuron & rimsulfuron]. (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 2004 (Hoverstad and Gunsolus).

Treatment[a]	Rate	SETFA	AMBEL	CHEAL	Yield
	(lb/A or %)	-------(% control)-------			Bu/A[b]
Preemergence Corn hybrid = Pioneer 38H68					
[Acet&atra]+[Flms&clpy]	[2.2&0.8]+[0.046&0.125]	97	99	99	188
[S-meto&meso&atra]	[2&0.2&0.75]	87	99	99	185
Preemergence/POST II (V4 corn) Corn hybrid = Pioneer 38H68					
Acet/ Flms&clpy]+Meso+Atra+NIS+AMS	2.2/ [0.035&0.09]+0.023+0.25+1%+2.5	99	99	99	181
[Acet&atra]/ Flms&clpy]+Dica+Atra+NIS+AMS	[2.2&0.8]/ [0.035&0.09]+0.125+0.25+1%+2.5	95	99	99	201
Dime-P/ [Dica&difl]+Atra+NIS+AMS	0.98/ [0.125&0.05]+0.45+0.25%+2.5	98	99	99	184
Flct/Gluf+Atra+AMS	0.45/0.42+0.45+3	98	97	97	200
Flct/ Fora+[Dica&difl]+MSO+28%	0.45/ 0.033+[0.125&0.05]+1.5pt+3pt	98	99	99	189
Flct[2]/ Fora+Meso+MSO+28%	0.38/ 0.033+0.047+1.5pt+3pt	96	95	99	202
[S-meto&CGA-154281]/ [Nico&rims&clpy&flms]+Meso+ Atra+COC+AMS	0.71/ [0.01&0.01&0.11&0.03]+0.031+ 0.45+1%+2	96	97	99	180
[S-meto&CGA-154281]/ [Nico&rims]+Meso Atra+COC+AMS	0.71/ [0.02&0.01]+0.063 0.45+1%+2	97	91	99	181
[S-meto&CGA-154281]/ Meso+Gluf+Atra+AMS	0.95/ 0.94+0.22+0.5+2	97	99	99	196
[S-meto&CGA-154281]/ Meso+Atra+COC+28%N	1.91/ 0.094+0.5+1%+2.5%	96	99	99	199
Dime-P/ Carf+Atra+Dica+NIS	0.98/ 0.008+0.5+0.94+0.25%	93	99	99	200
POST II (V4 Corn) Corn hybrid = Pioneer 38H68					
[Nico&rims]+ Meso+COC+AMS	[0.02&0.01]+ 0.06+1%+2	94	50	99	181
[Nico&rims&clpy&flms]+ Dica+Atra+COC+AMS	[0.01&0.01&0.11&0.03]+ 0.125+0.45+1%+2	88	99	99	198
[Nico&rims]+ [S-meto&meso&atra]+NIS+AMS	[0.02&0.01]+ [0.5&0.05&0.19]+0.25%+2	97	63	99	191
Checks Corn Hybrid = Pioneer 38H68					
Weedy	-	0	0	0	85
Hand-Weeded	-	100	100	100	189
Preemergence/POST II (V4 corn) Corn hybrid = Pioneer 38H66					
Acet[2]/Glyt+AMS	1.1/0.94+2.5	99	99	99	223
[S-meto&CGA-154281]/Glyt[2]+AMS	0.95/1.1+2.5	99	99	99	225
[Acet&atra]+GF1279+AMS	[1.1&0.4]/1.0+2.5	99	99	99	228
Dime-P/[Dica&difl]+Glyt+NIS+AMS	0.56/[0.094&0.04]+0.47+0.25%+2.5	99	99	99	221
[S-meto&CGA-154281/ Glyt+Rims+AMS	0.71/ 0.94+0.016+2.5	99	99	99	211
POST I (V3 corn) / POST III (4-inch Regrowth) Corn hybrid = Pioneer 38H66					
Glyt+AMS/ Glyt+AMS	0.94+2.5 / 0.94+2.5	99	99	99	202
Glyt+Carf+AMS/ Glyt+AMS	0.94+0.008+2.5 / 0.94+2.5	99	99	99	206
Checks Corn Hybrid = Pioneer 38H68					
Hand-Weeded	-	100	100	100	211
	LSD (0.10)	4	7	1	24

[a]Acet = acetochlor = Surpass 6.4E; Acet[2] = acetochlor = Harness 7E; [Acet&atra] = [acetochlor & 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; Flct = flufenacet = Define 60DF; Flct[2] = flufenacet = DefineSC 4L; Fora = foramsulfuron= Option 35DF; [Flms&clpy] = [flumetsulam & clopyralid] = Hornet WDG; Glyt = glyphosate = Roundup Weather MAX; Glyt[2]= glyphosate = Touchdown Total; Gluf = glufosinate = Liberty 1.67L; Meso = mesotrione = Callisto 4L; [Nico&rims&clpy&flms] = [nicosulfuron & rimsulfuron & clopyralid & flumetsulam] = Accent Gold WDG; [Nico&rims] = [nicosulfuron & rimsulfuron] = Steadfast 75DF; Rims = rimsulfuron; [S-meto&CGA-154281] = [S-metolachlor & CGA-154281] = Cinch 7.64EC; [S-meto&meso&atra] = [S-metoloachlor & mesotrione & atrazine] = Lumax 3.95L; 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.

[b] Yield adjusted to 15.5% moisture.