

Herbicide performance in corn at Waseca, MN common ragweed site in 2002. 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 6.7% organic matter, pH = 7.0 and soil test P and K levels of 26 and 165 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. Novartis 'NK 42B7' (imidazolinone and glufosinate tolerant) corn seed was planted on May 10, 2002 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 9, 2002. Application dates, environmental conditions, crop and weed stages are listed below.

Date	May 10	June 5	June 13
Treatment	Pre	3-collar	4-collar
air temp °F	87	74	68
soil temp (4-inch) °F	65	68	62
Relative humidity (%)	25	30	53
Wind	S12	S 5	W 6
Soil moisture	moist	Wet	moist
Corn			
stage	--	V3	V4
height (inch)	--	4	7
Giant foxtail			
leaf no.	--	1-2	2-4
height (inch)	--	1-2	3-5
Common ragweed			
leaf no.	--	2-4	2-4
height (inch)	--	1-2	2-4
Common lamsquarters			
leaf no.	--	2-4	6-10
height (inch)	--	1-2	3-4
Rainfall after application (inch)			
Week 1	0.41	1.15	0.36
Week 2	0.00	0.36	3.15
Week 3	0.74	3.15	0.00

The only treatments that failed to provide excellent common ragweed control were [FOE 5043 & metribuzin] followed by AE F130360 01 or [nicosulfuron & rimsulfuron] tank mixed with carfentrazone and atrazine . (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 2002 (Hoverstad and Gunsolus).

Treatment ^a	Rate (lb/A or %)	SETFA	AMBEL	CHEAL	Yield Bu/A ^b
-----(% control)-----					
<u>Preemergence</u>					
Acet+[Flms&clpy]	2.2+[0.046&0.15]	93	86	77	181
Isft+FOE 5043+Atra	0.07/0.375+1.0	93	97	76	214
<u>Preemergence/POST III (4-collar corn)</u>					
Acet/[Flms&clpy]+Atra+COC+AMS	2.2/[0.035&0.11]+0.75+1%+2.5	79	98	99	173
Acet/[Flms&clpy]+Dica+NIS+AMS	2.2/[0.035&0.11]+0.125+1%+2.5	88	99	99	186
Dimethenamid-P/ [Flms&clpy]+Carf+NIS+AMS	0.94/ [0.035&0.11]+0.007+0.25%+2.5	71	99	98	180
Dimethenamid-P/ Carf+atra+NIS+AMS	0.94/ 0.007+1.0+0.25%+2.5	86	98	98	184
Dimethenamid-P/ [Dica&SAN 1269H]+NIS+AMS	0.94/ [0.125&0.05]+0.25%+2.5	92	99	99	204
[FOE 5043&metr]/ AE F130360 01+MSO+28%	[0.45&0.11]/ 0.03+1%+2.5%	97	66	91	174
[S-meto&CGA-154281]/ Meso+atra+COC+28%N	1.91/ 0.094+0.25+1%+2.5%	80	99	99	182
[S-meto&CGA-154281]/ [Prim&dica]+COC+28%N	1.91/ [0.023&0.125]+1%+2.5%	85	99	99	191
[S-meto&CGA-154281]/ Meso+[Nico&rims]+ atra+COC+28%N	1.91/ 0.094+[0.016&0.008]+ 0.25+1%+2.5%	98	99	99	188
[S-meto&CGA-154281]/ Meso+Gluf+atra+COC+28%N	1.91/ 0.094+0.18+0.25+1%+2.5%	96	99	99	188
FOE 5043/ AE F130360+[Dica&SAN 1269H]+ MSO+28%	0.375/ 0.033+[0.125&0.05]+ 1.5pt+3pt	97	99	99	191
[S-meto&CGA-154281]/ [Nico&rims&clpy&flms]+ atra+COC+28%N	1.91/ [0.01&0.01&0.11&0.03]+ .75+1%+qt	97	99	99	189
FOE 5043/Gluf+Atra+AMS	0.375/0.31+0.5+3.0	99	99	99	178
Acet ² /[Hals&dica]+NIS	2.2/[0.03&.14]+0.25%	87	99	99	187
<u>POST I (3-collar Corn)</u>					
[Imep&impr]+[Dica&atra]+ NIS+AMS	[0.042&0.014]+[0.28&0.55]+ 0.25%+2.5	94	99	99	193
<u>POST II (4-collar Corn)</u>					
[Nico&rims]+ Meso+atra+COC+AMS	[0.023&0.012]+ 0.06+0.25+1%+2	95	97	99	196
[Nico&rims]+ [Flms&clpy]+atra+COC+AMS	[0.023&0.012]+ [0.035&0.11]+0.5+1%+2	95	99	99	178
[Nico&rims]+ Carf+Atra+COC+AMS	[0.023&0.012]+ 0.007+0.5+1%+2	96	68	99	167
[Nico&rims&clpy&flms]+ Dica+Atra+COC+AMS	[0.01&0.01&0.11&0.03]+ 0.125+0.5+1%+2	83	99	99	175
[Nico&rims&clpy&flms]+ Meso+Atra+COC+AMS	[0.01&0.01&0.11&0.03]+ 0.03+0.25+1%+2	93	99	99	167
<u>Checks</u>					
Weedy	-	0	0	0	66
Hand-Weeded	-	100	100	100	192
	LSD(0.10)	12	9	7	28

^aAcet = acetochlor = Surpass 6.4E; Acet² = acetochlor = Harness 7E; Atra = atrazine = Aatrex 90DF; AE F130360 01 = Option 35DF; [Dica&SAN 1269H] [dicamba & SAN1269H] = Distinct 70WG; [FOE 5043&metr] = [FOE 5043 & metribuzin] = Axiom 60DF; [S-meto&CGA-154281] = [S-metolachlor & CGA-154281] = Dual II Magnum 7.64EC; Dica = dicamba = Clarity 4S; [Flms&clpy] = [flumetsulam & clopyralid] = Hornet WDG; carf = carfentrazone = Aim EW; Gluf = glufosinate = Liberty 1.67L; [Hals & dica] = [halosulfuron & dicamba] = Yukon67.5DF; [Imep&impr] = [imazethapyr & imazapyr] = Lightning 70DF; [Nico&rims&clpy&flms] = [nicosulfuron & rimsulfuron & clopyralid & flumetsulam] = Accent Gold WDG; [Prim&Dica] = [primisulfuron & dicamba] = Northstar 47.4WG; Isft = isoxaflutole = Balance Pro 4L; Dimethenamid-P = Outlook 6L; [Dica&atra] = [dicamba & atrazine] = Marksman 3.3L; [Nico&rims] = [nicosulfuron & rimsulfuron] = Steadfast 75DF; FOE 5043 = Define 60DF; Meso = mesotrione = Callisto 4L; 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.