Herbicide performance in corn at Waseca, MN common ragweed site in 2003. 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. Three corn hybrids were used to evaluate the products for weed control in this trial. Those treatments that included glyphosate (Roundup WeatherMax or Touchdown IQ) were evaluated using Garst '8590RR'. The treatment including Lightning was evaluated using Garst '8590IT'. The treatments using Liberty and those treatments that require no special herbicide resistance were evaluated using 'Garst 8517LL'. All corn was planted on May 2, 2003 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 18, 2002. Application dates, environmental conditions, crop and weed stages are listed below.

Date	May 2	May 30	June 5	June 24
Treatment	Pre	V3 corn	V4 corn	4-inch regrowth
air temp °F	64	74	72	85
soil temp (4-inch) °F	52	65	65	75
Relative humidity (%)	45	30	55	25
Wind	W6	W 12	S5	W 6
Soil moisture	Moist	Dry	Dry	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	1.93	0.03	2.09	0.93
Week 2	1.24	2.09	0.03	1.67
Week 3	0.21	0.03	1.44	1.16

The only treatments that failed to provide excellent giant foxtail control were soil applied Lumax as a one-pass soil applied treatment or preemergence Dual II Magnum at a one-half rate followed by Callisto and atrazine. Common ragweed control was better where Steadfast ATZ was tank mixed with Callisto than where Steadfast was tank mixed with Callisto. The highest corn yields in this trial were associated with the glyphosate treatments but this is likely the result of hybrid differences as weed control was similar for most treatments. (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 Waseca, MN common ragweed site in 2003 (Hoverstad and Gunsolus).

Treatment[a]	Rate	Giant foxtail	Common ragweed	Common lambs.	Yield
	(product/A)	-------(% control)-------			Bu/A[b]
Preemergence Corn hybrid = Garst 8517LL					
Keystone LA + Hornet WDG	2.2 qt+ 4oz	98	99	99	172
Lumax	6 pt	75	99	99	155
Preemergence/POST II (V4 corn) Corn hybrid = Garst 8517LL					
Surpass/ Hornet+atrazine+COC+AMS	2.75 pt/ 4 oz+0.75 lb+1%+2.5 lb	97	99	99	173
Surpass/ Hornet+Callisto+atrazine+NIS+AMS	2.75 pt/ 3 oz+0.75 oz+0.28 lb+1%+2.5 lb	98	99	99	182
Keystone LA/ Hornet+Clarity+NIS+AMS	2.2 qt/3 oz+4 oz+0.25 lb+1%+2.5 lb	99	99	99	169
Outlook/ Distinct+atrazine+NIS+AMS	21 oz/ 4 oz+0.5 lb+0.25%+2.5 lb	96	97	99	175
Define/ Liberty+atrazine+AMS	12 oz/ 32 oz +0.5 lb+3 lb	98	97	99	160
Define/ Option+Distinct+MSO+28%	12 oz/1.5 oz+4 oz+1.5 pt+3 pt	95	98	99	157
Cinch/ AccentGold+Callisto+atrazine+COC+AMS	0.75 pt/ 3.5 oz+1 oz+0.5 lb+1%+2 lb	95	99	99	163
Cinch/ Streadfast+Callisto+atrazine+COC+AMS	0.75 pt/ 0.75 oz+2 oz+0.5 lb+1%+2 lb	97	97	99	182
Dual II Magnum/ Northstar+atrazine+COC+28%N	2 pt/5 oz+0.5 lb+1%+2.5%	95	99	99	167
Dual II Magnum/ Callisto+atrazine+COC+28%N	1 pt/ 3 oz+0.28 lb+1%+2.5%	75	99	99	169
Outlook/ Aim+atrazine+COC	21 oz/ 0.5 oz+1 lb+1%	93	96	99	166
Outlook/ Aim+atrazine+Clarity+COC	21 oz/ 0.5 oz+1 lb+4 oz+1%	92	99	99	183
Preemergence/POST II (V4 corn) Corn hybrid = Garst 8590 RR					
Harness/ Roundup WeatherMax+AMS	1.25 pt/22 oz+2.5 lb	99	96	99	192
Dual II Magnum/ Touchdown IQ+AMS	1 pt/ 32 oz+2.5 lb	98	96	94	190
Outlook/ RoundupWeatherMax+Clarity	12 oz/ 22 oz + 8 oz	98	96	99	201
POST I (V3 corn) / POST III (4-inch Regrowth) Corn hybrid = Garst 8590 RR					
Roundup WeatherMax+AMS/ Roundup WeatherMax+AMS	22 oz+2.5 lb/ 22 oz+2.5 lb	99	99	99	210
POST I (V3 corn) / POST III (4-inch Regrowth) Corn hybrid = Garst 8517LL					
Liberty+atrazine+AMS / Liberty+atrazine+AMS	32 oz+0.5 lb+2.5 lb/ 28 oz +0.5 lb+2.5 lb	98	99	99	179
POST 1(V3 corn) Corn hybrid = Garst 8590IT					
Lightning+Marksman+ NIS+AMS	1.28 oz+2 pt+0.25%+2.5 lb	96	97	99	182
POST II (V4 Corn) Corn hybrid = Garst 8517LL					
Steadfast+Callisto+COC+AMS	0.75 oz+2 oz+1%+2 lb	96	78	99	164
Steadfast ATZ+Callisto+COC+AMS	14 oz+2 oz+1%+2 lb	92	99	99	153
Accent Gold WDG+Clarity+atrazine+COC+AMS	3.5 oz+4 oz+0.5 oz+1%+2 lb	89	99	99	180
Steadfast+Lumax+NIS+AMS	0.75 oz+2 pt+0.25%+2 lb	89	91	99	177
Checks					
Weedy	-	0	0	0	26
Hand-Weeded	-	100	100	100	188
	LSD (0.10)	4	4	2	17

[b] Yield adjusted to 15.5% moisture.