Herbicide performance in glyphosate tolerant corn at Lamberton, MN in 1998. Getting, Jodie K. and Thomas R. Hoverstad. The objective of this study was to evaluate herbicide combinations for annual grass and annual broadleaf weed control in corn. This study was conducted on a Ves loam soil containing 4.2% organic matter, pH 6.0 and soil test P and K levels of 64 and 422 lb/A, respectively. A randomized complete block design with four replications and a plot size of 10 by 30 ft was used. The site was planted to oats in 1997 and was fall moldboard plowed. On May 11, 1998 the area was fertilized with 160 lb/A of nitrogen as urea. The entire trial was field cultivated once with a field cultivator set to till 3 inches deep and operated at 5 to 6 mph. On May 12, 1998 Dekalb '493 RR' glyphosate resistant field corn was planted in 30-inch rows at a seeding rate of 30,000 seeds/A. All treatments were applied with a tractor-mounted sprayer delivering 20 gpa at a pressure of 40 psi. The sprayer was equipped with 8002 flat-fan nozzles spaced 15 inches apart on the boom. Application dates, environmental conditions, plant sizes and rainfall data are listed below:

Date	May 12	June 10	June 22
Treatment	PRE	POST I	POST II
Temperature (F)			
air	66	68	62
soil (4 inch)	60	70	76
Relative humidity (%)	66	63	77
Wind (mph)	SW 10	SE 10	WNW 5
Sky	cloudy	p. cloudy	clear
Soil moisture	dry	dry	dry
Corn			
leaf no.	-	V5	V7
height (inch)	-	8	21
Yellow foxtail			
leaf no.	-	2 to 4	1 to 2
height (inch)	-	2 to 4	1 to 2
no./ft^2	-	82	< 1
Common lambsquarters			
leaf no.	-	5 to 8	1 to 2
height (inch)	-	2 to 4	1 to 2
no./ft^2	-	9	< 1
Rainfall after application (inch)			
1 week	0.58	0.53	1.80
2 week	0.25	0.39	0.94
3 week	0.25	1.89	0.72

In June, RPA 201772 + atrazine had 77% yellow foxtail control and RPA 201772 + acetochlor at either rate gave 93 to 94% control. However, by September, the level of control was similar for these treatments. Glyphosate applied POST provided greater than 99% control. All treatments provided excellent common lambsquarters control. Corn yields for all treatments were not significantly different from the hand-weeded check.

Table. Herbicide performance in glyphosate tolerant corn at Lamberton, MN in 1998 (Getting and Hoverstad).

Treatment[a]	Rate	Yeft			Colq			Yield
		6/10	6/26	9/10	6/10	6/26	9/10	
Preemergence	(lb/A or %)	——————(% control)——————						(bu/A)[b]
RPA 201772+acetochlor	0.094+1.0	93	90	94	98	99	99	174
RPA 201772+atrazine	0.094+0.72	77	75	92	98	99	99	162
RPA 201772+acetochlor	0.06+1.95	94	93	93	98	98	100	175
Preemergence/POST I(2 to 4-inch weeds)								
RPA 201772/Nico+COC	0.094/0.031+1%	65	96	98	96	99	100	173
RPA 201772/glyphosate	0.094/0.56	70	96	100	96	100	100	175
Acetochlor/glyphosate	1.0/0.75	90	83	100	83	100	100	171
POST I(2 to 4-inch weeds)								
Acetochlor/glyphosate	1.0/0.75	-	100	99	-	100	100	166
POST I(2 to 4-inch weeds)/POST II(2 to 4-inch weeds)								
Glyphosate/glyphosate	0.56/0.375	-	100	99	-	100	100	177
POST I(2 to 4-inch weeds)								
Nico+F8426+atrazine	0.031+0.008+0.5	-	83	87	-	99	100	164
Preemergence/POST I(2 to 4-inch weeds)								
CGA 77102/TRA 0229	1.91/0.5	82	87	91	62	99	100	168
CGA 77102/TRA 0229+Atra	1.91/0.5+0.5	82	85	83	62	100	100	161
CGA 77102/TRA 0230	1.91/0.5	83	87	88	43	98	99	161
CGA 77102/TRA 0230+Atra	1.91/0.5+0.5	83	88	87	37	99	100	161
CGA 77102/[Dica&Atra]	1.91/[0.34&0.66]	80	85	85	43	99	100	170
Hand-weeded check	-	100	100	100	100	100	100	172
Weedy check	-	0	0	0	0	0	0	135
	LSD (0.10)	7	5	5	16	1	1	19

[a] Acetochlor = Harness 7 EC; Atra or atrazine = Aatrexx 90DF; CGA 77102 = Dual II Magnum 7.64EC; [Dica&Atra] = Marksman 3.2F; F8426 = Aim 40DF; Nico = Accent 75DF; RPA 201772 = Balance 75DF; COC = crop oil concentrate, Class Additive 17%.

[b] Yield adjusted to 15.5% moisture.