

Annual weed control with PRE/POST herbicide combinations in glyphosate resistant corn at Lamberton, MN in 2007. Getting, Jodie K. The objective of this study was to evaluate corn herbicide combinations for annual grass and annual broadleaf weed control in corn. This study was conducted on a Ves loam soil containing 4.3% organic matter, pH 6.5 and soil test P and K levels of 26 and 332 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 soybeans in 2006 and was fall chiseled. The area was fertilized with 150 lbs/A nitrogen applied as urea. On April 30, 2007, Pioneer '35F40' glufosinate resistant/glyphosate resistant field corn was planted in 30-inch rows at a seeding rate of 33,000 seeds/A. Tefluthrin (Force) was applied at 5.0 oz/1000 row feet in a T-band for the control of northern corn rootworm larvae. 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 2	May 21	May 31	June 11
Treatment	PRE	POST I	POST II	POST III
Temperature (F)				
air	46	66	52	78
soil (4 inch)	54	66	60	70
Relative humidity (%)	66	68	88	70
Wind (mph)	calm	S 10	SW 8	S 6
Sky	clear	clear	clear	clear
Soil moisture	dry	dry	dry	dry
Corn				
leaf no.	-	V3	V5	V7
height (inch)	-	3.5	11	21
Green foxtail				
leaf no.	-	2 to 3	3 to 5	2 to 4
height (inch)	-	1 to 1.5	4 to 6	2 to 4
no./ft ²	-	35	25	5
Common lambsquarters				
leaf no.	-	2 to 3	6 to 8	3 to 5
height (inch)	-	0.5 to 1.0	3 to 4	2 to 4
no./ft ²	-	2	3	< 1
Tall waterhemp				
leaf no.	-	2 to 3	3 to 5	3 to 5
height (inch)	-	0.5 to 1.0	3 to 4	2 to 4
no./ft ²	-	4	3	1
Rainfall after application (inch)				
1 week	1.96	0.27	1.90	1.43
2 week	0.02	1.97	0.19	0.17
3 week	0.26	0.24	1.43	0.00

(Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Annual weed control with PRE/POST herbicide combinations in glyphosate resistant corn at Lamberton, MN in 2007 (Getting).

Treatment ^a	Rate (oz/A, pt/A, qt/A, or %)	Green foxtail				Common lambsquarters				Tall waterhemp				Yield ^b (bu/A)
		5/31	6/7	6/19	8/22	5/31	6/7	6/19	8/22	5/31	6/7	6/19	8/22	
<u>Preemergence</u>		-----(% control)-----												
Lumax	6 pt	89	85	78	73	100	100	100	98	100	100	100	98	166
<u>Preemergence/POST II (3 to 4-inch weeds)</u>														
Harness Xtra / Roundup Original Max + AMS	2.4 pt / 22 oz + 3 qt	94	100	97	97	98	100	100	98	99	100	100	98	172
Degree Xtra / Roundup Original Max + AMS	2.97 pt / 22 oz + 3 qt	81	100	96	95	97	100	100	97	97	100	100	98	178
G-Max Lite / Roundup Original Max + AMS	2 pt / 22 oz + 3 qt	87	100	96	94	99	100	100	98	98	100	100	98	182
G-Max Lite / Roundup Original Max + AMS	2.5 pt / 22 oz + 3 qt	94	100	98	97	95	100	100	98	99	100	100	98	177
Harness / MON 79790 + AMS	1.5 pt / 22 oz + 3 qt	89	100	96	94	83	100	98	97	98	100	100	97	181
Degree / MON 79790 + AMS	48 oz / 22 oz + 3 qt	85	100	95	97	80	100	100	98	98	100	100	98	185
Outlook / Roundup Original Max + AMS	12 oz / 22 oz + 3 qt	88	100	95	95	96	100	100	98	99	100	100	98	184
Outlook / Roundup Original Max + AMS	16 oz / 22 oz + 3 qt	87	100	97	94	98	100	100	98	99	100	100	98	173
Lumax / Touchdown Total + AMS	4 pt / 24 oz + 3 qt	83	100	97	94	99	100	100	98	99	100	100	98	175
Bicep Lite II Magnum / Touchdown Total + AMS	2 pt / 24 oz + 3 qt	81	100	94	93	98	100	100	98	98	100	100	98	171
Atrazine / Roundup Original Max + AMS	3 pt / 22 oz + 3 qt	45	100	91	88	100	100	100	97	99	100	99	97	174
Resolve + Atrazine / Steadfast + Callisto + COC + AMS	1 oz + 1 qt / 0.75 oz + 2 oz + 1% + 3 qt	60	91	91	92	100	100	100	98	100	100	100	98	177
<u>POST II (3 to 4-inch weeds)</u>														
Roundup Original Max	22 oz	0	100	86	80	0	100	98	93	0	100	83	74	166
<u>POST I (1 to 2-inch weeds)/ POST III (regrowth)</u>														
Roundup Original Max / Roundup Original Max	22 oz / 22 oz	100	93	98	97	100	100	100	98	100	99	100	98	184
<u>Check</u>														
Weedy check	-	0	0	0	0	0	0	0	0	0	0	0	0	66
	LSD (0.10)	6.8	2.0	2.9	3.9	3.0	ns	1.1	1.2	1.9	0.7	1.1	1.0	20.1

^a COC = crop oil concentrate; AMS = liquid spray grade ammonium sulfate.

^b Yield adjusted to 15.5% moisture.