

**Annual weed control with soil applied herbicides in Roundup-Ready corn at Lamberton, MN in 2008.**

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The objective of this study was to evaluate corn herbicide combinations for annual grass and annual broadleaf weed control in Roundup-Ready corn. This study was conducted on a Ves loam soil containing 4.3% organic matter, pH 6.7 and soil test P and K levels of 24 and 326 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 2007 and was fall chiseled. The area was fertilized with 160-60-60 lbs of N, P, and K, respectively. On May 15, 2008, Pioneer '37N16' glufosinate resistant/glyphosate resistant field corn was planted in 30-inch rows at a seeding rate of 33,000 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 15	June 10	June 23
Treatment	PRE	POST I	POST II
Temperature (F)			
air	64	57	77
soil (4 inch)	64	60	80
Relative humidity (%)	34	67	34
Wind (mph)	SW 5	W 5	calm
Sky	clear	clear	p. cloudy
Soil moisture	dry	moist	dry
Corn			
leaf no.	-	V4	V7
height (inch)	-	6	22
Green foxtail			
leaf no.	-	2 to 4	1 to 3
height (inch)	-	3 to 5	1 to 3
no./ft <sup>2</sup>	-	26	< 1
Common lambsquarters			
leaf no.	-	4 to 6	-
height (inch)	-	2 to 4	-
no./ft <sup>2</sup>	-	3	-
Tall waterhemp			
leaf no.	-	4 to 6	2 to 4
height (inch)	-	1 to 4	1 to 3
no./ft <sup>2</sup>	-	6	< 1
Rainfall after application (inch)			
1 week	0.10	1.05	0.61
2 week	0.50	0.00	0.00
3 week	0.58	0.61	0.02

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

**Table. Annual weed control with soil applied herbicides in Roundup-Ready corn at Lamberton, MN in 2008 (Getting).**

Treatment <sup>a</sup>	Rate (oz/A, pt/A, or qt/A)	Green foxtail				Common lambsquarters				Tall waterhemp				Yield <sup>b</sup> (bu/A)
		Jun 4	Jun 20	Jul 10	Aug 19	Jun 4	Jun 20	Jul 10	Aug 19	Jun 4	Jun 20	Jul 10	Aug 19	
		-----(% control)-----												
<b>Preemergence/POST I (3 to 4-inch weeds)</b>														
Harness Xtra / Roundup Powermax + AMS	2.4 pt / 22 oz + 3 qt	87 a	98 a	90 b	92 b	95 ab	98 a	98 a	97 ab	97 ab	98 a	97 a	97 ab	160 a
Degree Xtra / Roundup Powermax + AMS	4 pt / 22 oz + 3 qt	83 a	98 a	91 b	91 b	96 a	98 a	98 a	98 a	98 a	98 a	98 a	97 ab	160 a
G-Max Lite / Roundup Powermax + AMS	2 pt / 22 oz + 3 qt	79 a	98 a	92 b	93 ab	89 c	98 a	98 a	97 ab	97 ab	98 a	98 a	98 a	160 a
Lumax / Touchdown Total + AMS	4.02 pt / 24 oz + 3 qt	86 a	98 a	93 b	93 ab	91 bc	98 a	98 a	98 a	98 a	98 a	98 a	97 ab	157 a
Bicep Lite II Magnum / Callisto + COC + AMS	2.67 pt / 3 oz + 1% + 3 qt	80 a	91 b	82 c	76 d	93 ab	98 a	98 a	98 a	98 a	98 a	98 a	98 a	148 a
Atrazine / Roundup Powermax + AMS	2 pt / 22 oz + 3 qt	23 b	98 a	90 b	89 b	91 bc	98 a	98 a	98 a	97 ab	98 a	97 a	95 b	157 a
Surestart / Roundup Powermax + AMS	1.23 pt / 22 oz + 3 qt	88 a	98 a	91 b	90 b	89 c	98 a	98 a	97 b	96 b	98 a	97 a	97 ab	159 a
<b>POST I (3 to 4-inch weeds)</b>														
Roundup Powermax + AMS	22 oz + 3 qt	0 c	98 a	90 b	85 c	0 d	98 a	96 b	94 c	0 c	98 a	86 b	83 c	159 a
<b>POST I (3 to 4-inch weeds)/POST II (regrowth)</b>														
Roundup Powermax + AMS / Roundup Powermax + AMS	22 oz + 3 qt / 22 oz + 3 qt	0 c	98 a	97 a	97 a	0 d	98 a	98 a	98 a	0 c	98 a	98 a	98 a	158 a
<b>Checks</b>														
Weedy check		0 c	0 c	0 d	0 e	0 d	0 b	0 c	0 d	0 c	0 b	0 c	0 d	49 b
	LSD (0.10)	8.9	2.0	3.1	4.0	4.2	ns	0.6	1.4	1.9	ns	2.1	2.2	18.5

<sup>a</sup> COC = crop oil concentrate; AMS = liquid spray grade ammonium sulfate.

<sup>b</sup> Yield adjusted to 15.5% moisture.