

## **Annual weed control with Integrity and Sharpen in corn at Lamberton, MN in 2009.**

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The objective of this study was to evaluate Integrity and Sharpen 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 6.7 and soil test P and K levels of 38 and 390 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 2008 and was fall chiseled. The area was fertilized with 150 lbs of nitrogen. On May 6, 2009 the preplant incorporated treatment was applied and tilled twice with a field cultivator set to till 3 to 4 inches deep and operated at 5 to 6 mph. The same day, Pioneer '35F44' 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 6	May 7	June 3
Treatment	PPI	PRE	POST I
Temperature (F)			
air	70	52	52
soil (4 inch)	62	52	64
Relative humidity (%)	46	50	47
Wind (mph)	NW 12	W 8	NW 5
Sky	cloudy	cloudy	clear
Soil moisture	dry	moist	dry
Corn			
leaf no.	-	-	V4
height (inch)	-	-	7
Green foxtail			
leaf no.	-	-	2 to 4
height (inch)	-	-	3 to 5
no./ft <sup>2</sup>	-	-	13
Common lambsquarters			
leaf no.	-	-	4 to 6
height (inch)	-	-	3 to 4
no./ft <sup>2</sup>	-	-	8
Tall waterhemp			
leaf no.	-	-	3 to 4
height (inch)	-	-	2 to 4
no./ft <sup>2</sup>	-	-	6
Rainfall after application (inch)			
1 week	0.83	0.72	1.38
2 week	0.00	0.00	1.03
3 week	0.44	0.45	0.39

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

**Table. Annual weed control with Integrity and Sharpen in corn at Lamberton, MN in 2009 (Getting).**

Treatment <sup>a</sup>	Rate (oz/A, pt/A, qt/A, or %)	Green foxtail				Common lambsquarters				Tall waterhemp				Yield <sup>c</sup> (bu/A)
		Jun 2	Jun 12	Jun 24	Aug 18	Jun 2	Jun 12	Jun 24	Aug 18	Jun 2	Jun 12	Jun 24	Aug 18	
<b>Preplant Incorporate</b>														
Integrity	20 oz	90 b	89 c	86 c	84 c	88 b	86 c	85 c	85 d	93 b	93 b	86 c	85 c	192 b
<b>Preemergence</b>														
Integrity	20 oz	95 a	94 b	91 b	89 b	98 a	99 a	99 a	99 a	98 a	99 a	99 a	99 a	209 ab
Camix	2 qt	91 b	90 c	88 c	82 c	97 a	96 b	94 b	94 c	98 a	98 a	96 b	96 b	213 a
<b>Preemergence/POST (3 to 5-inch weeds)</b>														
Integrity /	13 oz /	91 b	99 a	99 a	99 a	96 a	99 a	99 a	98 ab	98 a	99 a	99 a	99 a	214 a
Roundup Powermax + Status + NIS + AMS	22 oz + 2.5 oz + 0.25% + 3 qt													
Sharpen + Harness /	3 oz + 1.25 pt /	93 ab	99 a	99 a	99 a	98 a	99 a	99 a	99 a	98 a	99 a	99 a	99 a	220 a
Roundup Powermax + NIS + AMS	22 oz + 0.25% + 3 qt													
Surestart /	1.75 pt /	90 b	99 a	99 a	99 a	85 b	99 a	99 a	99 a	95 ab	99 a	99 a	99 a	205 ab
Roundup Powermax + NIS + AMS	22 oz + 0.25% + 3 qt													
Harness /	1.25 pt /	91 b	99 a	99 a	98 a	78 c	99 a	98 a	95 bc	97 a	99 a	99 a	99 a	218 a
Roundup Powermax + NIS + AMS	22 oz + 0.25% + 3 qt													
<b>Checks</b>														
Weedy check	LSD (0.10)	0 c	0 d	0 d	0 d	0 d	0 d	0 d	0 e	0 c	0 c	0 d	0 d	29 c
		2.8	1.4	2.5	3.0	7.1	2.5	3.7	3.9	2.8	1.4	2.7	2.9	20.2

<sup>a</sup> NIS = nonionic surfactant; AMS = liquid spray grade ammonium sulfate.

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