

Corn Pre Herbicide at Lamberton, MN in 2013.

Vollmer, Travis D., Bruce D. Potter, Jeffrey L. Gunsolus, and Thomas R. Hoverstad.

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 Normania loam soil containing 4.1% organic matter, pH 5.5 and soil test P and K levels of 52 and 348 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 2012 and was fall chisel plowed. The area was fertilized with 150 lbs of nitrogen as anhydrous ammonia. Due to untimely rains, the trial area was tilled with a field cultivator on May 7 and June 5. On June 6, 2013, Dekalb 'DK 42-42' glufosinate resistant/glyphosate resistant field corn was planted in 30-inch rows at a seeding rate of 36,000 seeds/A. All treatments were applied with a tractor-mounted sprayer delivering 15 gpa at a pressure of 35 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	June 6	July 1
Treatment	PRE	POST I
Temperature (F)		
air	51	66
soil (4 inch)	65	78
Relative humidity (%)	75	65
Wind (mph)	N 9	WNW 5
Sky	Cloudy	Clear
Soil moisture	Dry	Dry
Corn		
leaf no.	-	V6
height (inch)	-	14"
Yellow foxtail		
leaf no.	-	1 to 7
height (inch)	-	1 to 18
no./ft ²	-	5
Common lambsquarters		
leaf no.	-	1 to 5
height (inch)	-	1 to 5
no./ft ²	-	2
Tall waterhemp		
leaf no.	-	1 to 8
height (inch)	-	1 to 13
no./ft ²	-	2
Rainfall after application (inch)		
1 week	0.94	0.00
2 week	0.92	0.31
3 week	2.97	0.05

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

Table. Corn Pre Herbicide at Lamberton, MN in 2013 (Vollmer, Potter, Gunsolus and Hoverstad).

Treatment ^a	Rate (pt/A, oz/A, or qt/A)	<u>Yellow foxtail</u>			<u>Common Lambsquarters</u>			<u>Tall Waterhemp</u>			(bu/A)
		July 1	July 15	Sept 11	July 1	July 15	Sept 11	July 1	July 15	Sept 11	
<u>Preemergence</u>											
Harness	3 pt	96 a	98 a	98 ab	100 a	100 a	100 b	100 a	100 a	100 a	174 abc
SureStart	3 pt	94 a	90 a	93 b	100 a	95 a	100 b	100 a	100 a	100 a	178 abc
Outlook + Sharpen	21 oz + 3.5 oz	100 a	99 a	100 ab	100 a	100 a	100 a	100 a	99 b	100 a	172 abc
Lumax	3.25 qt	99 a	100 a	97 ab	100 a	100 a	100 a	100 a	100 a	100 a	178 abc
Instigate	7 oz	75 b	60 b	56 c	100 a	100 a	100 a	100 a	100 a	100 a	168 bc
<u>Preemergence / Post I (4 collar corn)</u>											
Harness / Roundup Powermax + AMS	1.5 pt / 32 oz + 3 qt	95 a	100 a	100 a	53 b	100 a	100 a	75 a	100 a	100 a	183 a
SureStart / Roundup Powermax + AMS	1.5 pt / 32 oz + 3 qt	91 a	100 a	100 a	100 a	100 a	100 a	100 a	100 a	100 a	174 abc
Verdict / Roundup Powermax + AMS	18 oz / 32 oz + 3 qt	99 a	100 a	100 a	100 a	100 a	100 a	100 a	100 a	100 a	176 abc
Lumax / Roundup Powermax + AMS	2 qt / 32 oz + 3 qt	96 a	100 a	100 a	100 a	100 a	100 a	78 a	100 a	100 a	177 abc
Instigate / Roundup Powermax + AMS	5.25 oz / 32 oz + 3 qt	70 b	100 a	100 a	100 a	100 a	100 a	100 a	100 a	100 a	172 abc
<u>Preemergence / Post II (6 collar corn)</u>											
Harness / Ignite + AMS	3 pt / 32 oz + 3 qt	95 a	100 a	100 a	75 ab	100 a	100 a	75 a	100 a	100 a	168 bc
SureStart / Ignite + AMS	3 pt / 32 oz + 3 qt	100 a	100 a	100 a	100 a	100 a	100 a	100 a	100 a	100 a	166 cd
Outlook + Sharpen / Ignite + AMS	21 oz + 3.5 oz / 32 oz + 3 qt	100 a	100 a	100 a	100 a	100 a	100 a	100 a	100 a	100 a	172 abc
Lumax / Ignite + AMS	3.25 qt / 32 oz + 3 qt	95 a	100 a	100 a	100 a	100 a	100 a	100 a	100 a	100 a	180 ab
Instigate / Ignite + AMS	7 oz / 32 oz + 3 qt	78 b	100 a	100 ab	75 ab	100 a	100 a	75 ab	100 a	100 a	179 ab
<u>Checks</u>											
Weedy check	LSD (0.10)	0 c	0 c	0 d	0 c	0 c	0 c	0 b	0 c	0 b	152 d
		11.9	12.3	6.5	25.5	3.0	0.2	29.3	0.7	ns	13.3

^a AMS = liquid spray grade ammonium sulfate.

^b Yield adjusted to 15.5% moisture.