Herbicide performance in corn at Lamberton, MN in 2011.

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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 4.3% organic matter, pH 6.3 and soil test P and K levels of 60 and 306 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 2010 and was fall chiseled. The area was fertilized with 150-60-60. On May 17, 2011, Dekalb 'DK 48-12' 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 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 18	June 6	June 9	June 28
Treatment	PRE	POST I	POST II	POST III
Temperature (F)				
air	64	70	57	61
soil (4 inch)	60	76	72	68
Relative humidity (%)	28	78	63	72
Wind (mph)	E 5	calm	NE 12	NW 7
Sky	clear	clear	cloudy	clear
Soil moisture	dry	dry	dry	dry
Corn				
leaf no.	-	V3	V4	V7
height (inch)	-	6	7	22
Yellow foxtail				
leaf no.	-	2 to 3	2 to 4	2 to 4
height (inch)	-	1 to 2	2 to 4	3 to 5
no./ft^2	-	32	26	2
Common lambsquarters				
leaf no.	-	1 to 3	3 to 5	5 to 7
height (inch)	-	0.5 to 1.0	1 to 3	3 to 5
no./ft^2	-	3	5	< 1
Tall waterhemp				
leaf no.	-	1 to 2	3 to 5	2 to 4
height (inch)	-	0.25 to 1.0	1 to 3	3 to 5
no./ft^2	-	4	3	< 1
Rainfall after application (inch)				
1 week	1.84	0.29	5.04	0.48
2 week	0.91	4.75	2.94	1.15
3 week	0.00	3.40	0.46	1.09

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

Table. Herbicide performance in corn at Lamberton, MN in 2011 (Getting, Gunsolus and Hoverstad).

Treatment[a]	Rate	Yellow foxtail			Common lambsquarters			Tall waterhemp			Yield[b]
		Jun 13	Jun 27	Sep 9	Jun 13	Jun 27	Sep 9	Jun 13	Jun 27	Sep 9	
Preemergence/POST III (7-collar corn)	(oz/A, pt/A, qt/A, lb/A or %)	----------(% control)----------									(bu/A)
Dual II Magnum/ Halex GT+ NIS + AMS	1 pt / 3.6 pt + 0.25% + 3 qt	95 de	91 hi	98 b	93 d	91 d	98 b	97 c	97 c	98 b	202 ab
Harness / Laudis + Destiny HC +AMS	1.75 pt / 3 oz + 0.5% + 2 qt	97 bc	95 c-f	98 b	96 bc	94 c	98 b	98 b	98 b	98 b	207 ab
Capreno / Laudis + Roundup Powermax + Destiny HC +AMS	3 oz / 3 oz + 22 oz + 0.5% + 2 qt	93 e	85 j	98 b	95 c	95 bc	98 b	97 c	95 d	98 b	205 ab
Harness / Ignite + Atrazine + AMS	1.75 pt / 22 oz + 16 oz + 3 qt	97 b-d	93 e-h	98 b	97 bc	97 bc	98 b	98 b	97 bc	98 b	205 ab
Breakfree / Realm Q + Abundit S + AMS	1.25 pt / 4 oz + 32 oz + 3 qt	97 bc	93 e-h	97 b	95 c	94 c	98 b	98 b	98 b	98 b	202 ab
Breakfree / Realm Q + Atrazine + COC + AMS	2 pt / 4 oz + 16 oz + 1% + 3 qt	98 b	97 a-c	98 b	98 ab	94 c	98 b	98 b	98 b	98 b	201 ab
Breakfree AZT Lite / Realm Q + Abundit S + AMS	4 pt / 4 oz + 32 oz + 3 qt	97 bc	94 d-f	98 b	95 c	97 a-c	98 b	98 b	98 b	98 b	201 ab
Harness / Roundup Weathermax + AMS	1.25 pt / 22 oz + 3 qt	96 cd	91 g-i	98 b	98 ab	96 bc	98 b	98 b	98 b	98 b	208 ab
SYN-A17227A / Touchdown Total + AMS	3 pt / 24 oz + 3 qt	96 cd	91 hi	97 b	98 ab	98 ab	98 b	98 b	98 b	98 b	204 ab
Surestart / Durango DMA + AMS	1.75 pt / 24 oz + 3 qt	98 b	91 g-i	98 b	98 ab	98 ab	98 b	98 b	98 b	98 b	211 a
Surestart / Durango DMA + AMS	2.5 pt / 24 oz + 3 qt	97 b-d	95 c-f	98 b	98 ab	98 ab	98 b	98 b	98 b	98 b	207 ab
Surestart + Atrazine / Durango DMA + AMS	1.75 pt + 1.5 pt / 24 oz + 3 qt	98 b	93 e-h	97 b	98 ab	98 ab	98 b	98 b	98 b	98 b	209 ab
Verdict / Roundup Powermax + NIS + AMS	18 oz / 22 oz + 0.25% + 3 qt	98 b	97 a-c	98 b	98 ab	98 ab	98 b	98 b	98 b	98 b	202 ab
Verdict / Roundup Powermax + Status + NIS + AMS	16 oz / 22 oz + 2.5 oz + 0.25% + 3 qt	98 b	96 b-e	97 b	98 ab	98 ab	98 b	98 b	98 b	98 b	207 ab
Anthem / Roundup Powermax + AMS	10 oz / 22 oz + 3 qt	95 d	94 d-g	98 b	96 bc	95 bc	98 b	97 c	97 bc	98 b	204 ab
Harness / Impact + Atrazine + MSO + AMS	1.75 pt / 0.75 oz + 16 oz + 1% + 3 qt	98 b	97 b-d	98 b	98 ab	98 ab	98 b	98 b	98 b	98 b	200 b
POST I (3-collar corn)/POST III (7-collar corn)											
Roundup Weathermax + AMS / Roundup Weathermax + AMS	22 oz + 3 qt / 22 oz + 3 qt	98 b	93 f-h	96 c	98 ab	98 ab	98 b	98 b	98 b	98 b	205 ab
POST II (4-collar corn)/POST III (7-collar corn)											
Capreno + Roundup Powermax + AMS / Laudis + Destiny HC + AMS	3 oz + 18 oz + 2 qt / 3 oz + 0.5% + 2 qt	-	98 ab	97 b	-	98 ab	98 b	-	98 b	98 b	200 b
POST II (4-collar corn)											
Anthem + Roundup Powermax + NIS + AMS	8 oz + 22 oz + 0.25% + 3 qt	-	89 i	91 e	-	97 a-c	95 c	-	98 b	98 b	204 ab
Halex GT + Atrazine + NIS + AMS	3.6 pt + 16 oz + 0.25% + 3 qt	-	96 b-e	95 d	-	98 ab	98 b	-	98 b	98 b	209 ab
Surestart + Durango DMA + AMS	1.75 pt + 24 oz + 3 qt	-	97 b-d	95 cd	-	98 ab	98 b	-	98 b	98 b	206 ab
Realm Q + Abundit S + AMS	4 oz + 32 oz + 3 qt	-	95 c-f	90 e	-	98 ab	97 b	-	98 b	98 b	207 ab
Checks											
Weedy check		0 f	0 k	0 f	0 e	0 e	0 d	0 e	0 e	0 c	135 c
Weed-free		100 a	100 a	100 a	100 a	100 a	100 a	100 a	100 a	100 a	204 ab
	LSD (0.10)	1.9	2.8	1.2	2.6	3.5	1.0	2.6	1.0	ns	10.5

[a] COC = crop oil concentrate; MSO = methylated seed oil; NIS = nonionic surfactant; 28%N = an aqueous solution of urea and ammonium nitrate; AMS = liquid spray grade ammonium sulfate.

[b] Yield adjusted to 15.5% moisture.