

Annual weed control with Anthem in corn at Lamberton, MN in 2011.

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The objective of this study was to evaluate Anthem applied preemergence or postemergence 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 9	June 28
Treatment	PRE	POST I	POST II
Temperature (F)			
air	52	57	68
soil (4 inch)	60	72	76
Relative humidity (%)	35	63	60
Wind (mph)	SE 5	NE 12	NW 6
Sky	clear	cloudy	clear
Soil moisture	dry	dry	dry
Corn			
leaf no.	-	V4	V7
height (inch)	-	7	22
Yellow foxtail			
leaf no.	-	2 to 4	2 to 4
height (inch)	-	2 to 4	3 to 5
no./ft ²	-	31	3
Common lambsquarters			
leaf no.	-	3 to 5	5 to 7
height (inch)	-	1 to 3	3 to 5
no./ft ²	-	9	< 1
Tall waterhemp			
leaf no.	-	3 to 5	2 to 4
height (inch)	-	1 to 3	3 to 5
no./ft ²	-	2	< 1
Rainfall after application (inch)			
1 week	1.84	5.04	0.48
2 week	0.91	2.94	1.15
3 week	0.00	0.46	1.09

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

Table. Annual weed control with Anthem in corn at Lamberton, MN in 2011 (Getting).

Treatment ^a	Rate (oz/A, pt/A, qt/A, or %)	Yellow foxtail				Common lambsquarters				Tall waterhemp				Yield ^b (bu/A)
		Jun 13	Jun 27	Jul 26	Aug 18	Jun 13	Jun 27	Jul 26	Aug 18	Jun 13	Jun 27	Jul 26	Aug 18	
Preemergence		-----(% control)-----												
Anthem	10 oz	89 cc	89 cc	88 d	85 d	93 bc	94 c	95 ab	94 bc	97 ab	97 a	96 b	95 a	197 a
Anthem + Aatrex	10 oz + 1.25 qt	93 bc	95 a	89 b-d	90 b	97 a	98 a	97 a	97 ab	97 ab	98 a	96 ab	96 a	198 a
Preemergence/POST II (3 to 5-inch weeds)														
Anthem / Roundup Powermax + AMS	8 oz / 22 oz + 2 qt	84 e	81 e	98 a	98 a	88 d	93 c	98 a	98 a	90 c	92 c	98 a	98 a	204 a
Anthem / Roundup Powermax + AMS	10 oz / 22 oz + 2 qt	88 de	86 d	98 a	98 a	90 cc	93 c	98 a	98 a	95 b	94 bc	98 a	98 a	202 a
Anthem + Aatrex / Roundup Powermax + AMS	8 oz 1 qt / 22 oz + 2 qt	88 de	89 cc	98 a	98 a	97 a	97 ab	98 a	98 a	97 ab	96 ab	98 a	98 a	206 a
Anthem + Aatrex / Roundup Powermax + AMS	10 oz 1.25 qt / 22 oz + 2 qt	90 cc	92 bc	98 a	98 a	97 a	97 ab	98 a	98 a	97 ab	98 a	98 a	98 a	203 a
Verdict / Roundup Powermax + AMS	13 oz / 22 oz + 2 qt	96 ab	94 ab	97 a	97 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	199 a
Harness / Roundup Powermax + AMS	2 pt / 22 oz + 2 qt	95 ab	95 ab	97 a	97 a	96 ab	97 ab	98 a	98 a	98 a	98 a	98 a	98 a	206 a
Harness Xtra / Roundup Powermax + AMS	2 qt / 22 oz + 2 qt	98 a	97 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	201 a
Lumax / Roundup Powermax + AMS	2 qt / 22 oz + 2 qt	95 ab	94 ab	97 a	98 a	98 a	97 ab	98 a	98 a	98 a	98 a	98 a	98 a	197 a
POST I (2 to 4-inch weeds)														
Anthem + Roundup Powermax + NIS + AMS	7 oz + 22 oz + 0.25% + 2 qt	-	89 cc	90 bc	90 b	-	95 bc	85 c	88 d	-	98 a	97 ab	95 a	195 a
Anthem + Roundup Powermax + NIS + AMS	9 oz + 22 oz + 0.25% + 2 qt	-	89 cc	88 cc	86 cc	-	98 a	93 b	93 c	-	98 a	97 ab	94 a	195 a
Anthem + Aatrex + Roundup Powermax + NIS + AMS	7 oz + 0.875 qt + 22 oz + 0.25% + 2 qt	-	90 c	91 b	89 bc	-	98 a	97 a	98 a	-	98 a	98 a	98 a	195 a
Halex GT + NIS + AMS	3.6 pt + 0.25% + 3 qt	-	90 cc	89 b-d	85 d	-	98 a	98 a	98 a	-	98 a	98 a	97 a	195 a
Roundup Powermax + AMS	22 oz + 2 qt	-	89 cc	78 e	73 e	-	85 d	75 d	74 e	-	91 c	79 c	80 b	198 a
Checks														
Weedy check		0 f	0 f	0 f	0 f	0 e	0 e	0 e	0 e	0 d	0 d	0 d	0 c	101 b
	LSD (0.10)	3.9	3.4	1.9	3.0	3.3	3.5	3.4	3.7	2.2	3.2	2.1	4.0	12.7

^a NIS = nonionic surfactant; AMS = liquid spray grade ammonium sulfate.

^b Yield adjusted to 15.5% moisture.