

Annual weed control with BAS 94461H applied in the Fall, EPP, and PRE in corn at Lamberton, MN in 2010.

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The objective of this study was to evaluate BAS 94461H at three application timings: Fall, early pre-plant and preemergence for annual grass and annual broadleaf weed control in corn. This study was conducted on a Normania loam soil containing 3.8% organic matter, pH 6.1 and soil test P and K levels of 64 and 296 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 2009. The area was fertilized with 135 lbs nitrogen as anhydrous ammonia prior to fall herbicide application. On May 5, 2010, Dekalb 'DK 53-78' glufosinate resistant/glyphosate resistant field corn was planted in 30-inch rows at a seeding rate of 33,000 seeds/A. The entire trail was field cultivated prior to planting. 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	Nov 23	April 1	May 6	June 3
Treatment	Fall	EPP	PRE	POST
Temperature (F)				
air	46	52	41	52
soil (4 inch)	42	42	46	68
Relative humidity (%)	87	54	66	67
Wind (mph)	S 8	calm	N 7	W 3
Sky	cloudy	p. cloudy	cloudy	clear
Soil moisture	dry	dry	dry	dry
Corn				
leaf no.	-	-	-	V4
height (inch)	-	-	-	8
Yellow foxtail, Barnyardgrass				
leaf no.	-	-	-	2 to 4
height (inch)	-	-	-	2 to 4
no./ft ²	-	-	-	16
Common lambsquarters				
leaf no.	-	-	-	3 to 5
height (inch)	-	-	-	1 to 3
no./ft ²	-	-	-	1
Redroot pigweed				
leaf no.	-	-	-	2 to 4
height (inch)	-	-	-	1 to 3
no./ft ²	-	-	-	2
Rainfall after application (inch)				
1 week	0.33	0.19	1.79	0.75
2 week	0.09	0.00	0.00	2.55
3 week	0.19	0.17	0.20	1.45

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

Table. Annual weed control with BAS 94461H applied in the Fall, EPP, and PRE in corn at Lamberton, MN in 2010 (Getting).

Treatment ^a	Rate	Yellow foxtail				Common lambsquarters				Redroot pigweed				Yield ^b (bu/A)
		May 5	Jun 2	Jun 15	Aug 17	May 5	Jun 2	Jun 15	Aug 17	May 5	Jun 2	Jun 15	Aug 17	
														-----(% control)-----
Fall/POST (Roundup Weathermax + Status + NIS + AMS)														
BAS 94461H	2.1 oz	43 c	60 d	99 a	89 d	68 a	66 c	99 a	97 a-c	-	89 c	99 a	95 a-c	230 a
BAS 94461H	2.64 oz	61 b	53 d	99 a	89 d	70 a	64 c	99 a	96 b-d	-	89 c	99 a	95 bc	229 a
Dual II Magnum	32 oz	63 b	88 ab	99 a	91 c-d	70 a	81 b	99 a	96 b-d	-	94 b	99 a	91 d	227 a
EPP/POST (Roundup Weathermax + Status + NIS + AMS)														
BAS 94461H	2.64 oz	61 b	86 b	99 a	93 bc	71 a	96 a	99 a	97 a-c	-	97 ab	99 a	97 ab	231 a
Dual II Magnum	26.7 oz	68 b	93 ab	99 a	91 cc	43 b	85 b	99 a	95 d	-	97 ab	99 a	93 cc	232 a
Harness	24 oz	83 a	76 c	99 a	89 d	71 a	85 b	99 a	95 cc	-	96 ab	99 a	93 cc	234 a
PRE/POST (Roundup Weathermax + Status + NIS + AMS)														
BAS 94461H	2.64 oz	0 d	71 c	99 a	97 a	0 c	95 a	99 a	97 ab	-	97 a	99 a	98 a	227 a
Dual II Magnum	26.7 oz	0 d	94 ab	99 a	98 a	0 c	93 a	99 a	97ab	-	97 a	99 a	97 ab	229 a
Harness	24 oz	0 d	94 a	99 a	96 ab	0 c	97 a	99 a	98 a	-	97 a	99 a	98 a	229 a
Outlook	16 oz	0 d	94 ab	99 a	97 a	0 c	98 a	99 a	98 a	-	97 a	99 a	98 a	230 a
Checks														
Weedy check		0 d	0 e	0 b	0 e	0 c	0 d	0 b	0 e	-	0 d	0 b	0 e	169 b
	LSD (0.10)	9.2	7.6	ns	2.9	9.3	6.8	ns	1.8	-	3.1	ns	3.2	7.9

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

^b Yield adjusted to 15.5% moisture.