Annual weed control with BAS 78102H and BAS 80004H in corn at Lamberton, MN in 2008.

Getting, Jodie K.

The objective of this study was to evaluate experimental corn herbicides BAS 78102H and BAS 80004H 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 24 and 326 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 2007 and was fall chiseled. The area was fertilized with 160-60-60 lbs of N, P, and K, respectively. On May 14, 2008, Pioneer '37N16' 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 14	June 10
Treatment	PRE	POST
Temperature (F)		
air	66	57
soil (4 inch)	66	62
Relative humidity (%)	30	67
Wind (mph)	W 2	W 7
Sky	clear	clear
Soil moisture	dry	dry
Corn		
leaf no.	-	V4
height (inch)	-	6
Green foxtail		
leaf no.	-	2 to 4
height (inch)	-	3 to 5
no./ft^2	-	34
Common lambsquarters		
leaf no.	-	4 to 6
height (inch)	-	2 to 4
no./ft^2	-	4
Tall waterhemp		
leaf no.	-	4 to 6
height (inch)	-	1 to 4
no./ft^2	-	6
Rainfall after application (inch)		
1 week	0.10	1.05
2 week	0.18	0.00
3 week	0.87	0.61

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

Table. Annual weed control with BAS 78102H and BAS 80004H in corn at Lamberton, MN in 2008 (Getting).

		Green foxtail					Common lambsquarters					Tall waterhemp					
Treatment[a]	Rate	Jun 4	Jun 10	Jun 20	Jul 11	Aug 19	Jun 4	Jun 10	Jun 20	Jul 11	Aug 19	Jun 4	Jun 10	Jun 20	Jul 11	Aug 19	Yield[b]
Preemergence	(oz/A, lb/A or %)	----------(% control)----------															(bu/A)
BAS 78102H	25 oz	78 bc	84 a-c	79 c	78 c	76 b	80 bc	85 cd	85 c	80 c	79 c	97 a	97 b	98 a	98 a	95 b	156 a
BAS 80004H + Outlook + Atrazine	4 oz + 21 oz + 24 oz	83 ab	90 a	87 b	86 b	81 b	88 ab	92 ab	89 b	85 b	82 b	97 a	98 a	98 a	96 b	94 b	155 a
Lumax	96 oz	80 ab	90 a	88 b	83 b	81 b	96 a	97 a	98 a	98 a	98 a	97 a	98 a	98 a	98 a	98 a	162 a
Preemergence/POST II (4-collar corn)																	
BAS 78102H /	17 oz /	81 ab	81 bc	98 a	96 a	97 a	78 c	83 d	98 a	98 a	98 a	98 a	98 a	98 a	98 a	97 a	161 a
Roundup Powermax + NIS + AMS	22 oz + 0.25% + 3.4 lb																
BAS 80004H + Outlook + Atrazine /	3 oz + 12 oz + 24 oz /	80 ab	85 ab	98 a	96 a	95 a	90 a	88 b-d	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	157 a
Roundup Powermax + NIS + AMS	22 oz + 0.25% + 3.4 lb																
Harness + Atrazine /	24 oz + 24 oz /	87 a	91 a	98 a	94 a	94 a	95 a	97 a	98 a	98 a	98 a	97 a	98 a	98 a	98 a	97 a	161 a
Roundup Powermax + NIS + AMS	22 oz + 0.25% + 3.4 lb																
BAS 78102H /	17 oz /	71 c	78 c	98 a	98 a	97 a	80 bc	90 bc	98 a	98 a	98 a	98 a	98 a	98 a	98 a	98 a	167 a
Roundup Powermax + Status + NIS + AMS	22 oz + 2.5 oz + 0.25% + 3.4 lb																
Check																	
Weedy check		0 d	0 d	0 d	0 d	0 c	0 d	0 e	0 d	0 d	0 d	0 b	0 c	0 b	0 c	0 c	52 b
	LSD (0.10)	7.3	6.9	4.5	4.8	5.6	8.5	6.9	3.2	2.4	1.5	1.3	0.6	ns	1.7	1.5	13.2

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

[b] Yield adjusted to 15.5% moisture.