

Weed control with Accent, Accent + Harmony GT, Accent + Harmony GT + Distinct, and Accent + Permit in corn at Lamberton, MN in 2005. Getting, Jodie K. The objective of this study was to evaluate different application rates of Accent, Accent + Harmony GT, Accent + Harmony GT + Distinct, and Accent + Permit on annual grass and broadleaf weed control in corn. This study was conducted on a Normania loam soil containing 4.7% organic matter, pH 6.3 and soil test P and K levels of 34 and 370 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 oats in 2004 and was fall chiseled. The area was fertilized with 180 lb/A of nitrogen as urea. On May 4, 2005, Pioneer '38H69' field corn was planted in 30-inch rows at a seeding rate of 33,000 seeds/A. Cyfluthrin + tebupirimphos (Aztec 2.1G) was applied at 6.7 oz/1000 row feet in a T-band for the control of northern corn rootworm larvae. 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	June 6
Treatment	POST
Temperature (F)	
air	88
soil (4 inch)	80
Relative humidity (%)	38
Wind (mph)	S 5
Sky	clear
Soil moisture	dry
Corn	
leaf no.	V3
height (inch)	5
Yellow foxtail	
leaf no.	2 to 4
height (inch)	2 to 4
no./ft <sup>2</sup>	51
Common lambsquarters	
leaf no.	3 to 5
height (inch)	1 to 3
no./ft <sup>2</sup>	5
Redroot pigweed	
leaf no.	2 to 4
height (inch)	1 to 2
no./ft <sup>2</sup>	5
Eastern black nightshade	
leaf no.	1 to 2
height (inch)	0.5 to 1
no./ft <sup>2</sup>	3
Rainfall after application (inch)	
1 week	1.82
2 week	0.32
3 week	0.27

A prolonged period of rain with measurable precipitation occurred on 13 out of the first 15 days after planting. The rainfall amount in this period of time resulted in 5.48 inches of rain and corn plant stands in the trial area were reduced by 40% because of poor emergence, data not shown. As a result, corn yield was not taken and the end of season ratings were affected by the lack of a uniform crop canopy. None of the herbicide treatments caused visible crop injury. The application rate of Accent, Accent + Harmony GT, Accent + Harmony GT + Distinct and Accent + Permit had little impact on the control of yellow foxtail, common lambsquarters or eastern black nightshade. On June 20, 2 weeks after treatment, Accent applied at 0.367 oz, 0.51 oz, 0.75 oz, and 1 oz alone or tank mixed with Harmony GT, Harmony GT + Distinct, or Permit resulted in 87% or greater yellow foxtail control and 85% or greater common lambsquarters control. All rates of Accent + Harmony GT + Distinct gave 97% and 98% redroot pigweed and eastern black nightshade control, respectively. Accent alone or tank mixed with either Harmony GT or Permit provided no control of eastern black nightshade. On August 29, yellow foxtail control ranged from 71 to 88%. The lack of uniform crop canopy allowed eastern black nightshade and redroot pigweed to thrive and compete. As a result, some of the corn, yellow foxtail and common lambsquarters were unable to compete with these species by the end of the season. All treatments had 93% or greater common lambsquarters control. Accent alone provided 56 to 76% redroot pigweed control, Accent + Harmony GT, Accent + Permit, Accent + Harmony GT + Distinct, and Steadfast gave 43 to 71%, 61 to 71%, 90 to 97%, and 60% control, respectively. Accent + Harmony GT + Distinct gave 94 to 96% eastern black nightshade control. (Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Weed control with Accent, Accent + Harmony GT, Accent + Harmony GT + Distinct, and Accent + Permit in corn at Lamberton, MN 2005. (Getting).

Treatment <sup>a</sup>	Rate (oz/A, lb/A or %)	Yellow foxtail			Common lambsquarters			Redroot pigweed			Eastern black nightshade		
		6/20	7/5	8/29	6/20	7/5	8/29	6/20	7/5	8/29	6/20	7/5	8/29
		-----(% control)-----											
Accent + COC + AMS	1 oz + 1% + 2 lb	96	90	88	93	94	93	91	85	76	0	0	0
Accent + COC + AMS	0.75 oz + 1% + 2 lb	94	88	88	92	96	93	86	76	65	0	0	0
Accent + COC + AMS	0.51 oz + 1% + 2 lb	87	88	86	88	97	96	91	85	56	0	0	0
Accent + COC + AMS	0.367 oz + 1% + 2 lb	89	89	73	92	97	95	86	84	70	0	0	0
Accent + Harmony GT + COC + AMS	1 oz + 0.075 oz + 1% + 2 lb	94	85	80	97	98	97	91	86	71	0	0	0
Accent + Harmony GT + COC + AMS	0.75 oz + 0.056 oz + 1% + 2 lb	93	84	85	97	98	97	83	73	58	0	0	0
Accent + Harmony GT + COC + AMS	0.51 oz + 0.0373 oz + 1% + 2 lb	89	86	83	95	98	97	89	78	63	0	0	0
Accent + Harmony GT + COC + AMS	0.367 oz + 0.028 oz + 1% + 2 lb	88	85	81	94	98	97	85	76	66	0	0	0
Accent + Harmony GT + COC + AMS	1 oz + 0.056 oz + 1% + 2 lb	90	89	86	95	98	96	88	82	65	0	0	0
Accent + Harmony GT + COC + AMS	0.75 oz + 0.0414 oz + 1% + 2 lb	90	86	84	95	98	97	84	74	55	0	0	0
Accent + Harmony GT + COC + AMS	0.51 oz + 0.028 oz + 1% + 2 lb	88	84	80	96	98	97	80	65	43	0	0	0
Accent + Harmony GT + COC + AMS	0.367 oz + 0.0198 oz + 1% + 2 lb	89	86	81	95	97	95	88	80	64	0	0	0
Accent + Harmony GT + Distinct + COC + AMS	1 oz + 0.075 oz + 4 oz + 1% + 2 lb	93	92	83	93	98	98	97	97	97	98	96	94
Accent + Harmony GT + Distinct + COC + AMS	0.75 oz + 0.056 oz + 4 oz + 1% + 2 lb	91	83	71	92	98	98	97	95	95	98	97	96
Accent + Harmony GT + Distinct + COC + AMS	0.51 oz + 0.0373 oz + 4 oz + 1% + 2 lb	89	81	71	93	98	97	97	97	90	98	97	95
Accent + Harmony GT + Distinct + COC + AMS	0.367 oz + 0.028 oz + 4 oz + 1% + 2 lb	90	90	81	85	98	97	97	96	92	98	94	94
Accent + Permit + COC + AMS	0.75 oz + 0.67 oz + 1% + 2 lb	96	88	85	95	98	97	93	87	71	0	0	0
Accent + Permit + COC + AMS	0.51 oz + 0.44 oz + 1% + 2 lb	94	88	80	92	98	97	93	85	66	0	0	0
Accent + Permit + COC + AMS	0.75 oz + 0.44 oz + 1% + 2 lb	94	87	83	97	98	97	92	83	61	0	0	0
Accent + Permit + COC + AMS	0.51 oz + 0.294 oz + 1% + 2 lb	90	87	81	93	98	97	87	83	68	0	0	0
Steadfast + COC + AMS	0.75 oz + 1% + 2 lb	96	81	78	97	98	97	92	81	60	0	0	0
<u>Checks</u>													
Weedy	LSD (0.10)	0	0	0	0	0	0	0	0	0	0	0	0
		5.5	7.8	2.7	6.0	1.9	2.7	7.6	15.1	16.1	ns	1.8	2.3

<sup>a</sup> COC = crop oil concentrate; AMS = spray grade ammonium sulfate.