

Weed control with Resolve + atrazine, Steadfast + Callisto + atrazine, and Roundup Weathermax in Roundup Ready corn at Lamberton, MN in 2006. Getting, Jodie K. The objective of this study was to evaluate Resolve + atrazine applied preemergence or early postemergence with Roundup Weathermax and Steadfast + Callisto + atrazine postemergence with and without Cinch for annual grass and broadleaf control in corn. This study was conducted on a Ves loam soil containing 4.3% organic matter, pH 6.5 and soil test P and K levels of 22 and 320 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 2005 and was fall chiseled. The area was fertilized with 150-100-100 on April 14, 2006. On April 25, 2006, Pioneer '38H69' field corn was planted in 30-inch rows at a seeding rate of 33,000 seeds/A. Tefluthrin (Force) was applied at 5 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	April 25	May 30
Treatment	PRE	POST
Temperature (F)		
air	54	67
soil (4 inch)	52	74
Relative humidity (%)	26	45
Wind (mph)	NE 7	NE 8
Sky	clear	p. cloudy
Soil moisture	dry	dry
Corn		
leaf no.	-	V3
height (inch)	-	5
Giant foxtail		
leaf no.	-	3 to 5
height (inch)	-	3 to 5
no./ft ²	-	60
Common lambsquarters		
leaf no.	-	5 to 7
height (inch)	-	2 to 4
no./ft ²	-	6
Tall waterhemp		
leaf no.	-	3 to 5
height (inch)	-	1 to 4
no./ft ²	-	11
Rainfall after application (inch)		
1 week	2.60	4.35
2 week	0.01	1.09
3 week	1.69	2.84

May precipitation totaled 2.44 inches compared to the historical average of 3.34 inches. Above normal precipitation in June resulted in 9.39 inches compared to the historic average of 3.77 inches. The trial received 4.26 inches of rain and hail 6 days after POST II application. As a result, there was a heavy flush of new emerging weeds. The growing degree days were slightly below average for May and June but above average for July. The predominate weed species were giant foxtail, common lambsquarters, and tall waterhemp. None of the herbicide treatments caused visible crop injury. The trial area received 2.60 inches of rain within the first week of PRE application. On May 30, prior to POST herbicide application, Resolve + atrazine provided 86, 94, and 95% control of giant foxtail, common lambsquarters, and tall waterhemp, respectively. Cinch gave 93, 55, and 90% control, respectively. Harness Xtra resulted in 94, 97, and 98% control, respectively. On June 9, Lumax + Accent + Harmony GT provided 84% giant foxtail control and Steadfast + Callisto + atrazine gave 90% control. All other treatments had 99% or greater control. In August, POST applied Roundup Weathermax + AMS gave 79% giant foxtail control. The other POST treatments provided 82 to 88% control. The PRE/POST treatments gave 89 to 93% control. All of the herbicide treatments gave 95% or greater common lambsquarters control. Roundup Weathermax + AMS provided 85% control of tall waterhemp. All other treatments had 95% or greater control. (Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Weed control with Resolve + atrazine, Steadfast + Callisto + atrazine, and Roundup Weathermax in Roundup Ready corn at Lamberton, MN in 2006. (Getting).

Treatment ^a	Rate (oz/A, pt/A, lb/A or %)	Giant foxtail				Common lambsquarters				Tall waterhemp				Yield (bu/A) ^b
		5/30	6/9	6/27	8/21	5/30	6/9	6/27	8/21	5/30	6/9	6/27	8/21	
-----(% control)-----														
<u>Preemergence/POST (3 to 4-inch weeds)</u>														
Resolve + atrazine / Roundup Weathermax + AMS	1 oz + 12 oz / 22 oz + 2 lb	86	100	93	89	94	100	100	98	95	100	100	95	206
Cinch / Steadfast + Callisto + atrazine + COC + AMS	1 pt / 0.75 oz + 2 oz + 12 oz + 1% + 2 lb	93	99	95	93	55	100	100	100	90	100	100	100	204
Harness Xtra / Roundup Weathermax + AMS	2.5 pt / 22 oz + 2 lb	94	100	96	91	97	100	100	100	98	100	100	99	205
<u>POST (3 to 4-inch weeds)</u>														
Roundup Weathermax + AMS	22 oz + 2 lb	-	100	91	79	-	96	95	95	-	100	91	85	202
Roundup Weathermax + Resolve + atrazine + AMS	22 oz + 1 oz + 12 oz + 2 lb	-	99	96	88	-	100	99	99	-	100	98	95	203
Steadfast + Callisto + atrazine + COC + AMS	0.75 oz + 2 oz + 12 oz + 1% + 2 lb	-	90	90	86	-	93	100	100	-	100	100	99	202
Lumax + Accent + Harmony GT + NIS + AMS	2 pt + 0.45 oz + 0.05 oz + 0.25% + 2 lb	-	84	87	82	-	88	100	99	-	100	100	96	198
<u>Checks</u>														
Weed free	-	100	100	100	100	100	100	100	100	100	100	100	100	208
Weedy	-	0	0	0	0	0	0	0	0	0	0	0	0	47
	LSD (0.10)	2.9	2.2	4.1	5.5	4.2	5.5	1.8	2.2	2.1	ns	3.5	4.0	11.3

^a AMS = spray grade ammonium sulfate; COC = crop oil concentrate; NIS = nonionic surfactant.

^b Yield adjusted to 15.5% moisture.