

Weed control in Roundup Ready Corn with Roundup Original tank mixed with Clarity, Distinct, Prowl H₂O, or Stalwart C at Lamberton, Mn in 2005. Getting, Jodie K. The objective of this study was to evaluate tank mix partners with Roundup Original for the control of annual grass and broadleaf control in Roundup Ready 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 26 and 332 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 corn in 2004 and was fall chiseled. The area was fertilized with 180 lb/A of nitrogen as urea. On April 28, 2005, 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 29	June 6	June 15
Treatment	PRE	POST I	POST II
Temperature (F)			
air	45	72	68
soil (4 inch)	42	74	68
Relative humidity (%)	34	69	64
Wind (mph)	W 5-8	calm	NE 5
Sky	clear	clear	p. cloudy
Soil moisture	dry	moist	moist
Corn			
leaf no.	-	V4	V6
height (inch)	-	6	11
Giant foxtail			
leaf no.	-	2 to 4	3 to 5
height (inch)	-	2 to 4	4 to 6
no./ft ²	-	53	5
Common lambsquarters			
leaf no.	-	2 to 4	4 to 6
height (inch)	-	1 to 2	2 to 4
no./ft ²	-	3	1
Tall waterhemp			
leaf no.	-	1 to 2	4 to 6
height (inch)	-	0.5 to 1	3 to 4
no./ft ²	-	23	2
Rainfall after application (inch)			
1 week	0.36	1.82	0.14
2 week	3.78	0.32	0.22
3 week	1.45	0.27	0.81

None of the herbicide treatments caused visible crop injury. The trial area received 5.59 inches of precipitation within the first three weeks after preemergence herbicide application. As a result, reduced rates of Outlook and Stalwart C provided good early season weed control. On June 7, Outlook applied preemergence at 12 oz/A resulted in 86 to 92%, 81 to 87%, and 91 to 96% control of giant foxtail, common lambsquarters, and tall waterhemp control, respectively. Stalwart C applied preemergence at 1 pt/A resulted in 83 to 88%, 76 to 86%, and 90 to 93% control of giant foxtail, common lambsquarters, and tall waterhemp, respectively. On June 22, all herbicide treatments gave 91 to 98%, 96 to 98%, and 94 to 98% control of giant foxtail, common lambsquarters, and tall waterhemp, respectively. On August 25, Liberty + Distinct and Roundup Weathermax applied POST I resulted in 76 and 78% giant foxtail control, respectively. All of the herbicide treatments provided 94% or greater common lambsquarters control. Roundup Weathermax applied POST I resulted in 82% tall waterhemp control. All other treatments had 90% or greater control. Outlook applied preemergence followed by Roundup Original + Prowl H₂O at POST II resulted in 95, 98, and 97% control of giant foxtail, common lambsquarters, and tall waterhemp, respectively. (Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Weed control in Roundup Ready Corn with Roundup Original tank mixed with Clarity, Distinct, Prowl H₂O, or Stalwart C at Lamberton, Mn in 2005. (Getting).

Treatment ^a	Rate (oz/A, pt/A, lb/A or %)	Giant foxtail				Common lambsquarters				Tall waterhemp				Yield (bu/A) ^b
		6/7	6/22	7/5	8/25	6/7	6/22	7/5	8/25	6/7	6/22	7/5	8/25	
-----(% control)-----														
<u>POST I (5-inch corn)</u>														
Roundup Weathermax + AMS	22 oz + 3 lb	-	93	87	78	-	96	95	95	-	94	86	82	174
Roundup Original	24 oz	-	95	89	84	-	98	97	97	-	97	94	92	167
+ Clarity + NIS + AMS	+ 8 oz + 0.25% + 3 lb	-	97	91	86	-	98	97	97	-	97	91	90	170
Roundup Original	24 oz	-	97	95	94	-	98	98	98	-	98	97	97	184
+ Distinct + NIS + AMS	+ 3 oz + 0.25% + 3 lb	-	97	95	94	-	98	98	98	-	98	97	97	184
Roundup Original	24 oz	-	97	95	94	-	98	98	98	-	98	97	97	184
+ Prowl H ₂ O + NIS + AMS	+ 2.5 pt + 0.25% + 3 lb	-	96	91	85	-	98	98	98	-	98	97	95	178
Liberty + Atrazine + AMS	32 oz + 0.5 lb + 3 lb	-	91	86	76	-	98	96	93	-	98	93	90	181
Liberty + Distinct + AMS	32 oz + 3 oz + 3 lb	-	91	86	76	-	98	96	93	-	98	93	90	181
G-Max Lite	2 pt	-	98	96	93	-	98	98	98	-	98	98	98	178
+ Roundup Weathermax + AMS	+ 22 oz + 3 lb	-	98	95	90	-	98	98	98	-	98	97	95	181
Stalwart C + Roundup Original	1 pt + 24 oz	-	98	95	90	-	98	98	98	-	98	97	95	181
+ Clarity + NIS + AMS	+ 1 oz + 0.25% + 3 lb	-	98	95	90	-	98	98	98	-	98	98	98	181
Stalwart C + Roundup Original	1 pt + 24 oz	-	98	95	90	-	98	98	98	-	98	98	98	181
+ Atrazine + AMS	+ 0.5 lb + 3 lb	-	98	95	90	-	98	98	98	-	98	98	98	181
<u>Preemergence/POST I (5-inch corn)</u>														
Outlook / Roundup Original	12 oz / 24 oz	89	98	94	89	84	98	95	94	92	98	95	94	180
+ NIS + AMS	+ 0.25% + 3 lb	89	98	94	89	84	98	95	94	92	98	95	94	180
Outlook / Roundup Original	12 oz / 24 oz	90	98	94	86	84	98	98	98	95	98	98	97	176
+ Distinct + NIS + AMS	+ 3 oz + 0.25% + 3 lb	90	98	94	86	84	98	98	98	95	98	98	97	176
Outlook / Liberty + Atrazine + AMS	12 oz / 32 oz + 0.5 lb + 3 lb	92	97	95	86	86	98	98	98	96	98	98	97	176
Outlook / Liberty + Distinct + AMS	12 oz / 32 oz + 3 oz + 3 lb	91	98	95	89	87	98	97	97	95	98	98	96	183
Stalwart C / Roundup Original	1 pt / 24 oz	83	97	96	91	76	98	97	97	90	98	96	96	184
+ Clarity + NIS + AMS	+ 1 oz + 0.25% + 3 lb	83	97	96	91	76	98	97	97	90	98	96	96	184
Stalwart C / Roundup Original	1 pt / 24 oz	87	98	96	90	86	98	98	98	93	98	98	98	183
+ Atrazine + AMS	+ 0.5 lb + 3 lb	87	98	96	90	86	98	98	98	93	98	98	98	183
Stalwart C / Roundup Original	1 pt / 24 oz	88	98	94	87	80	98	98	98	91	96	97	93	174
+ NIS + AMS	+ 0.25% + 3 lb	88	98	94	87	80	98	98	98	91	96	97	93	174
<u>Preemergence/POST II (10-inch corn)</u>														
Outlook / Roundup Original	12 oz / 24 oz	88	98	96	91	86	98	98	98	91	98	98	97	178
+ Distinct + NIS + AMS	+ 3 oz + 0.25% + 3 lb	88	98	96	91	86	98	98	98	91	98	98	97	178
Outlook / Roundup Original	12 oz / 24 oz	86	98	98	95	81	98	98	98	93	98	98	97	186
+ Prowl H ₂ O + NIS + AMS	+ 2.5 pt + 0.25% + 3 lb	86	98	98	95	81	98	98	98	93	98	98	97	186
<u>Checks</u>														
Weed-free	-	100	100	100	100	100	100	100	100	100	100	100	100	181
Weedy	-	0	0	0	0	0	0	0	0	0	0	0	0	21
	LSD (0.10)	2.7	2.1	3.2	4.7	9.0	0.4	1.6	2.0	3.4	1.7	3.8	5.4	10.8

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

^b Yield adjusted to 15.5% moisture.