

Weed control with glyphosate tank mixed with Clarity, Distinct and Prowl H₂O in glyphosate-resistant corn at Lamberton, MN in 2004. Getting, Jodie K. and Bruce D. Potter. The objective of this study was to evaluate glyphosate tank mixed with Clarity, Distinct and Prowl H₂O for annual grass and annual broadleaf weed control in glyphosate-resistant corn. This study was conducted on a Normania loam soil containing 4.7% organic matter, pH 5.8 and soil test P and K levels of 36 and 272 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 2003 and was fall chiseled. The area was fertilized with 150 lb/A of nitrogen as urea. On April 26, 2004, Dekalb 'DK 4710' glyphosate resistant 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	April 27	June 3	June 14
Treatment	PRE	POST I	POST II
Temperature (F)			
air	48	72	73
soil (4 inch)	42	63	74
Relative humidity (%)	40	36	50
Wind (mph)	S 5-8	calm	W 10
Sky	cloudy	cloudy	clear
Soil moisture	moist	dry	moist
Corn			
leaf no.	-	V3	V6
height (inch)	-	5	10
Giant foxtail			
leaf no.	-	2 to 4	3 to 5
height (inch)	-	2 to 4	6 to 9
no./ft ²	-	97	84
Common lambsquarters			
leaf no.	-	2 to 5	6 to 9
height (inch)	-	1 to 3	3 to 6
no./ft ²	-	9	5
Tall waterhemp			
leaf no.	-	2 to 4	3 to 5
height (inch)	-	0.25 to 1	2 to 5
no./ft ²	-	5	2
Rainfall after application (inch)			
1 week	0.12	0.29	0.56
2 week	0.07	2.44	0.48
3 week	1.29	0.47	0.75

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

Table. Weed control with glyphosate tank mixed with Clarity, Distinct and Prowl H₂O in glyphosate-resistant corn at Lamberton, MN in 2004 (Getting and Potter).

Treatment ^a	Rate (oz/A, lb/A or %)	Giant foxtail				Common lambsquarters				Tall waterhemp				Yield (bu/A) ^b
		6/2	6/25	7/21	9/9	6/2	6/25	7/21	9/9	6/2	6/25	7/21	9/9	
<u>POST I (5-inch corn)</u>		-----(% control)-----												
Roundup Weathermax + AMS	22 oz + 3 lb	0	88	75	66	0	100	97	95	0	97	91	92	211
Roundup Original	24 oz	0	89	74	64	0	100	98	97	0	100	91	92	196
+ Clarity + NIS + AMS	+ 8 oz + 0.25% + 3 lb													
Roundup Original	24 oz	0	90	79	70	0	100	96	94	0	97	88	90	206
+ Distinct + NIS + AMS	+ 3 oz + 0.25% + 3 lb													
Roundup Original	24 oz	0	99	88	81	0	100	98	96	0	100	89	90	213
+ Prowl H ₂ O + NIS + AMS	+ 40 oz + 0.25% + 3 lb													
Roundup Original	24 oz	0	97	89	84	0	100	99	95	0	100	95	95	219
+ Prowl H ₂ O + Distinct + NIS + AMS	+ 40 oz + 3 oz + 0.25% + 3 lb													
Roundup Original	24 oz	0	100	93	90	0	100	99	99	0	100	99	99	207
+ G-Max Lite + Distinct + NIS + AMS	+ 32 oz + 3 oz + 0.25% + 3 lb													
<u>POST I (5-inch corn)/POST II (10-inch corn)</u>														
Roundup Weathermax + AMS / Roundup Weathermax + AMS	22 oz + 3 lb / 22 oz + 3 lb	0	99	87	81	0	100	100	98	0	100	93	91	217
<u>POST II (10-inch corn)</u>														
Roundup Weathermax + AMS	22 oz + 3 lb	0	100	93	88	0	100	99	95	0	100	91	91	189
Roundup Original	24 oz	0	100	95	92	0	100	99	95	0	100	95	94	198
+ Distinct + NIS + AMS	+ 3 oz + 0.25% + 3 lb													
<u>PRE/POST I (5-inch corn)</u>														
Outlook / Roundup Weathermax + AMS	12 oz / 22 oz + 3 lb	69	90	78	69	40	99	97	96	94	98	94	95	215
Outlook / Roundup Original	12 oz / 24 oz	74	93	79	68	48	100	99	97	94	100	93	95	201
+ Clarity + NIS + AMS	+ 8 oz + 0.25% + 3 lb													
Outlook / Roundup Original	12 oz / 24 oz	70	93	80	71	40	100	97	95	94	100	91	90	207
+ Distinct + NIS + AMS	+ 3 oz + 0.25% + 3 lb													
G-Max Lite / Roundup Original	32 oz / 24 oz	69	96	85	76	69	100	99	97	95	100	97	97	221
+ Distinct + NIS + AMS	+ 3 oz + 0.25% + 3 lb													
<u>PRE/POST II (10-inch corn)</u>														
Outlook / Roundup Original + NIS + AMS	12 oz / 24 oz + 0.25% + 3 lb	66	100	90	84	40	100	99	97	95	100	92	93	216
Outlook / Roundup Original	12 oz / 24 oz	70	99	92	89	30	100	99	97	94	100	98	95	200
+ Distinct + NIS + AMS	+ 3 oz + 0.25% + 3 lb													
<u>Check</u>														
Weedy check		0	0	0	0	0	0	0	0	0	0	0	0	47
	LSD (0.10)	6.1	2.3	3.6	6.3	6.6	0.5	2.2	2.7	1.5	1.3	5.8	6.6	16.5

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

^b Yield adjusted to 15.5% moisture.