

Effect of glyphosate formulations on glyphosate-resistant corn at Lamberton, MN in 2000. Getting, Jodie K. The objective of this study was to evaluate two formulations of glyphosate on the growth, development and yield of glyphosate-resistant corn. This study was conducted on a Normania loam soil containing 4.3% organic matter, pH 6.5 and soil test P and K levels of 54 and 440 lb/A, respectively. A randomized complete block design with six replications and a plot size of 10 by 30 ft was used. The site was planted to soybeans in 1999 and was fall disced. The area was fertilized with 150 lb/A of nitrogen as urea. The area was treated with Dual II Magnum at 1.91 lbs ai/A and hand-weeded to remain weed free. On May 5, 2000, Dekalb '520RR' glyphosate tolerant 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	June 2
Treatment	POST I
Temperature (F)	
air	63
soil (4 inch)	58
Relative humidity (%)	59
Wind (mph)	NW 12
Sky	cloudy
Soil moisture	dry
Corn	
leaf no.	3-collar
height (inch)	7
Rainfall after application (inch)	
1 week	0.49
2 week	0.77
3 week	0.47

None of the herbicide treatments caused visible crop injury. There were no differences in either pollen shedding dates, silking dates, corn height, or grain yield in any of the herbicide treatments. Severe winds on August 8th caused extensive root lodging and harvest difficulty. The severe lodging contributed to corn yield variability. (Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Effect of glyphosate formulations on glyphosate-resistant corn at Lamberton, MN in 2000 (Getting).

Treatment ^a	Rate (lb/A)	Injury		Pollen	Silk	Height	Yield (bu/A) ^c
		6/8 -(% visual)-	6/26			8/7 -(inches)-	
Glyphosate ¹	0.75	0	0	20	21	111	181
Glyphosate ¹ + AMS	0.75 + 2.5	0	0	20	21	111	180
Glyphosate ²	0.75	0	0	20	21	111	173
Glyphosate ² + AMS	0.75 + 2.5	0	0	20	21	111	172
	LSD (0.10)	ns	ns	ns	ns	ns	ns

^a Glyphosate¹ = Touchdown IQ 3AE; Glyphosate² = Roundup Ultra 3L; AMS = spray grade ammonium sulfate.

^b Pollen and silk: days after June 30 when 50% of the tassels were shedding pollen and 50% of the ear shoots had silks emerged, respectively.

^c Yield adjusted to 15.5% moisture.