

Control of volunteer glyphosate resistant corn in glyphosate resistant soybeans at Lamberton, MN in 2006. Getting, Jodie K. The objective of this study was to evaluate graminicides tank mixed with glyphosate for volunteer corn control in soybeans. This study was conducted on a Normania loam soil containing 4.2% organic matter, pH 6.5 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 corn in 2006 and was fall chiseled. Glyphosate resistant corn was broadcast seeded over the entire plot area. Dual II Magnum (2.5 pt/A) was applied on the plot area for annual grass and broadleaf control. On May 19, 2006, Asgrow 'AG2107' glyphosate resistant soybeans were planted in 30-inch rows at a seeding rate of 160,000 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 8	June 22
Treatment	POST I	POST II
Temperature (F)		
air	77	66
soil (4 inch)	76	70
Relative humidity (%)	30	73
Wind (mph)	NE 5	NW 2
Sky	p. cloudy	clear
Soil moisture	dry	moist
Soybean		
leaf no.	V2	V4
height (inch)	5	10
Volunteer corn		
leaf no.	4-collar	6-collar
height (inch)	8 to 10	20 to 24
no./ft ²	7	11
Rainfall after application (inch)		
1 week	1.63	1.11
2 week	2.30	0.00
3 week	1.11	1.15

May precipitation totaled 2.44 inches compared to the long-term average of 3.34 inches. Above normal precipitation in June resulted in 9.39 inches compared to the long-term average of 3.77 inches. The time period from planting to June 6, the trial area received 0.40 inches of rain. On June 6, just prior to POST I, 4.26 inches of rain fell. As a result, there was volunteer corn emerging after POST I. At the time of POST I and POST II application there were 7 and 11 volunteer corn plants/ft², respectively. None of the herbicide treatments caused visible crop injury. On June 22, POST I treatments gave 82 to 89% control. It appeared the majority of the volunteer corn not controlled from POST I treatments had emerged after application. On August 15, POST I and POST II treatments provided 58 to 70 and 84 to 98% control, respectively. Fusilade (2 oz), Select (4 oz), and Fusilade (4 oz) + COC gave 84, 92, and 94% control. All other POST II treatments provided 97% or greater control. (Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Control of volunteer glyphosate resistant corn in glyphosate resistant soybeans at Lamberton, MN in 2006 (Getting).

Treatment ^a	Rate	Volunteer corn			
		6/22	7/5	7/10	8/15
<u>POST I (10-inch volunteer corn)</u>	(oz/A or %)	-(% control)-			
Fusilade + Touchdown Total + AMS	4 oz + 24 oz + 2.5 lb	84	79	71	61
Fusilade + Touchdown Total + AMS	6 oz + 24 oz + 2.5 lb	84	78	69	59
Select Max + Touchdown Total + AMS	6 oz + 24 oz + 2.5 lb	89	84	75	61
Fusilade + Touchdown Total + AMS + COC	4 oz + 24 oz + 2.5 lb + 0.5%	82	75	66	58
Fusilade + Touchdown Total + AMS + COC	6 oz + 24 oz + 2.5 lb + 0.5%	89	83	80	70
Select Max + Touchdown Total + AMS + COC	6 oz + 24 oz + 2.5 lb + 0.5%	88	83	74	58
Fusilade + Touchdown Total + AMS	2 oz + 24 oz + 2.5 lb	89	81	74	61
<u>POST II (24-inch volunteer corn)</u>					
Fusilade + Touchdown Total + AMS	4 oz + 24 oz + 2.5 lb	-	87	89	97
Fusilade + Touchdown Total + AMS	6 oz + 24 oz + 2.5 lb	-	90	92	97
Select Max + Touchdown Total + AMS	8 oz + 24 oz + 2.5 lb	-	97	94	97
Fusilade + Touchdown Total + AMS + COC	4 oz + 24 oz + 2.5 lb + 0.5%	-	89	91	94
Fusilade + Touchdown Total + AMS + COC	6 oz + 24 oz + 2.5 lb + 0.5%	-	95	96	98
Select Max + Touchdown Total + AMS + COC	8 oz + 24 oz + 2.5 lb + 0.5%	-	91	95	98
Fusilade + Touchdown Total + AMS	2 oz + 24 oz + 2.5 lb	-	83	86	84
Select + Touchdown Total + AMS	4 oz + 24 oz + 2.5 lb	-	93	93	92
<u>Check</u>					
Weedy Check	-	0	0	0	0
	LSD (0.10)	7.5	6.3	7.4	10.5

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