

Control of Glyphosate Tolerant Volunteer Corn

Evaluation of Select, Fusion and Assure II for control of glyphosate tolerant volunteer corn in soybean at Rochester, MN in 2002.

Schaufler, Kristal L., Fritz R. Breitenbach, and Lisa M. Behnken. The objective of this trial was to evaluate the performance of Select, Fusion and Assure II for control of glyphosate tolerant volunteer corn in glyphosate tolerant soybean in southeast Minnesota. The research site was a Lawler loam soil containing 2.3% organic matter with a pH of 6.2 and soil test P and K levels of 34 and 133 ppm, respectively. The previous crop was field corn. The area was fertilized in the fall of 2001 with 200 lb/A Pel-lime and 200 lb/A potash. The soil was disked twice and chisel plowed once. Spring tillage consisted of two passes with a field cultivator. The soybean variety, Asgrow AG0901, was planted on June 15, 2002, at a 1-inch depth in 30-inch rows at a population of 160,000 seeds/A. Treatments were arranged in a randomized complete block design with four replications. Postemergence (POST) treatments were applied with a tractor-mounted sprayer, delivering 20 gpa at 32 psi using TurboTee 11002 nozzles. Evaluations of the plot were taken on July 12 and 23 and August 8. Application dates, environmental conditions, crop and weed stages are listed below.

<i>Date</i>	<i>July 5, 2002</i>	<i>July 12, 2002</i>
Treatment	POST I	POST II
Temperature (F)		
air	81	76
Relative humidity (%)	70	50
Wind (mph)	8	6
Soil moisture	Adequate	Adequate
Soybean		
Stage	V-2	V-4
height (inch)	4	6.5
Volunteer corn		
weed density/ft ²	3.2	
height (inch)	12	18
Common lambsquarter		
Weed density/ft ²	10	
height (inch)	3	5
Common waterhemp		
Weed density/ft ²	9	
height (inch)	2	4
Giant foxtail		
Weed density/ft ²	8	
height (inch)	3.5	6
Rainfall after application (inch)		
Week 1	0.53	0.80
Week 2	0.80	2.76
Week 3	2.76	0.98

All herbicide treatments gave excellent control of glyphosate tolerant volunteer corn. There were no differences in control when applied to 12-inch compared to 18 inch volunteer corn, except for the Select + Roundup Ultra Max treatment to 12-inch volunteer corn, which was slightly less than the other treatments, 96% compared to 98-99%, respectively. Assure II + Roundup Ultra Max and Fusion + Roundup Ultra Max applied at the POSTI treatment stage resulted in significantly lower control of 3.5-inch giant foxtail when compared to Select, and Select + Roundup Ultra Max. (Southeast District, University of MN Extension Service, Rochester)

Table. Performance of Select, Fusion and Assure II for control of glyphosate tolerant volunteer corn control in glyphosate tolerant soybean on August 8 at Rochester, MN in 2002 (Schaufler, Breitenbach, and Behnken).

Treatment	Rate	Glyphosate tolerant Volunteer corn control	Giant ragweed control	Common lambsquarter control	Common waterhemp control	Giant foxtail control
	(lb/A)	(%)	(%)	(%)	(%)	(%)
<u>Postemergence I</u>						
Select+COC+AMS	4oz+1pt+2.5lb	99	0	0	0	98
Select + Roundup Ultra Max+AMS	4oz+26oz+2.5lb	96	95	95	96	93
Assure II+Roundup Ultra Max+NIS+AMS	5oz+26oz+0.125%+2.5lb	99	96	97	95	71
Fusion+Roundup Ultra Max+AMS	6oz+26oz+2.5lb	98	97	97	96	73
<u>Postemergence II</u>						
Roundup Ultra Max +AMS	26oz+2.5lb	0	97	99	99	99
Select+Roundup Ultra Max+NIS+AMS	4oz+26oz+0.125%+2.5lb	98	94	96	96	98
Assure II+Roundup Ultra Max+NIS+AMS	5oz+26oz+0.125%+2.5lb	98	98	96	95	97
Fusion+Roundup Ultra Max+AMS	6oz+26oz+2.5lb	99	97	94	96	95
	LSD (0.10)	1	3	3	2	6