Control of volunteer glyphosate resistant corn in glyphosate resistant soybean. Urbana, Illinois, 2004. Hager, Aaron G., Dawn E. Nordby, and Douglas J. Maxwell. The objective of this research was to evaluate control of volunteer glyphosate resistant corn in glyphosate resistant soybean. The study was established at the Crop Sciences Research and Education Center, Urbana. The soil was an Elburn silt loam with a pH of 6.6 and 4.7% organic matter. Pioneer 93B67 soybean was planted 1.5 inches deep on May 12 in 30 inch rows. Treatments were arranged in randomized complete blocks with three replications of plots 10 by 30 feet. Herbicides were applied with a CO_2 backpack sprayer delivering 20 gpa and equipped with 8003 flat fan nozzles. Application information is listed below:

Date	May 12	June 17	June 23
Application	pre	post	lpost
Temperature (F)			
Air	84	83	80
Soil	73	77	83
Soil Moisture	moist	moist	moist
Wind (mph)	12-S	2-W	5-SW
Sky Cover (%)	50	50	50
Precip. after application			
Week 1 (inch)	2.37	0.02	0.27
Week 2 (inch)	0.58	0.27	2.86
Relative humidity (%)	55	70	45
Soybean			
Leaf no.	-	4tri	5tri
Height (inch)	-	9	12
Volunteer Corn			
Leaf no.	-	6	8
Height (inch)	-	21	26

Soil-applied treatments, sulfentrazone plus chlorimuron, sulfentrazone plus clomazone, and imazethapyr plus pendimethalin, provided poor control (53 percent or less) of volunteer glyphosate-resistant corn 30 days after application, and control did not improve at subsequent evaluation times. Glyphosate applied alone at 0.75 lb/A acid equivalent provided no control of volunteer glyphosate-resistant corn 14 days after application, but control was improved to 88 percent or greater when sethoxydim, quizalofop-p, fluazifop-p plus fenoxaprop-p, or clethodim was tank-mixed with glyphosate. Imazamox controlled volunteer glyphosate-resistant corn better than imazethapyr premixed or tank-mixed with glyphosate or imazaquin tank-mixed with glyphosate. By 30 days after treatment, all tank-mixes of ACCase-inhibiting herbicides with 0.75 lb/A acid equivalent glyphosate controlled volunteer glyphosate-resistant corn at least 95 percent. (Dept. of Crop Sciences, University of Illinois, Urbana).

Table. Control of volunteer glyphosate resistant corn in glyphosate resistant soybean. Urbana, Illinois, 2004. (Hager, Nordby, and Maxwell).

Treatment	Appl Rate	Time	Glxma 6-16	Zeamd 6-16	Glxma 6-30	Zeamd 6-30	Glxma 7-16	Zeamd 7-16
	(lb/A)		% inj	% cont	% inj	% cont	% inj	% cont
Chlorimuron&sulfentrazone	0.04+0.20	pre	0	47	0	27	0	23
Sulfentrazone+clomazone	0.3+0.6	pre	5	20	0	0	0	0
Imazethapyr&pendimethalin	0.063+0.847	pre	0	53	0	46	0	27
Imazethapyr&glyphosate +Activator 90 [5]+N-PaK AMS[6]	0.058+0.752 0.25%+5.0%	post	-	-	0	80	5	84
Imazethapyr+glyphosate +MSO[7]+28% N	0.063+0.75 1.0%+2.5%	post	-	-	0	78	2	79
Imazamox +MSO[7]+28% N	0.031 1.0%+2.5%	post	-	-	0	93	7	97
Sethoxydim&BCH-815S+glyphosate[1] +N-PaK AMS	0.188+0.75 2.5%	post	-	-	0	91	0	98
Quizalofop-P+glyphosate[1] +N-PaK AMS	0.034+0.75 2.5%	post	-	-	0	97	0	99
Fluazifop-P&fenoxaprop-P+glyphosate[1] +N-PaK AMS	0.097+0.028+0.75 2.5%	post	-	-	0	96	0	99
Clethodim[3]+glyphosate[1] +N-PaK AMS	0.063+0.75 2.5%	post	-	-	0	92	0	97
Clethodim[3]+glyphosate[1] +N-PaK AMS	0.031+0.75 2.5%	post	-	-	0	88	0	95
Imazaquin+glyphosate[1] +N-PaK AMS	0.031+0.75 2.5%	post	-	-	0	77	0	89
Imazaquin+glyphosate[1] +N-PaK AMS	0.063+0.75 2.5%	post	-	-	0	84	0	89
Imazaquin+glyphosate[1] +N-PaK AMS	0.031+0.75 2.5%	lpost	-	-	0	65	0	75
Imazaquin+glyphosate[1] +N-PaK AMS	0.063+0.75 2.5%	lpost	-	-	0	84	0	84
Clethodim[2]+glyphosate[1] +N-PaK AMS	0.063+0.75 2.5%	post	-	-	0	96	0	98
V-10137+glyphosate[1] +N-PaK AMS	0.063+0.75 2.5%	post	-	-	0	96	0	98
Clethodim[2]+glyphosate[1] +N-PaK AMS	0.047+0.75 2.5%	post	-	-	0	94	0	97
V-10137+glyphosate[1] +N-PaK AMS	0.047+0.75 2.5%	post	-	-	0	93	0	97
Clethodim[2]+glyphosate[1]	0.031+0.56	post	-	-	0	84	0	68
Clethodim[2]+glyphosate[1] +N-PaK AMS	0.031+0.56 2.5%	post	-	-	0	88	0	91
Clethodim[2]+glyphosate[1] +Alliance[4]	0.031+0.56 1.25%	post	-	-	0	89	0	92
Clethodim[2]+glyphosate[1] +Destiny[9]+N-PaK AMS	0.031+0.56 1.0%+2.5%	post	-	-	0	91	0	99
Clethodim[2]+glyphosate[1] +Preference[8]+N-PaK AMS	0.031+0.56 0.25%+2.5%	post	-	-	0	93	0	96
Clethodim[2]+glyphosate[1] +Superb HC[10]+N-PaK AMS	0.031+0.56 0.5%+2.5%	post	-	-	0	95	0	99
Clethodim[2]+glyphosate[1] +Superb HC[10]+Alliance[4]	0.031+0.56 0.5%+1.25%	post	-	-	0	97	0	98
Clethodim[2]+glyphosate[1] +AG 03002 [11]	0.031+0.56 1.0%	post	-	-	0	94	0	97
Glyphosate[1]+AG 03002	0.56+1.0%	post	-	-	0	0	0	0
LSD (0.05)			0	7	0	5	0	6

[1] Roundup Weathermax; [2] Select; [3] Roundup Original; [3] Arrow; [4] Alliance is an ammonium sulfate blend from Agiliance LLC; [5] Activator 90 is a non-ionic surfactant from Loveland Indus.; [6] N-PaK AMS is an ammonium sulfate solution from Agriliance LLC;[7] MSO is a methylated seed oil and non-ionic surfactant blend from Loveland Indus.; [8] Preference is a non-ionic surfactant from Agriliance LLC; [9] Destiny is a methylated soybean oil plus emulsifiers from Agriliance LLC; [10] Superb HC is a paraffinic oil, corn syrup, and non-ionic blend from Agriliance LLC; [11] AG03002 is a crop oil and nitrogen blend from Agriliance LLC.