

Weed control in glyphosate resistant soybeans. Wait, Jim D., William G. Johnson. The objective of this study was to evaluate weed control of different glyphosate formulations and additives in glyphosate resistant soybean. This study was conducted at the Bradford Research and Extension Center near Columbia, MO. The soil was a Mexico silt loam with a pH of 6.5 and 2.0% organic matter. MoSoy 4020 was planted 1.0-inch deep on May 31 in 15-inch rows. Treatments were arranged in a randomized complete block design with four replications of 5 by 35 feet plots. Herbicide applications were made with a CO<sub>2</sub> backpack sprayer equipped with XR8002 flat fan nozzles.

Application data is listed below:

Date	July 5
Application	10-12" weeds
Temperature (F)	
air	92
soil	90
Soil moisture	dry
Wind (mph)	2
Cloud cover	30
Relative humidity (%)	71
Precipitation after application	
week 1 (inch)	1.86
week 2 (inch)	0.37
Soybeans	
stage	v3
height (inch)	8
Giant foxtail	
leaf no.	tiller
height (inch)	10
infestation (sq. ft.)	5
Common waterhemp	
node no.	5
height (inch)	11
infestation (sq. ft.)	1
Common ragweed	
node no.	4
height (inch)	11
infestation (sq. ft.)	1
Pennsylvania smartweed	
node no.	5
height (inch)	10
infestation (sq. ft.)	1

Crop injury was not significant. Control of giant foxtail, common ragweed, and common waterhemp control was similar at 94 to 100% with all glyphosate treatments. Pennsylvania smartweed control was 88 to 98%, with all treatments except glyphosate+ placement + class act ng and glyphosate-DA with 84 and 83% control, respectively. (Department of Agronomy, University of Missouri-Columbia)

Table. Weed control in glyphosate resistant soybeans. (Wait and Johnson)

Application	Rate	App Time	Injury		SETFA		AMATA		AMBEL		POLPY	
			7-19	8-5	7-19	8-5	7-19	8-5	7-19	8-5	7-19	8-5
	(lb/A) <sup>a</sup>		-----%									
Glyphosate-IPA(CT) <sup>b</sup> + class act ng <sup>c</sup>	0.75 + 1.0 qt	10-12" weeds	0	0	99	98	99	100	97	95	93	88
Glyphosate-IPA(CT) + placement <sup>d</sup> + class act ng	0.75 + 0.25 + 1.5	10-12" weeds	0	0	99	98	99	100	97	94	90	84
Glyphosate-IPA(RU) <sup>e</sup> + AMS <sup>f</sup>	0.76 + 2.5	10-12" weeds	3	0	99	99	98	100	99	99	99	91
Glyphosate-IPA(RU) + AMS	0.94 + 2.5	10-12" weeds	1	0	99	98	98	100	99	99	98	98
Glyphosate-DA(GP) <sup>g</sup> + AMS	0.75 + 2.5	10-12" weeds	0	0	99	100	97	100	96	96	94	83
Glyphosate-DA(TD) <sup>h</sup> + AMS	0.75 + 2.5	10-12" weeds	0	0	99	100	96	100	98	98	95	89
Glyphosate-IPA(RUD) <sup>i</sup> + AMS	0.77 + 2.5	10-12" weeds	0	1	99	99	97	100	98	96	93	88
Untreated			5	0	0	0	0	0	0	0	0	0
LSD (0.05)			1.9	0.5	0.0	1.4	2.6	0.7	2.4	5.0	6.5	10.1

<sup>a</sup>Glyphosate rate are expressed in lb acid equivalent/acre<sup>b</sup>Isopropylamine salt = Cornerstone from Agrilience LLC<sup>c</sup>Class Act NG = ammonium sulfate from Agrilience LLC<sup>d</sup>placement = drift agent from Agrilience LLC<sup>e</sup>Isopropylamine salt = Roundup UltraMax from Monsanto<sup>f</sup>AMS = ammonium sulfate from MFA Crop Advantage<sup>g</sup>Isopropylamine salt = Glyphomax Plus from Dow AgroSciences<sup>h</sup>Diammonium salt = Touchdown IQ 5L from Syngenta Ag. Products<sup>i</sup>Isopropylamine salt = Roundup UltraDry from Monsanto