

Different glyphosate formulations for burndown applications in no-till soybean. Urbana, Illinois, 2002.

Sprague, Christy L., Douglas J. Maxwell, and Loyd M. Wax. The objective of this research was to evaluate the burndown activity of various glyphosate formulations in no-till soybean. The study was established at the University of Illinois Crop Sciences Research and Education Center, Urbana. The soil was a Catlin silt loam with a pH of 6.2 and 4.7% organic matter. FS 3616 soybean was planted 1.5 inches deep on May 23 in 30 inch rows. Treatments were arranged in randomized complete blocks with three replications of plots 7.5 by 30 feet. Herbicides were applied with a CO₂ backpack sprayer delivering 20 gpa and equipped with 8003 flat fan nozzles. Application information is listed below:

Date	May 20
Application	pre
Temperature (F)	
Air	50
Soil	54
Soil Moisture	Moist
Wind (mph)	5N
Sky Cover (%)	50
Precip. after application	
Week 1 (inch)	0.22
Week 2 (inch)	0.56
Relative humidity (%)	55
Common Chickweed	
Leaf no.	3
Height (inch)	5
Horseweed	
Leaf no.	8
Height (inch)	4
Shepherds-purse	
Leaf no.	4
Height (inch)	3
Common Dandelion	
Leaf no.	8
Height (inch)	3
Pennsylvania Smartweed	
Leaf no.	9
Height (inch)	3

All applications of glyphosate, regardless of formulation or application rate, provided 99% control of common chickweed. Horseweed, shepherd's-purse, dandelion, and Pennsylvania smartweed control was dependent upon glyphosate application rate. Application rate had more of an impact on horseweed control 30 days after treatment (DAT) with Roundup UltraMax and MON 78460 than with Roundup WeatherMax. Only the 0.56 lb a.e./A application rate of the different glyphosate formulations provided adequate control of dandelion. The inclusion of AMS did not significantly control of any weed species with the 0.56 lb ae/A rate of any glyphosate formulation. Overall, the only difference observed 30 DAT between the five glyphosate formulations at 0.56 lb ae/A with AMS was reduced control of dandelion with MON 78460 compared with Roundup UltraMax and ClearOut 41 Plus. (Dept. of Crop Sciences, University of Illinois, and Invasive Weed Mgt. Res., USDA, Agric. Res. Serv., Urbana).

Table. Different glyphosate formulations for burndown applications in no-till soybean. Urbana, Illinois, 2002. (Sprague, Maxwell, and Wax).

Treatment	Appl Rate (lb/A)	Time	Steme 5-30 ----- % control	Erica 5-30 ----- % control	Capbp 5-30 ----- %inj	Glxma 6-18 ----- % control	Steme 6-18 ----- % control	Erica 6-18 ----- % control	Tarof 6-18 ----- % control	Polpy 6-18 ----- % control
Glyphosate ¹	0.28	post	99	63	68	0	99	70	70	85
Glyphosate ¹	0.38	post	99	77	90	0	99	80	73	90
Glyphosate ¹	0.56	post	99	90	93	0	99	96	95	95
Glyphosate ²	0.28	post	99	72	83	0	99	83	63	92
Glyphosate ²	0.38	post	99	85	88	0	99	91	87	94
Glyphosate ²	0.56	post	99	85	85	0	99	98	89	96
Glyphosate ³	0.28	post	99	70	75	0	99	60	63	95
Glyphosate ³	0.38	post	99	85	93	0	99	88	77	99
Glyphosate ³	0.56	post	99	88	90	0	99	97	97	97
Check	-	-	0	0	0	0	0	0	0	0
Glyphosate ¹ +NpakAMS	0.56+5.0%	post	99	78	91	0	99	99	98	97
Glyphosate ² +NpakAMS	0.56+5.0%	post	99	87	73	0	99	99	91	99
Glyphosate ³ +NpakAMS	0.56+5.0%	post	99	92	87	0	99	99	87	90
Glyphosate ⁴ +NpakAMS	0.56+5.0%	post	99	89	88	0	99	99	93	96
Glyphosate ⁵ +NpakAMS	0.56+5.0%	post	99	92	80	0	99	99	96	97
LSD (0.05)			0	7	9	0	0	7	8	8

¹ Roundup Ultra Max ² Roundup WeatherMax ³ MON 78460 ⁴ Touchdown ⁵ ClearOut 41 Plus