

## Weed Control in Reduced Tillage Corn

### Star-of-Bethlehem control in no-till corn. Young, Bryan G., John F. Fietsam, and Scott A. Nolte.

This study was designed to determine the effectiveness of corn herbicides for burndown control of star-of-Bethlehem. The study was conducted at an off-station location in Marion, IL. Herbicide applications preceded the crop and were applied 28 days before the planned planting date (28EPP). Weed control was rated 14 days after application and could not be rated at planting as planting was delayed and star-of-Bethlehem in the nontreated plots was dying naturally by that time. Plots were 10 ft wide, 30 ft long arranged in a randomized complete block design with 4 replications. The herbicides were broadcast applied with a CO<sub>2</sub> pressurized sprayer using 8003 flat fan tips at 40 PSI in 20 GPA water.

Application information is listed below.

Date	Apr-11-02
Treatment	28EPP
Air temperature (F)	78
Soil moisture	normal

star-of-Bethlehem	
leaf no.	5-6
height (inch)	6-8

deadnettle, purple	
leaf no.	16-20
height (inch)	6-12

Paraquat controlled 97 to 99% of star-of-Bethlehem at 14 days after treatment. The only other herbicides evaluated that provided at least 70% control of star-of-Bethlehem were metribuzin (75%) and atrazine (70%). Glyphosate controlled only 39 to 55% of star-of-Bethlehem with no significant increase in control when the glyphosate rate was increased from 0.375 to 0.75 lb ae/A. Tank mixing 2,4-D ester or thifensulfuron with glyphosate did not increase star-of-Bethlehem control. This research indicates paraquat is the only effective herbicide option for burndown control of star-of-Bethlehem prior to planting corn. (Dept. of Plant, Soil and General Agriculture, Southern Illinois University, Carbondale).

Table. Star-of-Bethlehem control in no-till corn. (Young, Fietsam and Nolte)

Treatment <sup>a</sup>	Application		Control 14 days after treatment April 25	
			OTGUM	LAMPU
	Rate (lb/A)	Time	14 %	14 %
Nontreated			0	0
Glyphosate+AMS	0.375+2.0%	28EPP	39	38
Glyphosate+AMS	0.75+2.0%	28EPP	48	75
Glyphosate+AMS	1.13+2.0%	28EPP	55	80
Glyphosate+AMS	1.5+2.0%	28EPP	50	90
2,4-De	0.5	28EPP	48	35
2,4-De	1.0	28EPP	54	43
2,4-De	1.5	28EPP	54	48
2,4-De	2.0	28EPP	68	75
Paraquat+NIS	0.5+0.25%	28EPP	97	97
Paraquat+NIS	0.75+0.25%	28EPP	99	99
Paraquat+NIS	1.0+0.25%	28EPP	99	99
Atrazine+COC	2.0+1.0%	28EPP	70	95
Isoxaflutole+COC	0.117+1.0%	28EPP	44	66
Mesotrione+COC+28%N	0.188+1.0%+2.5%	28EPP	51	86
Flumetsulam&clopyralid+COC+28%N	0.058&0.156+1.0%+2.5%	28EPP	31	21
Rimsulfuron&thifensulfuron+COC+28%N	0.0313&0.0157+1.0%+2.5%	28EPP	36	40
Metribuzin+COC	0.25+1.0%	28EPP	75	95
Thifensulfuron+NIS	0.028+0.25%	28EPP	41	40
Glyphosate+thifensulfuron+AMS	0.75+0.028+2.0%	28EPP	39	55
2,4-De+thifensulfuron+NIS	1.0+0.028+0.25%	28EPP	56	66
Paraquat+thifensulfuron+NIS	0.75+0.028+0.25%	28EPP	99	99
Glyphosate+2,4-De+AMS	0.375+0.5+2.0%	28EPP	59	51
Paraquat+2,4-De+NIS	0.75+0.5+0.25%	28EPP	99	99
LSD			14	20
P			0.01	0.01

<sup>a</sup>Glyphosate was Roundup UltraMax from Monsanto.

AMS = spray grade ammonium sulfate.

NIS = Activator 90, a nonionic surfactant from Loveland Industries, Inc.

COC = Prime Oil crop oil concentrate, a petroleum based additive with 17% emulsifier from Agrilience.

28%N = 28% urea ammonium nitrate.