

Star-of-Bethlehem Control in No-Till Soybean.

02-Fosse

OBJECTIVE: Determine the effectiveness of soybean herbicides for burndown control of Star-of-Bethlehem.

SUMMARY: This study was designed to evaluate burndown herbicides for Star-of-Bethlehem control in no-till soybean. Gramoxone Max, Valor, Authority, and Canopy XL provided excellent control of Star-of-Bethlehem by 28 days after treatment. Roundup UltraMax alone controlled 73% of Star-of-Bethlehem. Tank mixing Harmony GT with Roundup UltraMax did not improve control. Harmony GT and Harmony Extra controlled 48 to 63% of Star-of-Bethlehem. Salvo, Classic, and FirstRate controlled less than 45% of Star-of-Bethlehem. The results of this study indicate that there are a few herbicide options available for effective control of Star-of-Bethlehem prior to planting. This study evaluated only control of Star-of-Bethlehem topgrowth. Since this is a perennial weed species that produces numerous bulbs in the soil, evaluation of reductions in the number of bulbs in the soil after herbicides application is important in determining long-term control.

HERBICIDES

AIM 40 WG
 AUTHORITY 75 WG
 CANOPY XL 56.3 WG
 CLASSIC 25 WG
 FIRSTRATE 84 WG
 GRAMOXONE MAX 3 SL
 HARMONY EXTRA 75 WG
 HARMONY GT 75 WG
 ROUNDUP ULTRA MAX 3.7 SL
 SALVO 5 EC
 VALOR 51 WG

WEEDS

chickweed, mouseear
 star-of-Bethlehem

CROP

soybean

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PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Star-of-Bethlehem Control in No-Till Soybean.

Project Code: 02-Fosse Location: Marion, IL

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Marion IL 62959 USA
 Trial Status: Final Updated: 10-31-02

Objective:

Determine the effectiveness of soybean herbicides for burndown control of Star-of-Bethlehem.

Weed Code	Common Name	Scientific Name
1. OTGUM	star-of-Bethlehem	Ornithogalum umbellatum L.
2. CERVU	chickweed, mouseear	Cerastium vulgatum L.

Crop 1: GLXMA soybean

Plot Width, Unit: 10 FT Plot Length, Unit: 30 FT Reps: 4
 Tillage Type: No-Till Study Design: Randomized complete block

APPLICATION DESCRIPTION**A**

Application Date: 4-11-02
 Time of Day: 18:15
 Application Method: Spray
 Application Timing: 28EPP
 Applic. Placement: BROFOL
 Air Temp., Unit: 75 F
 Wind Velocity, Unit: 2 MPH
 Dew Presence (Y/N): N
 Soil Temp., Unit: 60 F
 Soil Moisture: NORMAL
 % Cloud Cover: 5

CROP STAGE AT EACH APPLICATION**A**

Crop 1 Code, Stage: GLXMA NA
 Height, Unit: NA NA

WEED STAGE AT EACH APPLICATION**A**

Weed 1 Code: OTGUM
 Stage(leaves): 5-6
 Height(inches): 6-8
 Density: High

Weed 2 Code: CERVU
 Stage(leaves): 4-8
 Height(inches): 3-5
 Density: Medium

APPLICATION EQUIPMENT**A**

Appl. Equipment: CO2 sprayer
 Operating Pressure: 40 PSI
 Nozzle Type: Flat fan
 Nozzle Size: 8003
 Boom Length, Unit: 7.5 FT
 Spray Volume, Unit: 20 GPA

NOTES:

This study was not harvested.

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Weed Code	OTGUM OTGUM CERVU
Crop Code	
Rating Data Type	Control Control Control
Rating Unit	Percent Percent Percent
Rating Date	4-25-02 5-9-02 4-25-02
Trt-Eval Interval	14 DA-A 28 DA-A 14 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code			
1	NONTREATED									0	0	0
2	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	28EPP	A	33	73	99
2	AMS	100	DRY	2.0	% W/W	2	% W/W	28EPP	A			
3	SALVO	5	EC	0.5	LB AE/A	12.8	OZ/A	28EPP	A	14	10	25
4	GRAMOXONE MAX	3	SL	0.75	LB A/A	2	PT/A	28EPP	A	96	99	99
4	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP	A			
5	HARMONY GT	75	WG	0.0188	LB A/A	0.4	OZ/A	28EPP	A	43	63	48
5	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP	A			
6	HARMONY GT	75	WG	0.028	LB A/A	0.6	OZ/A	28EPP	A	35	50	54
6	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP	A			
7	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	28EPP	A	48	63	96
7	HARMONY GT	75	WG	0.028	LB A/A	0.6	OZ/A	28EPP	A			
7	AMS	100	DRY	2.0	% W/W	2	% W/W	28EPP	A			
8	SALVO	5	EC	0.5	LB AE/A	12.8	OZ/A	28EPP	A	45	61	44
8	HARMONY GT	75	WG	0.028	LB A/A	0.6	OZ/A	28EPP	A			
8	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP	A			
9	GRAMOXONE MAX	3	SL	0.75	LB A/A	2	PT/A	28EPP	A	96	97	99
9	HARMONY GT	75	WG	0.028	LB A/A	0.6	OZ/A	28EPP	A			
9	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP	A			
10	HARMONY EXTRA	75	WG	0.0188	LB A/A	0.4	OZ/A	28EPP	A	35	48	33
10	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP	A			
11	HARMONY EXTRA	75	WG	0.0281	LB A/A	0.6	OZ/A	28EPP	A	35	55	35
11	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP	A			
12	CLASSIC	25	WG	0.039	LB A/A	2.5	OZ/A	28EPP	A	15	18	23
12	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP	A			
13	FIRSTRATE	84	WG	0.0315	LB A/A	0.6	OZ/A	28EPP	A	28	44	28
13	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP	A			
14	VALOR	51	WG	0.0797	LB A/A	2.5	OZ/A	28EPP	A	98	99	97
14	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP	A			

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Rating Date	4-25-02 5-9-02 4-25-02
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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code			
15	AUTHORITY	75	WG	0.25	LB A/A	5.33	OZ/A	28EPP	A	86	98	50
15	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP	A			
16	CANOPY XL	56.3	WG			6.8	OZ/A	28EPP	A	92	97	55
16	->CLASSIC	25	WG	0.0398	LB A/A			28EPP	A			
16	->AUTHORITY	75	WG	0.1992	LB A/A			28EPP	A			
16	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP	A			
17	AIM	40	WG	0.016	LB A/A	0.64	OZ/A	28EPP	A	10	3	38
17	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP	A			
LSD (P=.05)										12.3	25.4	19.9
Replicate F										5.823	2.185	1.861
Replicate Prob(F)										0.0018	0.1019	0.1487
Treatment F										60.158	15.091	21.086
Treatment Prob(F)										0.0001	0.0001	0.0001

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Trial Comments

1. Protocol: SIU (BGY).
2. DA-A = days after 28EPP application.