

Perennial Eastern Black Nightshade

02-OS-Carmi

OBJECTIVE: Evaluate herbicide treatments for control of perennial eastern black nightshade.

SUMMARY: In recent years a few growers have reported infestations of the annual weed eastern black nightshade in which the nightshade was acting as a perennial and was not readily controlled by herbicides usually effective on this weed. In response to these concerns a field study was conducted on a grower's field in White County to evaluate perennial nightshade control from Flexstar, Raptor, and Roundup UltraMax. Common use rates of Flexstar (24 oz), Raptor (5 oz), and Roundup UltraMax (26 oz) controlled only 50 to 54% of nightshade at 14 days after treatment (DAT). Increasing the rate of Roundup UltraMax to 40 oz/A increased nightshade control to 85%. By 28 DAT, nightshade control was at least 94% from all herbicide treatments. Extremely dry soil conditions in the field after the herbicides were applied may have enhanced herbicide activity. Or, the droughty conditions may have resulted in greater plant death late in the season than would have been observed if the herbicides had been applied without subsequent dry conditions.

HERBICIDES

FLEXSTAR 1.88 EC
RAPTOR 1 AS
ROUNDUP ULTRA MAX 3.7 SL

WEEDS

nightshade, eastern black

CROP

soybean

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Perennial Eastern Black Nightshade

Project Code: 02-OS-Carmi Location: Carmi, IL

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Carmi IL 62821 USA
 Trial Status: Final Updated: 11-4-02

Objective:

Evaluate herbicide treatments for control of perennial eastern black nightshade.

Weed Code	Common Name	Scientific Name
1. SOLPT	nightshade, eastern black	Solanum ptycanthum Dunal

Crop 1: GLXMA soybean Variety: Roundup Ready
 Planting Method: Seeded

Plot Width, Unit: 2 FT Plot Length, Unit: 42.5 FT Reps: 4
 Tillage Type: No-Till Study Design: Randomized complete block

APPLICATION DESCRIPTION

A

Application Date: 7-23-02
 Time of Day: 11:00
 Application Method: Spray
 Application Timing: 6-18"W
 Applic. Placement: BROFOL
 Air Temp., Unit: 82 F
 % Relative Humidity: 62
 Wind Velocity, Unit: 1-3 MPH
 Soil Temp., Unit: 84 F
 Soil Moisture: NORMAL
 % Cloud Cover: 85

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: GLXMA V4
 Height, Unit: 7-10 IN

WEED STAGE AT EACH APPLICATION

A

Weed 1 Code: SOLPT
 Stage(leaves): 10-30+
 Height(inches): 10-28
 Density: Low

APPLICATION EQUIPMENT

A

Appl. Equipment: CO2 sprayer
 Operating Pressure: 40 PSI
 Nozzle Type: Flat fan
 Nozzle Size: 8002 Even
 Boom Length, Unit: 2.0 FT
 Spray Volume, Unit: 20 GPA

NOTES:

Boom length of 2.0 FT is a single nozzle boom.
 This study was not harvested.

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Weed Code	SOLPT	SOLPT	SOLPT	SOLPT	SOLPT	SOLPT
Crop Code	By Road	By Road	By Road	By Field	By Field	By Field
Rating Data Type	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	8-6-02	8-20-02	9-17-02	8-6-02	8-20-02	9-17-02
Trt-Eval Interval	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code						
1	NONTREATED									0	0	0	0	0	0
2	RAPTOR	1	AS	0.039	LB A/A	5	OZ/A	6-18"	W A	0	64	99	52	94	99
2	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	6-18"	W A						
2	AMS	100	DRY	2.0	LB/A	2	LB/A	6-18"	W A						
3	FLEXSTAR	1.88	EC	0.352	LB A/A	24	OZ/A	6-18"	W A	65	50	81	50	94	97
3	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	6-18"	W A						
3	AMS	100	DRY	2.0	LB/A	2	LB/A	6-18"	W A						
4	ROUNDUP ULTRA MAX	3.7	SL	0.76	LB AE/A	26	OZ/A	6-18"	W A	8	28	62	54	97	99
4	AMS	100	DRY	2.0	% W/W	2	%W/W	6-18"	W A						
5	ROUNDUP ULTRA MAX	3.7	SL	1.17	LB AE/A	40	OZ/A	6-18"	W A	89	92	99	85	97	98
5	AMS	100	DRY	2.0	% W/W	2	%W/W	6-18"	W A						
6	ROUNDUP ULTRA MAX	3.7	SL	1.17	LB AE/A	40	OZ/A	6-18"	W A	96	99	99	88	99	99
6	RAPTOR	1	AS	0.039	LB A/A	5	OZ/A	6-18"	W A						
6	AMS	100	DRY	2.0	% W/W	2	%W/W	6-18"	W A						
LSD (P=.05)										8.0	22.6	26.9	30.3	5.6	3.0
Treatment F										287.829	24.734	18.317	9.622	435.133	1596.282
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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Trial Comments

1. Protocol: SIU.
2. Each plot is one plant.
3. DA-A = days after 6-18"W application.