

Control of Morningglory in Roundup Ready Corn with S-3153.

02-22-M30

OBJECTIVE: To evaluate S-3153 (flufenpyr) tank-mixed with glyphosate for morningglory control in a Roundup Ready corn system.

SUMMARY: The study was designed to determine if adding the experimental herbicide S-3153 to Roundup UltraMax increases control of velvetleaf and ivyleaf morningglory in Roundup Ready corn. In previous studies velvetleaf and ivyleaf morningglory control from Roundup UltraMax was inconsistent. Corn injury was 9 to 12% from S-3153 at 7 days after treatment (DAT). Aim caused 19% corn injury at 7 DAT. Injury decreased over time and no injury was observed from any treatment at 28 DAT. Roundup UltraMax alone controlled 95% of waterhemp, 94% of ivyleaf morningglory, and 99% of velvetleaf at 14 DAT. Tank mixing S-3153, Aim, or Aatrex with Roundup UltraMax increased waterhemp and ivyleaf morningglory control to 97 or 99%, however these increases were not always significant due to the high level of weed control provided by Roundup UltraMax alone.

HERBICIDES

AATREX 90 WG
AIM 2 EW
ROUNDUP ULTRA MAX 3.7 SL
S-3153 57.6 WG

WEEDS

morningglory, ivyleaf
velvetleaf
waterhemp, common

CROP

corn, field

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Control of Morningglory in Roundup Ready Corn with S-3153.

Project Code: 02-22-M30 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 10-31-02

Objective:

To evaluate flufenpyr tank-mixed with glyphosate for morningglory control in a Roundup Ready corn system.

Weed Code	Common Name	Scientific Name
1. AMATA	waterhemp, common	Amaranthus rudis Sauer
2. IPOHE	morningglory, ivyleaf	Ipomoea hederacea (L.) Jacq.
3. ABUTH	velvetleaf	Abutilon theophrasti Medicus

Crop 1: ZEAMX corn, field Variety: DKC 64-10 RR
 Planting Method: Seeded Planting Date: 5-27-02
 Rate: 28000 S/A Depth: 1.5 IN
 Row Spacing: 30 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 27 FT Reps: 3
 Tillage Type: Reduced-Till Study Design: Randomized complete block
 Previous Crop, Year: GLXMA, 2001

Field Prep./Maintenance: N 150 LB/A, P205 50 LB/A, K20 150 LB/A

Soil Name: Clarksdale % OM: 1.7 pH: 5.8 CEC: 12
 Texture: Silt loam Fert. Level: P1: 67 LB/A, K: 235 LB/A

APPLICATION DESCRIPTION**A**

Application Date: 6-14-02
 Time of Day: 21:00
 Application Method: Spray
 Application Timing: 4"MG
 Applic. Placement: BROFOL
 Air Temp., Unit: 74 F
 % Relative Humidity: 46
 Wind Velocity, Unit: 5-10 MPH
 Soil Moisture: ABONOR
 % Cloud Cover: 0

CROP STAGE AT EACH APPLICATION**A**

Crop 1 Code, Stage: ZEAMX V3
 Height, Unit: 6 IN

WEED STAGE AT EACH APPLICATION**A**

Weed 1 Code: AMATA
 Stage(leaves): 4-8
 Height(inches): 3-4
 Density: High

Weed 2 Code: IPOHE
 Stage(leaves): 3-4
 Height(inches): 3-4
 Density: Low

Weed 3 Code: ABUTH
 Stage(leaves): 3-4
 Height(inches): 3-4
 Density: Low

APPLICATION EQUIPMENT

A

Appl. Equipment: CO2 sprayer
Operating Pressure: 40 PSI
Nozzle Type: Flat fan
Nozzle Size: 8002
Boom Length, Unit: 7.5 FT
Spray Volume, Unit: 15 GPA

NOTES:

This study was not harvested.

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Weed Code					AMATA	AMATA	AMATA	IPOHE	IPOHE	IPOHE	ABUTH	ABUTH	ABUTH
Crop Code					ZEAMX	ZEAMX	ZEAMX						
Rating Data Type					Injury	Injury	Injury	Control	Control	Control	Control	Control	Control
Rating Unit					Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date					6-21-02	6-28-02	7-12-02	6-21-02	6-28-02	8-9-02	6-21-02	6-28-02	8-9-02
Trt-Eval Interval					7 DA-A	14 DA-A	28 DA-A	7 DA-A	14 DA-A	56 DA-A	7 DA-A	14 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	0	0	0			
2	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	4"MG	A	0	0	0	99	95	99	82	94	90	99	99	99
3	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	4"MG	A	9	6	0	99	99	96	96	98	89	99	98	98
3	S-3153	57.6	WG	0.014	LB A/A	0.39	OZ/A	4"MG	A												
4	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	4"MG	A	12	6	0	99	98	94	98	97	89	99	99	99
4	S-3153	57.6	WG	0.018	LB A/A	0.5	OZ/A	4"MG	A												
5	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	4"MG	A	0	0	0	99	99	99	92	98	92	99	99	99
5	AATREX	90	WG	0.75	LB A/A	13.3	OZ/A	4"MG	A												
6	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	4"MG	A	19	10	0	99	98	98	97	97	90	99	99	99
6	AIM	2	EW	0.0078	LB A/A	0.5	OZ/A	4"MG	A												
LSD (P=.05)										2.4	1.3	0.0	0.0	3.3	2.4	2.9	3.2	2.4	0.0	0.9	1.7
Replicate F										2.451	0.455	0.000	0.000	2.138	0.404	1.438	1.000	1.226	0.000	1.000	1.000
Replicate Prob(F)										0.1361	0.6472	1.0000	1.0000	0.1687	0.6782	0.2826	0.4019	0.3339	1.0000	0.4019	0.4019
Treatment F										114.431	116.091	0.000	0.000	1488.193	2639.901	1708.927	1475.274	2284.358	0.000	21993.850	5484.362
Treatment Prob(F)										0.0001	0.0001	1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	1.0000	0.0001	0.0001

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Trial Comments

1. Protocol: Valent (1-5); SIU (6).
2. Blanket preemergence application of Dual II Magnum at 0.785 lbai/A applied 10 ft wide to all plots including the nontreated on 5-28-02.
3. DA-A = days after 4"MG application.