

Star-of-Bethlehem Adjuvant Study.

02-Dahmer-M60

OBJECTIVE: Determine the influence of herbicide adjuvants on herbicide activity for control of star-of-Bethlehem.

SUMMARY: Roundup UltraMax provided poor (34 to 40%) control of Star-of-Bethlehem and none of the adjuvants tested with Roundup Ultra Max were able to increase control compared to Roundup Ultra Max alone. However, tank mixing Aim with Roundup Ultra Max increased Star-of-Bethlehem control to 69%. Gramoxone Max provided excellent (92% or greater) control of Star-of-Bethlehem.

HERBICIDES/ADJUVANTS

AIM 40 WG
 ENGAME 1.3 SL
 GRAMOXONE MAX 3 SL
 ROUNDUP ULTRA MAX 3.7 SL
 ACTIVATOR 90 100 LIQ
 AMS 100 DRY
 ARRAY 100 DRY
 DESTINY MSO 100 LIQ
 PLACEMENT 100 LIQ
 PRIME OIL COC 100 LIQ

WEEDS

deadnettle, purple
 star-of-Bethlehem

CROP

corn, field

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Star-of-Bethlehem Adjuvant Study.

Project Code: 02-Dahmer-M60 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 influence of herbicide adjuvants on herbicide activity for control of star-of-Bethlehem.

Weed Code	Common Name	Scientific Name
1.	OTGUM star-of-Bethlehem	Ornithogalum umbellatum L.
2.	LAMPU deadnettle, purple	Lamium purpureum L.

Crop 1: ZEAMX corn, field

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: 16:35
 Application Method: Spray
 Application Timing: 28EPP
 Applic. Placement: BROFOL
 Air Temp., Unit: 78 F
 Wind Velocity, Unit: 3-5 MPH
 Soil Temp., Unit: 60 F
 Soil Moisture: NORMAL
 % Cloud Cover: 20

CROP STAGE AT EACH APPLICATION**A**

Crop 1 Code, Stage: ZEAMX 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: LAMPU
 Stage(leaves): 16-20
 Height(inches): 6-12
 Density: High

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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Project Code: 02-Dahmer-M60 Location: Marion, IL

Weed Code	OTGUM	LAMPU
Crop Code		
Rating Data Type	Control	Control
Rating Unit	Percent	Percent
Rating Date	4-25-02	4-25-02
Trt-Eval Interval	14 DA-A	14 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
2	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	28EPP	A	34	30
3	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	28EPP	A	40	51
3	AMS	100	DRY	1.0	% W/W	1	% W/W	28EPP	A		
4	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	28EPP	A	35	30
4	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP	A		
5	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	28EPP	A	34	35
5	DESTINY MSO	100	LIQ	1.0	% V/V	1	% V/V	28EPP	A		
6	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	28EPP	A	40	33
6	ARRAY	100	DRY	1.08	% W/W	9	LB/100 GAL	28EPP	A		
7	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	28EPP	A	40	33
7	PLACEMENT	100	LIQ	6.5	FL OZ/A	6.5	OZ/A	28EPP	A		
8	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	28EPP	A	69	51
8	AIM	40	WG	0.008	LB A/A	0.32	OZ/A	28EPP	A		
9	ENGAME	1.3	SL	0.75	LB AE/A	74	OZ/A	28EPP	A	41	58
9	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP	A		
10	GRAMOXONE MAX	3	SL	0.75	LB A/A	2	PT/A	28EPP	A	98	99
10	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP	A		
11	GRAMOXONE MAX	3	SL	0.75	LB A/A	2	PT/A	28EPP	A	96	99
11	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	28EPP	A		
12	GRAMOXONE MAX	3	SL	0.75	LB A/A	2	PT/A	28EPP	A	97	99
12	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP	A		
12	AMS	100	DRY	1.0	% W/W	1	% W/W	28EPP	A		
13	GRAMOXONE MAX	3	SL	0.75	LB A/A	2	PT/A	28EPP	A	92	98
13	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP	A		
13	ARRAY	100	DRY	1.08	% W/W	9	LB/100 GAL	28EPP	A		
14	GRAMOXONE MAX	3	SL	0.75	LB A/A	2	PT/A	28EPP	A	98	99
14	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	28EPP	A		
14	PLACEMENT	100	LIQ	8.0	FL OZ/A	8	OZ/A	28EPP	A		
LSD (P=.05)										11.7	18.1

Weed Code	OTGUM	LAMPU
Crop Code		
Rating Data Type	Control	Control
Rating Unit	Percent	Percent
Rating Date	4-25-02	4-25-02
Trt-Eval Interval	14 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
Replicate F				7.751		7.038			
Replicate Prob(F)				0.0004		0.0007			
Treatment F				62.863		29.016			
Treatment Prob(F)				0.0001		0.0001			

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Trial Comments

1. Protocol: SIU (BGY).
2. DA-A = days after 28EPP application.
3. At 28 DA-A on 5-9-02, star-of-Bethlehem was not rated due to advanced maturity and senescence in nontreated areas making herbicide evaluations unreliable.