

2,4-D Amine 4 Nozzle by Adjuvants Study - Winfield Solutions.

Trial ID: 12-51E-M120

Location: Belleville Res. Center

Investigator: Bryan Young

**General Trial Information**

**Study Director:** Bryan Young  
**Investigator:** Bryan Young **Title:** Professor

**Trial Status:** F - one-year/final  
**Initiation Date:** 7-4-12

**Trial Location**

**City:** Belleville  
**State/Prov.:** IL  
**Postal Code:** 62221  
**Country:** USA

**Objectives:**

Evaluate different spray droplet size categories and the addition of Interlock on the efficacy of 2,4-D Amine 4 on broadleaf weeds.

**Personnel**

**Study Director:** Bryan Young  
**Investigator:** Bryan Young **Title:** Professor  
**Affiliation:** Southern Illinois University  
**Address:** 1205 Lincoln Drive - AG 176 - MC 4415  
**Location:** Carbondale IL  
**Postal Code:** 62901 **E-mail:** bgyoung@siu.edu  
**Phone No.:** 618-453-7679 **Mobile No.:** 618-713-6471

**Crop Description**

**Crop 1:** NONE - Non-crop

**Pest Description**

**Pest 1 Type:** W **Code:** ABUTH - Abutilon theophrasti Medik.  
**Common Name:** velvetleaf

**Pest 2 Type:** W **Code:** IPOSS  
**Common Name:** morningglory, species  
**Description:** Mostly IPOHE, some PHBPU (tall mg.)

**Site and Design**

**Plot Width, Unit:** 10 FT **Site Type:** FIELD field  
**Plot Length, Unit:** 40 FT  
**Plot Area, Unit:** 400 FT2 **Tillage Type:** REDTIL reduced-till  
**Replications:** 3 **Study Design:** RACOB� Randomized Complete Block (RCB)

No.	Previous Crop	Year
1.	ZEAMD	2011

**Maintenance**

No.	Maintenance Treatment Name
1.	N 150 LB/A, P205 50 LB/A, K20 100 LB/A

**Soil Description**

**% OM:** 1.7 **Texture:** SIL SILT LOAM  
**pH:** 6.6 **Soil Name:** PIERRON  
**CEC:** 10

**Additional Measured Elements**

Element	Quantity	Unit
P1	75	LB/A
K	347	LB/A

**Moisture and Weather Conditions**

**Overall Moisture Conditions:** BELNOR below normal  
**Closest Weather Station:** ICN - Belleville IL **Distance, Unit:** 0.5 MI

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## Application Description

	A
Application Date:	7-4-12
Time of Day:	7:30
Application Method:	Spray
Application Timing:	4-6"W
Application Placement:	BROFOL
Applied By:	JRK
Air Temperature, Unit:	88 F
% Relative Humidity:	55
Wind Velocity, Unit:	0 MPH
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	81 F
Soil Moisture:	BELNOR
% Cloud Cover:	5
Next Rain Occurred On:	7-8-12

## Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	NONE
Stage Scale Used:	DESC
Stage Majority, Percent:	NA

## Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	ABUTH W DESC
Stage Majority, Percent:	6
Stage Minimum, Percent:	2
Stage Maximum, Percent:	8
Height, Unit:	5 IN
Height Minimum, Maximum:	1 10
Density, Unit:	0.5 FT2
Pest 2 Code, Type, Scale:	IPOSS W DESC
Stage Majority, Percent:	6
Stage Minimum, Percent:	Coty
Stage Maximum, Percent:	8
Height, Unit:	5 IN
Height Minimum, Maximum:	1 8
Density, Unit:	0.5 FT2

## Application Equipment

	A
Appl. Equipment:	CO2 sprayer
Equipment Type:	ALTEVE
Nozzle Type:	See
Nozzle Size:	comment
Boom Length, Unit:	6.67 FT
Spray Volume, Unit:	10 GPA

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Pest Code	ABUTH	ABUTH	ABUTH	IPOSS	IPOSS	IPOSS	
Crop Code	7-11-12	7-18-12	8-1-12	7-11-12	7-18-12	8-1-12	
Rating Date	Control	Control	Control	Control	Control	Control	
Rating Type	Percent	Percent	Percent	Percent	Percent	Percent	
Rating Unit	7 DA-A	14 DA-A	28 DA-A	7 DA-A	14 DA-A	28 DA-A	
Rating Timing							
Trt-Eval Interval							
Trt Treatment No. Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code
1 FINE TJ60 11003 @ 43.5 PSI 9.4 MPH 2,4-D AMINE 4	3.8	SL	0.238 lb ae/a	8 fl oz/a	4 fl oz/a	4-6"W	A
	63 ab	80 b	65 bc	83 b	99 a	99 a	
2 FINE TJ60 11003 @ 43.5 PSI 9.4 MPH 2,4-D AMINE 4 INTERLOCK	3.8	SL	0.238 lb ae/a	8 fl oz/a	4 fl oz/a	4-6"W	A
	63 ab	81 ab	67 abc	85 ab	99 a	99 a	
3 MEDIUM XR 11003 @ 43.5 PSI 9.4 MPH 2,4-D AMINE 4	3.8	SL	0.238 lb ae/a	8 fl oz/a	4 fl oz/a	4-6"W	A
	60 b	82 ab	72 abc	83 b	99 a	99 a	
4 MEDIUM XR 11003 @ 43.5 PSI 9.4 MPH 2,4-D AMINE 4 INTERLOCK	3.8	SL	0.238 lb ae/a	8 fl oz/a	4 fl oz/a	4-6"W	A
	65 a	85 a	73 ab	84 ab	99 a	99 a	
5 COARSE AIXR 11004 @ 50 PSI 13.4 MPH 2,4-D AMINE 4	3.8	SL	0.238 lb ae/a	8 fl oz/a	4 fl oz/a	4-6"W	A
	63 ab	83 ab	75 a	87 a	99 a	98 b	
6 COARSE AIXR 11004 @ 50 PSI 13.4 MPH 2,4-D AMINE 4 INTERLOCK	3.8	SL	0.238 lb ae/a	8 fl oz/a	4 fl oz/a	4-6"W	A
	62 ab	83 ab	70 abc	84 ab	99 a	99 a	
7 VC-XC AI 11004 @ 50 PSI 13.4 MPH 2,4-D AMINE 4	3.8	SL	0.238 lb ae/a	8 fl oz/a	4 fl oz/a	4-6"W	A
	60 b	81 ab	63 c	80 c	99 a	99 a	
8 VC-XC AI 11004 @ 50 PSI 13.4 MPH 2,4-D AMINE 4 INTERLOCK	3.8	SL	0.238 lb ae/a	8 fl oz/a	4 fl oz/a	4-6"W	A
	62 ab	85 a	71 abc	85 ab	99 a	99 a	
9 ULTRA COARSE TTI 11004 @ 43.5 PSI 12.3 MPH 2,4-D AMINE 4	3.8	SL	0.238 lb ae/a	8 fl oz/a	4 fl oz/a	4-6"W	A
	63 ab	81 ab	63 c	86 ab	99 a	99 a	
10 ULTRA COARSE TTI 11004 @ 43.5 PSI 12.3 MPH 2,4-D AMINE 4 INTERLOCK	3.8	SL	0.238 lb ae/a	8 fl oz/a	4 fl oz/a	4-6"W	A
	62 ab	79 b	52 d	83 b	99 a	99 a	
11 NONTREATED							
	0 c	0 c	0 e	0 d	0 b	0 c	
LSD (P=.05)	4.7	4.2	9.3	3.2	0.0	1.2	
Standard Deviation	2.8	2.5	5.5	1.9	0.0	0.7	
CV	4.91	3.34	8.98	2.48	0.0	0.77	
Replicate F	0.546	0.410	1.932	3.646	0.000	1.000	
Replicate Prob(F)	0.5876	0.6693	0.1710	0.0447	1.0000	0.3855	
Treatment F	137.980	297.584	45.165	538.349	0.000	5499.213	
Treatment Prob(F)	0.0001	0.0001	0.0001	0.0001	1.0000	0.0001	

Means followed by same letter do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Trial Comments

1. Protocol: Winfield Solutions.
2. Ratings: CI/WC at 7, 14 and 28 DAT.
3. Nozzle type/size, application PSI, and application speed are per treatment, see treatment list.
4. IPOSS = Morningglory species 80% IPOHE (ivy leaf morningglory) and 20% PHBPU (tall morningglory).
5. Not harvested (non-crop).