

University of GA Coop Ext Service

Broadleaf Weed Control with Spotlight.

Trial ID: Turf15-06 Protocol ID: NA06B2A002
 Location: UGA-Griffin Campus Study Director: Bill Nutt Investigator: Tim R Murphy

General Trial Information

Study Director: Bill Nutt **Title:** ARC I
Affiliation: UGA-CAES **E-mail:** bnutt@griffin.uga.edu
Investigator: Tim R Murphy **Title:** Weed Scientist
Affiliation: UGA-CAES **E-mail:** tmurphy@uga.edu

Trial Location

City: Griffin **Trial Status:** ONE-YEAR/FINAL
State/Prov.: GA **Initiation Date:** 3-8-06
Completion Date: 5-8-06

Cooperator/Landowner

Cooperator: Anita Alexander **Organization:** DowAgroSciences

Crop Description

Crop 1: ZOYJA *Zoysia japonica* Zoysiagrass **Variety:** Unknwon **Perennial Age, Unit:** 20 YEAR

Pest Description

Pest 1 Type: W **Code:** LAMSS *Lamium species* **Common Name:** Deadnettle
Description: 3-08-06: *Lamium* population approximately 50% Henbit (*L. amplexicaule*, LAMAM) and 50% purple deadnettle (*L. purpureum*, LAMPU).
Pest 2 Type: W **Code:** STEME *Stellaria media* **Common Name:** Common Chickweed
Pest 3 Type: W **Code:** RANSS *Ranunculus species* **Common Name:** Buttercup
Pest 4 Type: W **Code:** VERHE *Veronica hederifolia* **Common Name:** Speedwell, Ivy-leaved
Pest 5 Type: W **Code:** GERCA *Geranium carolinianum* **Common Name:** Geranium, Carolina

Site and Design

Plot Width, Unit: 6 FT **Site Type:** Commercial lawn
Plot Length, Unit: 15 FT **Replications:** 4 **Study Design:** Randomized Complete Block
Trial Initiation Comments: 5 ft. on 7 ft. centers

No.	Date	Maintenance
1.	3-24-06	Site mowed to 2 inch cutting height

Application Description

	A
Application Date:	3-8-06
Time of Day:	11:00 a.m
Application Method:	SPRAY
Application Timing:	POSPOS
Application Placement:	FOLIAR
Applied By:	B. Nutt
Air Temperature, Unit:	64 F
% Relative Humidity:	35
Wind Velocity, Unit:	4 MPH
Dew Presence (Y/N):	n
Soil Temperature, Unit:	50 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	10

Broadleaf Weed Control with Spotlight.**Crop Stage At Each Application**

	A
Crop 1 Code:	ZOYJA
Stage Majority, Percent:	Dormant 100

Pest Stage At Each Application

	A
Pest 1 Code:	LAMSS W
Stage Majority, Percent:	Bloom 80
Height, Unit:	6 IN
Height Minimum, Maximum:	4 8
Pest 2 Code:	STEME W
Stage Majority, Percent:	Bloom 100
Diameter, Unit:	10 IN
Height, Unit:	3 IN
Height Minimum, Maximum:	1 3
Pest 3 Code:	RANSS W
Stage Majority, Percent:	Vegetative 100
Diameter, Unit:	4 IN
Height, Unit:	2 IN
Pest 4 Code:	VERHE W
Stage Majority, Percent:	Bloom 100
Diameter, Unit:	6 IN
Pest 5 Code:	GERCA W
Stage Majority, Percent:	Vegetative 100
Diameter, Unit:	4 IN
Height, Unit:	2 IN

Application Equipment

	A
Appl. Equipment:	Backpack
Operating Pressure, Unit:	26 psi*
Nozzle Type:	Flat fan
Nozzle Size:	8004
Nozzle Spacing, Unit:	20 inch
Boom Length, Unit:	5 ft
Boom Height, Unit:	20 in
Ground Speed, Unit:	3 mph
Carrier:	water
Spray Volume, Unit:	25 GAL/AC
Propellant:	CO2
Tank Mix (Y/N):	y

Equipment Comment: *Spraying Pressure; Regulator = 26 psi; Down pipe = 20 psi.

Broadleaf Weed Control with Spotlight.

Pest Code										ZOYJA	ZOYJA	LAMSS	LAMSS	LAMSS
Crop Code										ZOYJA	ZOYJA	LAMSS	LAMSS	LAMSS
Pest/Crop Name										Zoysia	Zoysia	Henbit + Deadnettle purple Initial	Henbit + Deadnettle purple	Henbit + Deadnettle purple
Description														
Rating Date										4-6-06	5-8-06	3-8-06	3-20-06	3-20-06
Rating Data Type										GreenUp	GreenUp	Density	Density	Control
Rating Unit										0-100	0-100	0-100	0-100	0-100
Days After First/Last Applic.										29 29	61 61	0 0	12 12	12 12
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	Untreated Check							POSPOS	A	16 a	78 a	19 a	24 a	0 b
2	SpotLight + 2,4-D amine	1.5 EC	3.8 SL	0.126 lb ae/a	1.0 lb ae/a	0.67 pt/a	2.1 pt/a	POSPOS	A	20 a	80 a	19 a	16 b	15 ab
3	SpotLight + Manor	1.5 EC	60 WG	0.126 lb ae/a	0.0094 lb ai/a	0.67 pt/a	0.25 oz/a	POSPOS	A	15 a	80 a	20 a	16 b	30 a
4	Escalade 2	4.0 EC		1.5 lb ae/a		3.0 pt/a		POSPOS	A	18 a	75 a	23 a	21 ab	4 b
5	Confront		3 SL	0.375 lb ae/a		1.0 pt/a		POSPOS	A	16 a	84 a	20 a	20 ab	0 b
LSD (P=.05)										5.3	9.0	8.9	7.3	18.8
Standard Deviation										3.4	5.8	5.8	4.7	12.2
CV										20.27	7.38	28.96	24.33	123.85

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

Column 5: $T2 = 100 - [C4]/[C3] * 100$

Pest Code										LAMSS	LAMSS	LAMSS	LAMSS	STEME
Pest Name										Henbit + Deadnettle purple	Henbit + Deadnettle purple	Henbit + Deadnettle purple	Henbit + Deadnettle purple	Chickweed Common
Description														Initial
Rating Date										4-6-06	4-6-06	5-8-06	5-8-06	3-8-06
Rating Data Type										Density	Control	Density	Control	Density
Rating Unit										0-100	0-100	0-100	0-100	0-100
Days After First/Last Applic.										29 29	29 29	61 61	61 61	0 0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	Untreated Check							POSPOS	A	18 a	7 c	0 a	100 a	13 a
2	SpotLight + 2,4-D amine	1.5 EC	3.8 SL	0.126 lb ae/a	1.0 lb ae/a	0.67 pt/a	2.1 pt/a	POSPOS	A	11 b	41 ab	0 a	100 a	14 a
3	SpotLight + Manor	1.5 EC	60 WG	0.126 lb ae/a	0.0094 lb ai/a	0.67 pt/a	0.25 oz/a	POSPOS	A	12 b	46 a	0 a	100 a	13 a
4	Escalade 2	4.0 EC		1.5 lb ae/a		3.0 pt/a		POSPOS	A	18 a	21 bc	0 a	100 a	13 a
5	Confront		3 SL	0.375 lb ae/a		1.0 pt/a		POSPOS	A	19 a	8 c	0 a	100 a	15 a
LSD (P=.05)										4.6	21.4	0.0	0.0	7.4
Standard Deviation										3.0	13.9	0.0	0.0	4.8
CV										19.56	56.81	0.0	0.0	36.46

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

Column 7: $T3 = 100 - [C6]/[C3] * 100$

Column 9: $T4 = 100 - [C8]/[C3] * 100$

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Pest Code	STEME	STEME	STEME	STEME	STEME								
Crop Name	Chickweed Common	Chickweed Common	Chickweed Common	Chickweed Common	Chickweed Common								
Rating Date	3-20-06	3-20-06	4-6-06	4-6-06	5-8-06								
Rating Data Type	Density	Control	Density	Control	Density								
Rating Unit	0-100	0-100	0-100	0-100	0-100								
Days After First/Last Applic.	12 12	12 12	29 29	29 29	61 61								
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Stage	Appl Code					
1	Untreated Check						POSPOS	A	15 a	17 a	18 a	8 b	0 a
2	SpotLight + 2,4-D amine	1.5 EC 3.8 SL		0.126 lb ae/a 1.0 lb ae/a	0.67 pt/a 2.1 pt/a		POSPOS	A	14 a	15 a	7 b	50 a	0 a
3	SpotLight + Manor	1.5 EC 60 WG		0.126 lb ae/a 0.0094 lb ai/a	0.67 pt/a 0.25 oz/a		POSPOS	A	13 a	17 a	7 b	42 ab	0 a
4	Escalade 2	4.0 EC		1.5 lb ae/a	3.0 pt/a		POSPOS	A	18 a	0 a	9 b	33 ab	0 a
5	Confront	3 SL		0.375 lb ae/a	1.0 pt/a		POSPOS	A	18 a	0 a	13 ab	11 b	1 a
LSD (P=.05)									8.0	35.5	7.1	33.5	1.7
Standard Deviation									5.2	23.0	4.6	21.7	1.1
CV									33.86	240.51	43.62	75.1	447.21

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

Column 12: T5 = 100-[C11]/[C10]*100

Column 14: T6 = 100-[C13]/[C10]*100

Pest Code	STEME	RANSS	RANSS	RANSS	RANSS								
Pest Name	Chickweed Common	Buttercup	Buttercup	Buttercup	Buttercup								
Description		Initial											
Rating Date	5-8-06	3-8-06	3-20-06	3-20-06	4-6-06								
Rating Data Type	Control	Density	Density	Control	Density								
Rating Unit	0-100	0-100	0-100	0-100	0-100								
Days After First/Last Applic.	61 61	0 0	12 12	12 12	29 29								
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Stage	Appl Code					
1	Untreated Check						POSPOS	A	100 a	9 a	13 a	0 a	13 a
2	SpotLight + 2,4-D amine	1.5 EC 3.8 SL		0.126 lb ae/a 1.0 lb ae/a	0.67 pt/a 2.1 pt/a		POSPOS	A	100 a	9 a	8 ab	15 a	1 bc
3	SpotLight + Manor	1.5 EC 60 WG		0.126 lb ae/a 0.0094 lb ai/a	0.67 pt/a 0.25 oz/a		POSPOS	A	100 a	7 a	6 b	8 a	0 c
4	Escalade 2	4.0 EC		1.5 lb ae/a	3.0 pt/a		POSPOS	A	100 a	8 a	6 b	15 a	3 bc
5	Confront	3 SL		0.375 lb ae/a	1.0 pt/a		POSPOS	A	75 a	7 a	7 ab	0 a	6 b
LSD (P=.05)									34.5	6.0	6.4	15.6	5.5
Standard Deviation									22.4	3.9	4.1	10.1	3.6
CV									23.54	50.31	52.52	136.36	81.31

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

Column 16: T7 = 100-[C15]/[C10]*100

Column 19: T8 = 100-[C18]/[C17]*100

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Pest Code									RANSS	RANSS	RANSS	VERHE	VERHE
Pest Name									Buttercup	Buttercup	Buttercup	Speedwell	Speedwell
Description												Ivy-leaf	Ivy-leaf
Rating Date									4-6-06	5-8-06	5-8-06	3-8-06	3-20-06
Rating Data Type									Control	Density	Control	Density	Density
Rating Unit									0-100	0-100	0-100	0-100	0-100
Days After First/Last Applic.									29 29	61 61	61 61	0 0	12 12
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Stage	Appl Code					
1	Untreated Check						POSPOS	A	0 c	3 a	54 b	11 a	14 a
2	SpotLight + 2,4-D amine	1.5 EC	3.8 SL	0.126 lb ae/a	0.67 pt/a	2.1 pt/a	POSPOS	A	89 a	0 b	100 a	14 a	12 a
3	SpotLight + Manor	1.5 EC	60 WG	0.126 lb ae/a	0.67 pt/a	0.25 oz/a	POSPOS	A	100 a	0 b	100 a	10 a	9 a
4	Escalade 2	4.0 EC		1.5 lb ae/a	3.0 pt/a		POSPOS	A	63 b	0 b	100 a	19 a	16 a
5	Confront	3 SL		0.375 lb ae/a	1.0 pt/a		POSPOS	A	18 c	3 a	48 b	11 a	11 a
LSD (P=.05)									22.9	1.6	36.8	9.8	8.7
Standard Deviation									14.8	1.0	23.9	6.4	5.6
CV									27.58	89.1	29.77	48.9	45.47

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

Column 21: T9 = 100-[C20]/[C17]*100

Column 23: T10 = 100-[C22]/[C17]*100

Pest Code									VERHE	VERHE	VERHE	VERHE	VERHE
Pest Name									Speedwell	Speedwell	Speedwell	Speedwell	Speedwell
Rating Date									3-20-06	4-6-06	4-6-06	5-8-06	5-8-06
Rating Data Type									Control	Density	Control	Density	Control
Rating Unit									0-100	0-100	0-100	0-100	0-100
Days After First/Last Applic.									12 12	29 29	29 29	61 61	61 61
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Stage	Appl Code					
1	Untreated Check						POSPOS	A	0 a	14 a	0 d	0 a	100 a
2	SpotLight + 2,4-D amine	1.5 EC	3.8 SL	0.126 lb ae/a	0.67 pt/a	2.1 pt/a	POSPOS	A	13 a	7 b	53 ab	0 a	100 a
3	SpotLight + Manor	1.5 EC	60 WG	0.126 lb ae/a	0.67 pt/a	0.25 oz/a	POSPOS	A	8 a	6 b	32 bc	0 a	100 a
4	Escalade 2	4.0 EC		1.5 lb ae/a	3.0 pt/a		POSPOS	A	13 a	6 b	64 a	0 a	100 a
5	Confront	3 SL		0.375 lb ae/a	1.0 pt/a		POSPOS	A	0 a	9 ab	23 cd	0 a	100 a
LSD (P=.05)									16.8	6.0	28.3	0.0	0.0
Standard Deviation									10.9	3.9	18.3	0.0	0.0
CV									163.36	47.87	53.26	0.0	0.0

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

Column 26: T11 = 100-[c25]/[c24]*100

Column 28: T12 = 100-[c27]/[c24]*100

Column 30: T13 = 100-[c29]/[c24]*100

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Pest Code						GERCA	GERCA	GERCA	GERCA	GERCA			
Pest Name						Geranium Carolina	Geranium Carolina	Geranium Carolina	Geranium Carolina	Geranium Carolina			
Description						Initial							
Rating Date						3-8-06	3-20-06	3-20-06	4-6-06	4-6-06			
Rating Data Type						Density	Density	Control	Density	Control			
Rating Unit						0-100	0-100	0-100	0-100	0-100			
Days After First/Last Applic.						0 0	12 12	12 12	29 29	29 29			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Rate	Other Rate	Growth Stage	Appl Code					
1	Untreated Check						POSPOS	A	9 a	9 a			
2	SpotLight + 2,4-D amine	1.5 EC 3.8 SL		0.126 lb ae/a 1.0 lb ae/a	0.67 pt/a 2.1 pt/a		POSPOS	A	11 a	10 a			
3	SpotLight + Manor	1.5 EC 60 WG		0.126 lb ae/a 0.0094 lb ai/a	0.67 pt/a 0.25 oz/a		POSPOS	A	10 a	10 a			
4	Escalade 2	4.0 EC		1.5 lb ae/a	3.0 pt/a		POSPOS	A	8 a	10 a			
5	Confront	3 SL		0.375 lb ae/a	1.0 pt/a		POSPOS	A	10 a	10 a			
LSD (P=.05)									4.1	1.7	11.5	2.7	18.2
Standard Deviation									2.7	1.1	7.5	1.7	11.8
CV									28.05	11.47	447.21	52.7	18.34

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

Column 33: T14 = 100-[c32]/[c31]*100

Column 35: T15 = 100-[c34]/[c31]*100

Pest Code						GERCA	GERCA			
Pest Name						Geranium Carolina	Geranium Carolina			
Rating Date						5-8-06	5-8-06			
Rating Data Type						Density	Control			
Rating Unit						0-100	0-100			
Days After First/Last Applic.						61 61	61 61			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Rate	Other Rate	Growth Stage	Appl Code		
1	Untreated Check						POSPOS	A	13 a	0 b
2	SpotLight + 2,4-D amine	1.5 EC 3.8 SL		0.126 lb ae/a 1.0 lb ae/a	0.67 pt/a 2.1 pt/a		POSPOS	A	0 b	100 a
3	SpotLight + Manor	1.5 EC 60 WG		0.126 lb ae/a 0.0094 lb ai/a	0.67 pt/a 0.25 oz/a		POSPOS	A	10 a	25 b
4	Escalade 2	4.0 EC		1.5 lb ae/a	3.0 pt/a		POSPOS	A	0 b	100 a
5	Confront	3 SL		0.375 lb ae/a	1.0 pt/a		POSPOS	A	0 b	100 a
LSD (P=.05)									6.0	34.5
Standard Deviation									3.9	22.4
CV									86.07	34.4

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

Column 37: T16 = 100-[c36]/[31]*100