

University of GA Coop Ext Service

Evaluation of 1,3-D on Golf Course Putting Greens: Creeping Bentgrass

Trial ID: Bent1

Study Director: Jonathan Bohn

Location: The Standard Club #8 G

Investigator: Clint Waltz

General Trial Information

Study Director: Jonathan Bohn

Title: Technician

Affiliation: C&SS - UGA

Investigator: Clint Waltz

Title: Asst. Professor

Affiliation: C&SS - UGA

E-mail: CWaltz@UGA.edu

Trial Location

City: Duluth

Trial Status: ARCHIVED

State/Prov.: GA

Initiation Date: 6-30-2003

Planned Completion Date: 9-15-2003

Objectives: Determine the efficacy of XRM-5048 on plant parasitic nematodes in creeping bentgrass putting greens in the Southern United States.

Cooperator/Landowner

Cooperator: Mark Hoban

Organization: Dublin Country Club

City: Duluth

State/Prov: GA

Crop Description

Crop 1: AGSST *Agrostis stolonifera* Bentgrass, creeping

Variety: Pencross

Description: Putting Green

Planting Method: ESTABLISHED

Site and Design

Plot Width, Unit: 6 FT Site Type: Golf Course Putting Green

Plot Length, Unit: 30 FT Tillage Type: Slit Injection

Replications: 5 Study Design: Randomized Complete Block

Field Prep./Maintenance:

Maintained as a golf course putting green by golf course staff.

Soil Description

% OM: 0 Texture: USGA Specification Putting Green Mix

Moisture Conditions

Overall Moisture Conditions: SLIGHTLY WET

Closest Weather Station: Atlanta Athletic Club

Distance: 5

Unit: MI

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	6-30-2003	10:45	0.25	IN	SPRINKLER - SOLID SET	30	MIN
2.	6-30-2003		0.2	IN	RAIN	24	HR
3.	7-1-2003		3.6	IN	RAIN	24	HR

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Application Description

	A
Application Date:	6-30-2003
Time of Day:	10:00 am
Application Method:	ITA Inject
Application Timing:	POSPOS
Application Placement:	INJSOI
Applied By:	ITA
Air Temperature, Unit:	75 F
% Relative Humidity:	90
Wind Velocity, Unit:	0 MPH
Dew Presence (Y/N):	N

Application Equipment

	A
Appl. Equipment:	Injection Ring

Trial Comments

Date	By	Notes
6-30-2003	FCW	Golf course staff spiked green morning of application with small dimple spiker in two directions. Green is a mixed stand of 'Pencross' creeping bentgrass and annual blue grass maintained at putting green heights, rating of putting surface was fair (6.5).
6-30-2003	FCW	Soil firmness ratings were taken with a Turf-Tec International penetrometer just (B)efore application and then again just (A)fter irrigation following application. Measurements taken (A)fter application were from between application slits.
6-30-2003	FCW	Firm: 0 = Soft -> 10 = Very Firm
6-30-2003	FCW	Heal: 1 = Open Slit -> 9 = No Observable Slit

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Evaluation of 1, 3-D on Golf Course Putting Greens: Creeping Bentgrass										
Trial ID: BENT1										
Location: The Standard Club #8 G					Investigator: Clint Waltz					
Crop Code					AGSST	AGSST	AGSST			
Crop Variety					Pencross	Pencross	Pencross			
Rating Date					7-3-2003	7-11-2003	7-31-2003			
Rating Data Type					TQ	TQ	TQ			
Rating Unit					1-9	1-9	1-9			
Number of Subsamples					1	1	1			
Assessed By					JB	FCW	JB			
Days After Last Applic.					3	11	31			
Trt-Eval Interval					3 DA-A	11 DA-A	31 DA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Other Rate	Other Rate	Growth Unit	Stage	Appl Code	Appl Description	
1	Untreated Check									
2	Equipment Check							A	Specialty Application	
3	XRM-5048	6.8	EC	5	gal/a	COVER		A	Specialty Application	
LSD (P=.05)					0.00	0.43	0.00			
Standard Deviation					0.00	0.30	0.00			
CV					0.0	3.81	0.0			

Crop Code					AGSST	AGSST				
Crop Variety					Pencross	Pencross				
Rating Date					8-28-2003	7-3-2003				
Rating Data Type					TQ	Color				
Rating Unit					1-9	1-9				
Number of Subsamples					1	1				
Assessed By					JB	JB				
Days After Last Applic.					59	3				
Trt-Eval Interval					59 DA-A	3 DA-A				
Trt No.	Treatment Name	Form Conc	Form Type	Other Rate	Other Rate	Growth Unit	Stage	Appl Code	Appl Description	
1	Untreated Check									
2	Equipment Check							A	Specialty Application	
3	XRM-5048	6.8	EC	5	gal/a	COVER		A	Specialty Application	
LSD (P=.05)					0.00	0.44				
Standard Deviation					0.00	0.30				
CV					0.0	4.04				

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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									AGSST	AGSST	AGSST	
									Pencross	Pencross	Pencross	
									7-11-2003	7-31-2003	8-8-2003	
									Color	Color	Color	
									1-9	1-9	1-9	
									1	1	1	
									FCW	JB	Darin	
									11	31	39	
									11 DA-A	31 DA-A	39 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Other Rate	Other Rate	Growth Unit	Appl Stage	Appl Code	Appl Description			
1	Untreated Check									7.9 a	7.0 a	7.4 a
2	Equipment Check						A	Specialty Application		7.5 b	7.0 a	7.3 a
3	XRM-5048	6.8	EC	5	gal/a	COVER	A	Speciality Application		7.7 ab	7.0 a	7.6 a
LSD (P=.05)										0.34	0.00	0.45
Standard Deviation										0.23	0.00	0.31
CV										3.02	0.0	4.16

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

									AGSST	AGSST		
									Pencross	Pencross		
									8-28-2003	7-31-2003		
									Color	ColorMeter		
									1-9	1-9		
									1	10		
									JB	JB		
									59	31		
									59 DA-A	31 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Other Rate	Other Rate	Growth Unit	Appl Stage	Appl Code	Appl Description			
1	Untreated Check									8.0 a	6.9 b	
2	Equipment Check						A	Specialty Application		8.0 a	7.3 ab	
3	XRM-5048	6.8	EC	5	gal/a	COVER	A	Speciality Application		8.0 a	7.4 a	
LSD (P=.05)										0.00	0.36	
Standard Deviation										0.00	0.25	
CV										0.0	3.47	

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Crop Code									AGSST	AGSST	
Crop Variety									Pencross	Pencross	
Rating Date									8-28-2003	8-8-2003	
Rating Data Type									ColorMeter	Density	
Rating Unit									1-9	%	
Number of Subsamples									10	1	
Assessed By									JB	Darin	
Days After Last Applic.									59	39	
Trt-Eval Interval									57 DA-A	39 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Other Rate	Other Rate	Growth Unit	Stage	Appl Code	Appl Description		
1	Untreated Check									7.7 b	95 a
2	Equipment Check							A	Specialty Application	7.8 b	97 a
3	XRM-5048	6.8	EC	5	gal/a		COVER	A	Speciality Application	8.0 a	96 a
LSD (P=.05)										0.24	2.4
Standard Deviation										0.16	1.6
CV										2.07	1.71

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

Crop Code									AGSST	AGSST	AGSST
Crop Variety									Pencross	Pencross	Pencross
Rating Date									7-3-2003	7-11-2003	8-31-2003
Rating Data Type									Injury	Heal	Heal
Rating Unit									%	1-9	1-9
Number of Subsamples									1	1	1
Assessed By									JB	FCW	JB
Days After Last Applic.									3	11	62
Trt-Eval Interval									3 DA-A	11 DA-A	62 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Other Rate	Other Rate	Growth Unit	Stage	Appl Code	Appl Description		
1	Untreated Check									0 a	9.0 a
2	Equipment Check							A	Specialty Application	0 a	8.0 b
3	XRM-5048	6.8	EC	5	gal/a		COVER	A	Speciality Application	0 a	7.7 c
LSD (P=.05)										0.0	0.23
Standard Deviation										0.0	0.16
CV										0.0	1.92

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Crop Code									AGSST	AGSST	
Crop Variety									Pencross	Pencross	
Rating Date									8-28-2003	6-30-2003	
Rating Data Type									Heal	Firm (B)	
Rating Unit									1-9	1-10	
Number of Subsamples									1	2	
Assessed By									JB	Darin	
Days After Last Applic.									59	0	
Trt-Eval Interval									59 DA-A	0 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Other Rate	Other Rate	Growth Unit	Stage	Appl Code	Appl Description		
1	Untreated Check									9.0 a	5.75 a
2	Equipment Check							A	Specialty Application	9.0 a	5.55 a
3	XRM-5048	6.8	EC	5	gal/a		COVER	A	Speciality Application	9.0 a	5.65 a
LSD (P=.05)										0.00	0.466
Standard Deviation										0.00	0.320
CV										0.0	5.65

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

Crop Code									AGSST	AGSST	
Crop Variety									Pencross	Pencross	
Rating Date									6-30-2003	6-26-2003	
Rating Data Type									Firm (A)	Ring	
Rating Unit									1-10	Count	
Number of Subsamples									2	1	
Assessed By									Darin	Lab	
Days After Last Applic.									0	-4	
Trt-Eval Interval									0 DA-A	-4 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Other Rate	Other Rate	Growth Unit	Stage	Appl Code	Appl Description		
1	Untreated Check									5.45 a	145 a
2	Equipment Check							A	Specialty Application	2.05 b	204 a
3	XRM-5048	6.8	EC	5	gal/a		COVER	A	Speciality Application	1.75 b	184 a
LSD (P=.05)										0.738	120.4
Standard Deviation										0.506	82.6
CV										16.41	46.49

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Crop Code									AGSST	AGSST	AGSST	
Crop Variety									Pencross	Pencross	Pencross	
Rating Date									7-21-2003	6-26-2003	7-21-2003	
Rating Data Type									Ring	Stunt	Stunt	
Rating Unit									Count	Count	Count	
Number of Subsamples									1	1	1	
Assessed By									Lab	Lab	Lab	
Days After Last Applic.									21	-4	21	
Trt No.	Treatment Name	Form Conc	Form Type	Other Rate	Other Rate	Growth Unit	Stage	Appl Code	Appl Description			
1	Untreated Check									243 a	52 a	173 a
2	Equipment Check							A	Specialty Application	249 a	74 a	269 a
3	XRM-5048	6.8	EC	5	gal/a	COVER		A	Speciality Application	224 a	122 a	123 a
LSD (P=.05)										163.3	103.6	238.8
Standard Deviation										111.9	71.0	163.7
CV										46.91	86.07	86.96

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

Crop Code									AGSST	AGSST		
Crop Variety									Pencross	Pencross		
Rating Date									6-26-2003	7-21-2003		
Rating Data Type									Total	Total		
Rating Unit									Count	Count		
Number of Subsamples									1	1		
Assessed By									Lab	Lab		
Days After Last Applic.									-4	21		
Trt-Eval Interval									-4 DA-A	21 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Other Rate	Other Rate	Growth Unit	Stage	Appl Code	Appl Description			
1	Untreated Check									202 a	424 a	
2	Equipment Check							A	Specialty Application	278 a	518 a	
3	XRM-5048	6.8	EC	5	gal/a	COVER		A	Speciality Application	306 a	347 a	
LSD (P=.05)										125.9	211.8	
Standard Deviation										86.3	145.2	
CV										33.0	33.8	

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Crop Code									AGSST
Crop Variety									Pencross
Rating Date									8-11-2003
Rating Data Type									Root Weight
Rating Unit									g
Number of Subsamples									2
Assessed By									JB
Days After Last Applic.									42
Trt-Eval Interval									42 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Other Rate	Other Rate Unit	Growth Stage	Appl Code	Appl Description	
1	Untreated Check								0.0757 a
2	Equipment Check						A	Specialty Application	0.1087 a
3	XRM-5048	6.8	EC	5	gal/a	COVER	A	Speciality Application	0.0838 a
LSD (P=.05)									0.03947
Standard Deviation									0.02706
CV									30.28

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)