

University of GA Coop Ext Service

Efficacy of Monument as a Transition Aid for Bermudagrass Overseeded with Perennial Ryegrass

Trial ID: Turf25-03

Study Dir.: Bill Nutt

Location: Griffin

Investigator: Tim R Murphy

GENERAL TRIAL INFORMATION

Study Director: Bill Nutt

Title: ARCI

Affiliation: UGA-CAES

Investigator: Tim R Murphy

Title: Weed Scientist

Affiliation: UGA-CAES

TRIAL LOCATION

City: Griffin

Trial Status: ONE-YEAR/FINAL

State/Prov.: GA

Initiation Date: 3-25-2003

COOPERATOR/LANDOWNER

Cooperator: Doug Houseworth

Org: Syngenta

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	LOLPE	Ryegrass, perennial	<i>Lolium perenne</i>
2.	POAAN	Bluegrass, annual	<i>Poa annua</i>
3.	DIGIS	Crabgrass, smooth	<i>Digitaria ischaemum</i>

Crop 1: CYNDA Bermudagrass/ *Cynodon dactylon* **Variety:** Hybrid/ Tifway **Perennial Age:** 20 yrs

SITE AND DESIGN

Plot Width, Unit: 6 FT Plot Length, Unit: 10 FT Reps: 3

Site Type: SIMULATED GOLF COURSE FAIRWAY Study Design: RANDOMIZED COMPLETE BLOCK

Trial Initiation Comments: Perennial ryegrass seeded September 29, 2002.

MAINTENANCE

Field Prep./Maintenance: Irrigated site. Mowed at 0.625 inch.

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	3-25-2003	4-23-2003	5-9-2003	5-20-2003
Time of Day:	11:00 am	11:30 am	4:20 PM	4:20 PM
Application Method:	Broadcast	Broadcast	Broadcast	Broadcast
Application Timing:	Post	Post	Post	Post
Applic. Placement:	Foliar	Foliar	Foliar	Foliar
Air Temp., Unit:	73 F	65 F	84 F	75.5 F
% Relative Humidity:	40	48	63	69
Wind Velocity, Unit:	3 mph	2.5 mph	1.7 mph	1.7 mph
Dew Presence (Y/N):	N	N	N	N
Soil Temp., Unit:	66 F	65 F	81 F	74 F
Soil Moisture:	Good	Good	High	High
% Cloud Cover:	0	0	50	95

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CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	CYNDA Greenup	CYNDA Greenup	CYNDA Green	CYNDA Green
Stage Scale:	30%	60%	80%	100%
Height, Unit:	.625 inch	.625 inch	0.75 inch	.625 inch

WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code, Stage:	LOLPE Growth	LOLPE Growth	LOLPE Growth	LOLPE Growth
Stage Scale:	Active	Active	Active	Active
Density, Unit:	70 %	50 %	50 %	50 %

APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	Backpack	Backpack	Backpack	Backpack
Operating Pressure:	26 psi	26 psi	26 psi	26 psi
Nozzle Type:	Flat fan	Flat fan	Flat fan	Flat fan
Nozzle Size:	8004	8004	8004	8004
Nozzle Spacing, Unit:	20 inch	20 inch	20 inch	20 inch
Boom Length, Unit:	5 feet	5 feet	5 feet	5 feet
Boom Height, Unit:	18 inch	18 inch	18 inch	18 inch
Ground Speed, Unit:	3 mph	3 mph	3 mph	3 mph
Carrier:	Water	Water	Water	Water
Spray Volume, Unit:	25 gpa	25 gpa	25 gpa	25 gpa
Propellant:	C02	C02	C02	C02
Tank Mix (Y/N):	N	N	N	N

Trial Comments

4-29-03

Broadcast 10-10-1 0 fertilizer at 10 lb/1000 sq. ft.

5-28-03

Abnormal cool, wet weather has caused a resurgence in ryegrass growth. Raises the possibility of necessity of multiple applications.

Bermudagrass Injury

When applied on at the 30% bermudagrass green-up growth stage (A application), Monument applied at rates ranging from 7.0 to 21.0 g/ha injured bermudagrass 7 to 17% at 17 DA-A (days after application) (April 11, 2003 rating). By April 21, this injury had essentially dissipated. When applied at the 60% bermudagrass greenup growth stage (B application), injury to bermudagrass was $\leq 5\%$ for all Monument treatments and Kerb. When applied on May 9 (80% greenup, Application C), or on May 20 (100% greenup, Application D), injury was $\leq 10\%$ for all Monument treatments and Revolver. The minor injury to bermudagrass observed with Monument in this experiment would be commercially acceptable.

WEED DENSITY RATINGS FOR UNTREATED CHECK PLOTS

	117	206	305
POAAN,4-21-03	20	25	25
DIGIS,6-18-03	20	20	15

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Efficacy of Monument as a Transition Aid for Bermudagrass Overseeded with Perennial Ryegrass													
Trial ID: Turf25-03				Study Dir. : Bill Nutt									
Location: Griffin				Investigator: Tim R Murphy									
Weed Code													
Crop Code													
Rating Data Type													
Rating Unit													
Rating Date													
Trt-Eval Interval													
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	LOLPE	LOLPE	LOLPE	LOLPE
1	Monument	75	DG	7.0	g ai/ha			30% grup A	A	15 a	53 b	63 bc	53 b
	Chem-Nut 80/20 NIS			0.25	% v/v			30% grup A	A				
2	Monument	75	DG	14.0	g ai/ha			30% grup A	A	17 a	53 b	82 ab	78 a
	Chem-Nut 80/20 NIS			0.25	% v/v			30% grup A	A				
3	Monument	75	DG	21.0	g ai/ha			30% grup A	A	18 a	67 a	88 a	87 a
	Chem-Nut 80/20 NIS			0.25	% v/v			30% grup A	A				
4	Kerb	50	WP	840	g ai/ha	1.5	lb/a	30% grup A	A	8 b	33 c	43 c	53 b
5	Monument	75	DG	7.0	g ai/ha			60% grup B	B	-	-	-	55 b
	Chem-Nut 80/20 NIS			0.25	% v/v			60% grup B	B	-	-	-	
6	Monument	75	DG	14.0	g ai/ha			60% grup B	B	-	-	-	48 b
	Chem-Nut 80/20 NIS			0.25	% v/v			60% grup B	B	-	-	-	
7	Monument	75	DG	21.0	g ai/ha			60% grup B	B	-	-	-	53 b
	Chem-Nut 80/20 NIS			0.25	% v/v			60% grup B	B	-	-	-	
8	Kerb	50	WP	840	g ai/ha	1.5	lb/a	60% grup B	B	-	-	-	2 c
9	Monument	75	DG	7.0	g ai/ha			80% grup C	C	-	-	-	-
	Chem-Nut 80/20 NIS			0.25	% v/v			80% grup C	C	-	-	-	-
10	Monument	75	DG	14.0	g ai/ha			80% grup C	C	-	-	-	-
	Chem-Nut 80/20 NIS			0.25	% v/v			80% grup C	C	-	-	-	-
11	Monument	75	DG	21.0	g ai/ha			80% grup C	C	-	-	-	-
	Chem-Nut 80/20 NIS			0.25	% v/v			80% grup C	C	-	-	-	-
12	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	80% grup C	C	-	-	-	-
13	Monument	75	DG	7.0	g ai/ha			100% gru D	D	-	-	-	-
	Chem-Nut 80/20 NIS			0.25	% v/v			100% gru D	D	-	-	-	-
14	Monument	75	DG	14.0	g ai/ha			100% gru D	D	-	-	-	-
	Chem-Nut 80/20 NIS			0.25	% v/v			100% gru D	D	-	-	-	-
15	Monument	75	DG	21.0	g ai/ha			100% gru D	D	-	-	-	-
	Chem-Nut 80/20 NIS			0.25	% v/v			100% gru D	D	-	-	-	-
16	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	100% gru D	D	-	-	-	-
17	Untreated Check									0 c	0 d	0 d	0 c
LSD (P=.05)										3.4	8.8	22.2	15.1
Standard Deviation										1.8	4.7	11.8	8.7
CV										15.65	11.26	21.32	18.21

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Weed Code										LOLPE	LOLPE	LOLPE	LOLPE
Crop Code													
Rating Data Type										Injury	Injury	Density	Density
Rating Unit										0-100	0-100	0-100	0-100
Rating Date										5-9-03	5-20-03	5-20-03	5-27-03
Trt-Eval Interval										45 DA-A	56 DA-A	56 DA-A	63 DA-A
Trt	Treatment	Form	Form	Rate	Product	Product	Grow	Appl					
No.	Name	Conc	Type	Rate Unit	Rate	Rate Unit	Stg	Code					
1	Monument Chem-Nut 80/20 NIS	75	DG	7.0 g ai/ha 0.25 % v/v			30% grup 30% grup	A A	53 bc	43 ef	42 ab	30 cd	
2	Monument Chem-Nut 80/20 NIS	75	DG	14.0 g ai/ha 0.25 % v/v			30% grup 30% grup	A A	72 ab	58 cde	33 ab	20 def	
3	Monument Chem-Nut 80/20 NIS	75	DG	21.0 g ai/ha 0.25 % v/v			30% grup 30% grup	A A	90 a	88 ab	9 b	11 efg	
4	Kerb	50	WP	840 g ai/ha	1.5	lb/a	30% grup	A	72 ab	52 def	47 ab	40 bc	
5	Monument Chem-Nut 80/20 NIS	75	DG	7.0 g ai/ha 0.25 % v/v			60% grup 60% grup	B B	87 a	67 bcd	23 ab	18 def	
6	Monument Chem-Nut 80/20 NIS	75	DG	14.0 g ai/ha 0.25 % v/v			60% grup 60% grup	B B	93 a	86 ab	12 b	10 efg	
7	Monument Chem-Nut 80/20 NIS	75	DG	21.0 g ai/ha 0.25 % v/v			60% grup 60% grup	B B	78 ab	98 a	2 b	1 g	
8	Kerb	50	WP	840 g ai/ha	1.5	lb/a	60% grup	B	37 c	30 f	58 ab	45 ab	
9	Monument Chem-Nut 80/20 NIS	75	DG	7.0 g ai/ha 0.25 % v/v			80% grup 80% grup	C C	-	75 abc	27 ab	17 def	
10	Monument Chem-Nut 80/20 NIS	75	DG	14.0 g ai/ha 0.25 % v/v			80% grup 80% grup	C C	-	77 abc	103 a	12 efg	
11	Monument Chem-Nut 80/20 NIS	75	DG	21.0 g ai/ha 0.25 % v/v			80% grup 80% grup	C C	-	82 abc	15 b	6 fg	
12	Revolver	22.7	SC	14.6 g ai/ha	8.8	fl oz/a	80% grup	C	-	77 abc	18 ab	9 efg	
13	Monument Chem-Nut 80/20 NIS	75	DG	7.0 g ai/ha 0.25 % v/v			100% gru 100% gru	D D	-	-	-	22 de	
14	Monument Chem-Nut 80/20 NIS	75	DG	14.0 g ai/ha 0.25 % v/v			100% gru 100% gru	D D	-	-	-	20 def	
15	Monument Chem-Nut 80/20 NIS	75	DG	21.0 g ai/ha 0.25 % v/v			100% gru 100% gru	D D	-	-	-	18 def	
16	Revolver	22.7	SC	14.6 g ai/ha	8.8	fl oz/a	100% gru	D	-	-	-	20 def	
17	Untreated Check								0 d	0 g	58 ab	57 a	
LSD (P=.05)										24.4	21.0	74.0	12.6
Standard Deviation										14.1	12.5	43.9	7.5
CV										21.78	19.47	127.35	36.1

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

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Weed Code										LOLPE	LOLPE	LOLPE	LOLPE
Crop Code													
Rating Data Type										Density	Density	Density	Control
Rating Unit										0-100	0-100	0-100	0-100
Rating Date										6-9-03	6-18-03	7-20-03	5-27-03
Trt-Eval Interval										76 DA-A	85 DA-A	117 DA-A	63 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Form Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Monument Chem-Nut 80/20 NIS	75	DG	7.0	g ai/ha 0.25 % v/v			30% grup 30% grup	A A	20 b-e	17 bcd	13 b	57 d
2	Monument Chem-Nut 80/20 NIS	75	DG	14.0	g ai/ha 0.25 % v/v			30% grup 30% grup	A A	17 b-f	10 c-f	7 bcd	73 c
3	Monument Chem-Nut 80/20 NIS	75	DG	21.0	g ai/ha 0.25 % v/v			30% grup 30% grup	A A	3 fg	0 f	0 d	86 abc
4	Kerb	50	WP	840	g ai/ha	1.5	lb/a	30% grup	A	22 bcd	15 b-e	3 cd	48 d
5	Monument Chem-Nut 80/20 NIS	75	DG	7.0	g ai/ha 0.25 % v/v			60% grup 60% grup	B B	15 b-g	7 def	0 d	77 bc
6	Monument Chem-Nut 80/20 NIS	75	DG	14.0	g ai/ha 0.25 % v/v			60% grup 60% grup	B B	10 d-g	4 ef	0 d	86 abc
7	Monument Chem-Nut 80/20 NIS	75	DG	21.0	g ai/ha 0.25 % v/v			60% grup 60% grup	B B	4 fg	0 f	0 d	99 a
8	Kerb	50	WP	840	g ai/ha	1.5	lb/a	60% grup	B	38 a	25 ab	12 bc	30 e
9	Monument Chem-Nut 80/20 NIS	75	DG	7.0	g ai/ha 0.25 % v/v			80% grup 80% grup	C C	27 b	7 def	3 cd	80 bc
10	Monument Chem-Nut 80/20 NIS	75	DG	14.0	g ai/ha 0.25 % v/v			80% grup 80% grup	C C	12 c-g	2 f	3 cd	87 abc
11	Monument Chem-Nut 80/20 NIS	75	DG	21.0	g ai/ha 0.25 % v/v			80% grup 80% grup	C C	2 g	0 f	0 d	93 ab
12	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	80% grup	C	6 fg	2 f	0 d	89 abc
13	Monument Chem-Nut 80/20 NIS	75	DG	7.0	g ai/ha 0.25 % v/v			100% gru 100% gru	D D	25 bc	20 bc	13 b	75 c
14	Monument Chem-Nut 80/20 NIS	75	DG	14.0	g ai/ha 0.25 % v/v			100% gru 100% gru	D D	11 d-g	9 c-f	0 d	77 bc
15	Monument Chem-Nut 80/20 NIS	75	DG	21.0	g ai/ha 0.25 % v/v			100% gru 100% gru	D D	8 efg	0 f	0 d	78 bc
16	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	100% gru	D	10 d-g	5 ef	0 d	77 bc
17	Untreated Check									47 a	35 a	28 a	0 f
LSD (P=.05)										11.5	10.6	8.7	14.8
Standard Deviation										6.9	6.4	5.2	8.9
CV										42.31	68.31	106.4	12.48

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

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Weed Code										LOLPE	LOLPE	LOLPE	CYNDA
Crop Code										Control	Control	Control	Injury
Rating Data Type										0-100	0-100	0-100	0-100
Rating Unit										6-9-03	6-18-03	7-20-03	4-4-03
Rating Date										76 DA-A	85 DA-A	117 DA-A	10 DA-A
Trt-Eval Interval													
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Form Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			30% grup 30% grup	A A	55 e	49 bc	72 b	0 a
2	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			30% grup 30% grup	A A	73 b-e	77 ab	87 ab	0 a
3	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			30% grup 30% grup	A A	93 ab	100 a	100 a	0 a
4	Kerb	50	WP	840	g ai/ha	1.5	lb/a	30% grup	A	57 de	73 abc	93 a	0 a
5	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			60% grup 60% grup	B B	77 a-d	83 a	100 a	-
6	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			60% grup 60% grup	B B	83 abc	90 a	100 a	-
7	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			60% grup 60% grup	B B	92 ab	100 a	100 a	-
8	Kerb	50	WP	840	g ai/ha	1.5	lb/a	60% grup	B	17 fg	43 c	85 ab	-
9	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			80% grup 80% grup	C C	35 f	83 a	93 a	-
10	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			80% grup 80% grup	C C	70 cde	95 a	95 a	-
11	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			80% grup 80% grup	C C	95 a	100 a	100 a	-
12	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	80% grup	C	90 abc	98 a	100 a	-
13	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			100% gru 100% gru	D D	57 de	50 bc	72 b	-
14	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			100% gru 100% gru	D D	85 abc	85 a	100 a	-
15	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			100% gru 100% gru	D D	88 abc	100 a	100 a	-
16	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	100% gru	D	85 abc	88 a	100 a	-
17	Untreated Check									0 g	0 d	0 c	0 a
LSD (P=.05)										18.5	28.5	18.7	0.0
Standard Deviation										11.1	17.1	11.2	0.0
CV										16.42	22.06	12.76	0.0

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

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Weed Code										CYNDA	CYNDA	CYNDA	CYNDA
Crop Code										Injury	Injury	Injury	Injury
Rating Data Type										0-100	0-100	0-100	0-100
Rating Unit										4-11-03	4-21-03	4-28-03	5-9-03
Rating Date										17 DA-A	27 DA-A	34 DA-A	45 DA-A
Trt-Eval Interval													
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Form Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Monument Chem-Nut 80/20 NIS	75	DG	7.0	g ai/ha 0.25 % v/v			30% grup 30% grup	A A	7 ab	0 b	0 b	0 b
2	Monument Chem-Nut 80/20 NIS	75	DG	14.0	g ai/ha 0.25 % v/v			30% grup 30% grup	A A	12 a	0 b	0 b	0 b
3	Monument Chem-Nut 80/20 NIS	75	DG	21.0	g ai/ha 0.25 % v/v			30% grup 30% grup	A A	17 a	5 a	3 a	0 b
4	Kerb	50	WP	840	g ai/ha	1.5	lb/a	30% grup	A	0 b	0 b	0 b	0 b
5	Monument Chem-Nut 80/20 NIS	75	DG	7.0	g ai/ha 0.25 % v/v			60% grup 60% grup	B B	-	-	0 b	0 b
6	Monument Chem-Nut 80/20 NIS	75	DG	14.0	g ai/ha 0.25 % v/v			60% grup 60% grup	B B	-	-	0 b	5 a
7	Monument Chem-Nut 80/20 NIS	75	DG	21.0	g ai/ha 0.25 % v/v			60% grup 60% grup	B B	-	-	0 b	5 a
8	Kerb	50	WP	840	g ai/ha	1.5	lb/a	60% grup	B	-	-	0 b	0 b
9	Monument Chem-Nut 80/20 NIS	75	DG	7.0	g ai/ha 0.25 % v/v			80% grup 80% grup	C C	-	-	-	-
10	Monument Chem-Nut 80/20 NIS	75	DG	14.0	g ai/ha 0.25 % v/v			80% grup 80% grup	C C	-	-	-	-
11	Monument Chem-Nut 80/20 NIS	75	DG	21.0	g ai/ha 0.25 % v/v			80% grup 80% grup	C C	-	-	-	-
12	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	80% grup	C	-	-	-	-
13	Monument Chem-Nut 80/20 NIS	75	DG	7.0	g ai/ha 0.25 % v/v			100% gru 100% gru	D D	-	-	-	-
14	Monument Chem-Nut 80/20 NIS	75	DG	14.0	g ai/ha 0.25 % v/v			100% gru 100% gru	D D	-	-	-	-
15	Monument Chem-Nut 80/20 NIS	75	DG	21.0	g ai/ha 0.25 % v/v			100% gru 100% gru	D D	-	-	-	-
16	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	100% gru	D	-	-	-	-
17	Untreated Check									0 b	0 b	0 b	0 b
LSD (P=.05)										10.7	0.0	1.7	3.8
Standard Deviation										5.7	0.0	1.0	2.2
CV										81.44	0.0	259.81	198.43

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

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Weed Code										CYNDA	CYNDA	CYNDA	CYNDA
Crop Code										Injury	Injury	Injury	Injury
Rating Data Type										0-100	0-100	0-100	0-100
Rating Unit										5-20-03	5-27-03	6-9-03	6-18-03
Rating Date										56 DA-A	63 DA-A	76 DA-A	85 DA-A
Trt-Eval Interval													
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Form Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			30% grup 30% grup	A A	0 e	0 d	0 c	0 a
2	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			30% grup 30% grup	A A	2 de	0 d	0 c	0 a
3	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			30% grup 30% grup	A A	3 cde	0 d	0 c	0 a
4	Kerb	50	WP	840	g ai/ha	1.5	lb/a	30% grup	A	0 e	0 d	0 c	0 a
5	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			60% grup 60% grup	B B	0 e	0 d	0 c	0 a
6	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			60% grup 60% grup	B B	5 bcd	0 d	0 c	0 a
7	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			60% grup 60% grup	B B	2 de	0 d	0 c	0 a
8	Kerb	50	WP	840	g ai/ha	1.5	lb/a	60% grup	B	0 e	0 d	0 c	0 a
9	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			80% grup 80% grup	C C	10 a	2 d	0 c	0 a
10	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			80% grup 80% grup	C C	7 abc	8 ab	3 abc	0 a
11	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			80% grup 80% grup	C C	8 ab	5 bcd	3 abc	0 a
12	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	80% grup	C	8 ab	3 cd	2 bc	0 a
13	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			100% gru 100% gru	D D	-	7 abc	2 bc	2 a
14	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			100% gru 100% gru	D D	-	7 abc	5 ab	0 a
15	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			100% gru 100% gru	D D	-	10 a	7 a	0 a
16	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	100% gru	D	-	8 ab	7 a	2 a
17	Untreated Check									0 e	0 d	0 c	0 a
LSD (P=.05)										4.2	4.3	4.0	1.7
Standard Deviation										2.5	2.6	2.4	1.0
CV										72.22	87.46	145.14	512.8

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

University of GA Coop Ext Service

Weed Code										CYNDA	CYNDA	CYNDA	CYNDA	
Crop Code										Density	Density	Density	Density	
Rating Data Type										0-100	0-100	0-100	0-100	
Rating Unit										5-27-03	6-9-03	6-18-03	7-20-03	
Rating Date										63 DA-A	76 DA-A	85 DA-A	117 DA-A	
Trt-Eval Interval														
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			30% 30%	grup grup	A A	68 cd	77 bcd	82 cd	82 a-d
2	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			30% 30%	grup grup	A A	75 abc	82 abc	88 abc	80 a-d
3	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			30% 30%	grup grup	A A	88 a	97 a	100 a	94 ab
4	Kerb	50	WP	840	g ai/ha	1.5	lb/a	30%	grup	A	60 de	75 bcd	83 bcd	85 a-d
5	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			60% 60%	grup grup	B B	75 abc	82 abc	90 abc	85 a-d
6	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			60% 60%	grup grup	B B	75 abc	83 abc	97 a	82 a-d
7	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			60% 60%	grup grup	B B	83 ab	90 ab	100 a	90 a-d
8	Kerb	50	WP	840	g ai/ha	1.5	lb/a	60%	grup	B	53 ef	58 e	73 de	77 cd
9	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			80% 80%	grup grup	C C	70 bcd	65 de	92 abc	87 a-d
10	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			80% 80%	grup grup	C C	73 bcd	78 bcd	95 ab	94 ab
11	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			80% 80%	grup grup	C C	77 abc	85 ab	97 a	96 a
12	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	80%	grup	C	80 abc	85 ab	95 ab	83 a-d
13	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			100% 100%	gru gru	D D	73 bcd	68 cde	73 de	73 de
14	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			100% 100%	gru gru	D D	75 abc	77 bcd	83 bcd	87 a-d
15	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			100% 100%	gru gru	D D	78 abc	83 abc	88 abc	91 abc
16	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	100%	gru	D	77 abc	77 bcd	82 cd	78 bcd
17	Untreated Check										43 f	53 e	65 e	62 e
LSD (P=.05)										12.3	14.0	10.7	14.2	
Standard Deviation										7.4	8.4	6.4	8.5	
CV										10.21	10.89	7.34	10.12	

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

University of GA Coop Ext Service

Weed Code										Turf	Turf	Turf	Turf
Crop Code										Quality	Quality	Quality	Quality
Rating Data Type										0-10	0-10	0-10	0-10
Rating Unit										4-11-03	4-21-03	4-28-03	5-9-03
Rating Date										17 DA-A	27 DA-A	34 DA-A	45 DA-A
Trt-Eval Interval													
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Form Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			30% grup 30% grup	A A	5 b	6 ab	6.8 bc	8.5 a
2	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			30% grup 30% grup	A A	5 b	6 ab	6.7 bc	8.5 a
3	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			30% grup 30% grup	A A	4 b	5 b	6.2 c	8.3 a
4	Kerb	50	WP	840	g ai/ha	1.5	lb/a	30% grup	A	7 a	7 a	7.3 ab	7.8 ab
5	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			60% grup 60% grup	B B	-	-	7.3 ab -	7.3 ab
6	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			60% grup 60% grup	B B	-	-	7.2 ab -	6.7 b
7	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			60% grup 60% grup	B B	-	-	7.2 ab -	6.7 b
8	Kerb	50	WP	840	g ai/ha	1.5	lb/a	60% grup	B	-	-	8.2 a	8.2 a
9	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			80% grup 80% grup	C C	-	-	-	-
10	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			80% grup 80% grup	C C	-	-	-	-
11	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			80% grup 80% grup	C C	-	-	-	-
12	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	80% grup	C	-	-	-	-
13	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			100% gru 100% gru	D D	-	-	-	-
14	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			100% gru 100% gru	D D	-	-	-	-
15	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			100% gru 100% gru	D D	-	-	-	-
16	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	100% gru	D	-	-	-	-
17	Untreated Check									7 a	7 a	8.0 a	8.0 a
LSD (P=.05)										1.0	1.6	0.90	1.14
Standard Deviation										0.5	0.8	0.52	0.66
CV										9.11	13.48	7.21	8.47

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

University of GA Coop Ext Service

Weed Code										Turf	Turf	Turf	Turf
Crop Code										Quality	Quality	Quality	Quality
Rating Data Type										0-10	0-10	0-10	0-10
Rating Unit										5-20-03	5-27-03	6-9-03	6-17-03
Rating Date										56 DA-A	63 DA-A	76 DA-A	84 DA-A
Trt-Eval Interval													
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Form Rate	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Monument Chem-Nut 80/20 NIS	75	DG	7.0 g ai/ha 0.25 % v/v				30% grup 30% grup	A A	7.3 abc	7.5 abc	7.8 ab	7.7 abc
2	Monument Chem-Nut 80/20 NIS	75	DG	14.0 g ai/ha 0.25 % v/v				30% grup 30% grup	A A	7.3 abc	6.8 b-f	7.3 abc	7.7 abc
3	Monument Chem-Nut 80/20 NIS	75	DG	21.0 g ai/ha 0.25 % v/v				30% grup 30% grup	A A	7.7 ab	8.3 a	8.5 a	9.0 a
4	Kerb	50	WP	840 g ai/ha		1.5 lb/a		30% grup	A	6.0 cd	6.3 b-f	7.3 abc	8.2 abc
5	Monument Chem-Nut 80/20 NIS	75	DG	7.0 g ai/ha 0.25 % v/v				60% grup 60% grup	B B	5.8 d	6.8 b-f	6.7 bc	8.5 ab
6	Monument Chem-Nut 80/20 NIS	75	DG	14.0 g ai/ha 0.25 % v/v				60% grup 60% grup	B B	6.3 bcd	6.8 b-f	6.8 bc	8.5 ab
7	Monument Chem-Nut 80/20 NIS	75	DG	21.0 g ai/ha 0.25 % v/v				60% grup 60% grup	B B	7.0 a-d	7.7 ab	7.8 ab	9.0 a
8	Kerb	50	WP	840 g ai/ha		1.5 lb/a		60% grup	B	7.3 abc	7.0 a-e	7.3 abc	6.8 cd
9	Monument Chem-Nut 80/20 NIS	75	DG	7.0 g ai/ha 0.25 % v/v				80% grup 80% grup	C C	5.7 d	6.0 def	6.8 bc	8.2 abc
10	Monument Chem-Nut 80/20 NIS	75	DG	14.0 g ai/ha 0.25 % v/v				80% grup 80% grup	C C	5.8 d	5.5 f	6.5 bc	8.3 ab
11	Monument Chem-Nut 80/20 NIS	75	DG	21.0 g ai/ha 0.25 % v/v				80% grup 80% grup	C C	6.3 bcd	5.8 ef	6.5 bc	9.0 a
12	Revolver	22.7	SC	14.6 g ai/ha		8.8 fl oz/a		80% grup	C	6.2 cd	6.2 c-f	7.2 abc	8.0 abc
13	Monument Chem-Nut 80/20 NIS	75	DG	7.0 g ai/ha 0.25 % v/v				100% gru 100% gru	D D	-	7.2 a-e	7.2 abc	7.3 bc
14	Monument Chem-Nut 80/20 NIS	75	DG	14.0 g ai/ha 0.25 % v/v				100% gru 100% gru	D D	-	7.0 a-e	6.8 bc	7.5 bc
15	Monument Chem-Nut 80/20 NIS	75	DG	21.0 g ai/ha 0.25 % v/v				100% gru 100% gru	D D	-	7.2 a-e	6.8 bc	8.2 abc
16	Revolver	22.7	SC	14.6 g ai/ha		8.8 fl oz/a		100% gru	D	-	7.2 a-e	6.2 c	6.8 cd
17	Untreated Check									7.8 a	7.3 a-d	7.5 abc	6.0 d
LSD (P=.05)										1.17	1.19	1.21	1.19
Standard Deviation										0.70	0.71	0.73	0.71
CV										10.46	10.39	10.22	9.0

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

University of GA Coop Ext Service

Weed Code										Turf	POAAN	POAAN	DIGIS
Crop Code										Quality	Control	Control	Control
Rating Data Type										0-10	0-100	0-100	0-100
Rating Unit										7-20-03	4-11-03	4-21-03	6-18-03
Rating Date										117 DA-A	17 DA-A	27 DA-A	85 DA-A
Trt-Eval Interval													
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Form Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Monument Chem-Nut 80/20 NIS	75	DG	7.0	g ai/ha 0.25 % v/v			30% grup 30% grup	A A	7.8 abc	73 ab	97 a	62 a-d
2	Monument Chem-Nut 80/20 NIS	75	DG	14.0	g ai/ha 0.25 % v/v			30% grup 30% grup	A A	7.7 abc	72 ab	85 ab	35 b-e
3	Monument Chem-Nut 80/20 NIS	75	DG	21.0	g ai/ha 0.25 % v/v			30% grup 30% grup	A A	9.0 a	75 a	93 a	84 abc
4	Kerb	50	WP	840	g ai/ha	1.5	lb/a	30% grup	A	7.7 abc	68 b	73 b	57 a-e
5	Monument Chem-Nut 80/20 NIS	75	DG	7.0	g ai/ha 0.25 % v/v			60% grup 60% grup	B B	7.2 abc	-	-	50 a-e
6	Monument Chem-Nut 80/20 NIS	75	DG	14.0	g ai/ha 0.25 % v/v			60% grup 60% grup	B B	7.8 abc	-	-	47 a-e
7	Monument Chem-Nut 80/20 NIS	75	DG	21.0	g ai/ha 0.25 % v/v			60% grup 60% grup	B B	8.2 abc	-	-	90 ab
8	Kerb	50	WP	840	g ai/ha	1.5	lb/a	60% grup	B	7.0 bc	-	-	43 a-e
9	Monument Chem-Nut 80/20 NIS	75	DG	7.0	g ai/ha 0.25 % v/v			80% grup 80% grup	C C	8.2 abc	-	-	73 a-d
10	Monument Chem-Nut 80/20 NIS	75	DG	14.0	g ai/ha 0.25 % v/v			80% grup 80% grup	C C	8.6 ab	-	-	87 ab
11	Monument Chem-Nut 80/20 NIS	75	DG	21.0	g ai/ha 0.25 % v/v			80% grup 80% grup	C C	9.0 a	-	-	98 a
12	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	80% grup	C	6.7 bc	-	-	17 de
13	Monument Chem-Nut 80/20 NIS	75	DG	7.0	g ai/ha 0.25 % v/v			100% gru 100% gru	D D	6.7 bc	-	-	38 b-e
14	Monument Chem-Nut 80/20 NIS	75	DG	14.0	g ai/ha 0.25 % v/v			100% gru 100% gru	D D	7.5 abc	-	-	67 a-d
15	Monument Chem-Nut 80/20 NIS	75	DG	21.0	g ai/ha 0.25 % v/v			100% gru 100% gru	D D	8.4 ab	-	-	83 abc
16	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	100% gru	D	6.3 c	-	-	27 cde
17	Untreated Check									6.3 c	0 c	0 c	0 e
LSD (P=.05)										1.65	5.8	19.1	49.1
Standard Deviation										0.99	3.1	10.2	29.5
CV										12.96	5.37	14.59	52.33

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

University of GA Coop Ext Service

Weed Code										DIGIS	
Crop Code											
Rating Data Type										Control	
Rating Unit										0-100	
Rating Date										7-20-03	
Trt-Eval Interval										117 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code		
1	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			30% 30%	grup grup	A A	62 abc
2	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			30% 30%	grup grup	A A	40 a-d
3	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			30% 30%	grup grup	A A	83 ab
4	Kerb	50	WP	840	g ai/ha	1.5	lb/a	30%	grup	A	53 a-d
5	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			60% 60%	grup grup	B B	28 bcd
6	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			60% 60%	grup grup	B B	40 a-d
7	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			60% 60%	grup grup	B B	68 abc
8	Kerb	50	WP	840	g ai/ha	1.5	lb/a	60%	grup	B	27 bcd
9	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			80% 80%	grup grup	C C	72 abc
10	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			80% 80%	grup grup	C C	80 ab
11	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			80% 80%	grup grup	C C	90 a
12	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	80%	grup	C	20 cd
13	Monument Chem-Nut 80/20 NIS	75	DG	7.0 0.25	g ai/ha % v/v			100% 100%	gru gru	D D	20 cd
14	Monument Chem-Nut 80/20 NIS	75	DG	14.0 0.25	g ai/ha % v/v			100% 100%	gru gru	D D	58 abc
15	Monument Chem-Nut 80/20 NIS	75	DG	21.0 0.25	g ai/ha % v/v			100% 100%	gru gru	D D	73 abc
16	Revolver	22.7	SC	14.6	g ai/ha	8.8	fl oz/a	100%	gru	D	0 d
17	Untreated Check										0 d
LSD (P=.05)										47.7	
Standard Deviation										28.6	
CV										59.8	

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