Lawn Painting versus Overseeding

by

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NC STATE
TURF RESEARCH


Part of M.S. work of Kyle Briscoe
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History of Turfgrass Paint

- First used in the 1950's on Hollywood movie sets
  - Larry Krieger developed different dyes in a water-soluble acrylic latex base
- Golf course superintendents in southern CA adopted painting techniques
  - Limited information about overseeding
  - No reduction in course playability
  - Golfers accepted the practice

Painting's Popularity

- Cool, wet springs and drought resistant cool-season varieties used for overseeding have made the spring transition more difficult
- Painting is non-invasive and provides an attractive surface that is affordable
- Currently the leading alternative to overseeding
- Could be used on cool-season grasses during drought

Overseeding

- Seed Cost
- Preparation of area
- Additional water, little more fertilizer
- Transition back to warm-season turfgrass
- Alteration of herbicide programs


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Research Motivation

- Painting is a relatively new practice
- Many products are available but few have been widely used
- Application methods vary
- Paint appearance and longevity varies, depending on dilution, application rate, turfgrass species, and level of turfgrass dormancy

Products Evaluated

(Fall 2008 – Winter 2009)

Manufacturer	Product Name
Becker Underwood	Green Lawnger
John Deere Landscapes	LESCO Green
Missouri Turf Paint	Mtp Turfgreen
Burnett Athletics, Inc.	Titan Green Turf
US Specialty Coatings, Inc.	Turf in a Bottle
Precision Laboratories, Inc.	Regreen
Precision Laboratories, Inc.	Wintergreen Plus
Match Play (Pioneer Athletics)	Ryegrass
Match Play (Pioneer Athletics)	Ultradwarf Super
Match Play (Pioneer Athletics)	Ultradwarf Plus
Match Play (Pioneer Athletics)	Bermudagrass
J.C. Whitlam Mnf.	Bermuda Green

Products Evaluated

- 12 products varied in:
  - Consistency (viscosity)
  - Recommended dilutions
  - Recommended application rates
  - Color
  - Cost

Viscosity

- "Honey-Like"
  - Ryegrass, Ultradwarf Plus, Ultradwarf Super, Bermudagrass, and Bermuda Green*
- "Water-Like"
  - Green Lawnger, LESCO Green, Mtp Turfgreen, Titan Green Turf, Turf in a Bottle, Regreen, and Wintergreen Plus

* Latex paint

Dilution and Application Rate

- Dilution
  - Label rates ranged 1 gallon colorant : 7-20 gallons water
  - Products were mixed based on the lowest labeled dilution (most colorant:water)
- Application
  - Limited information on many of the labels
    - 1 gallon of colorant will cover 3,000 – 10,000 ft^2 when mixed with water
  - Coverage depends on application rate, dilution, grass species, and level of dormancy

Colorant Application

- Study conducted on two putting greens during fall 2008 and winter 2009 in Raleigh, NC
  - Completely dormant 'Miniverde' bermudagrass
  - Semi-dormant 'Diamond' zoysiagrass
- All 12 colorants applied at 80 gallons per acre (gpa) using a CO_2 – pressurized sprayer
  - Initial application: 11 November 2008
  - Second application: 9 January 2009

*Five of the colorants were also applied at 40, 120, or 160 gpa

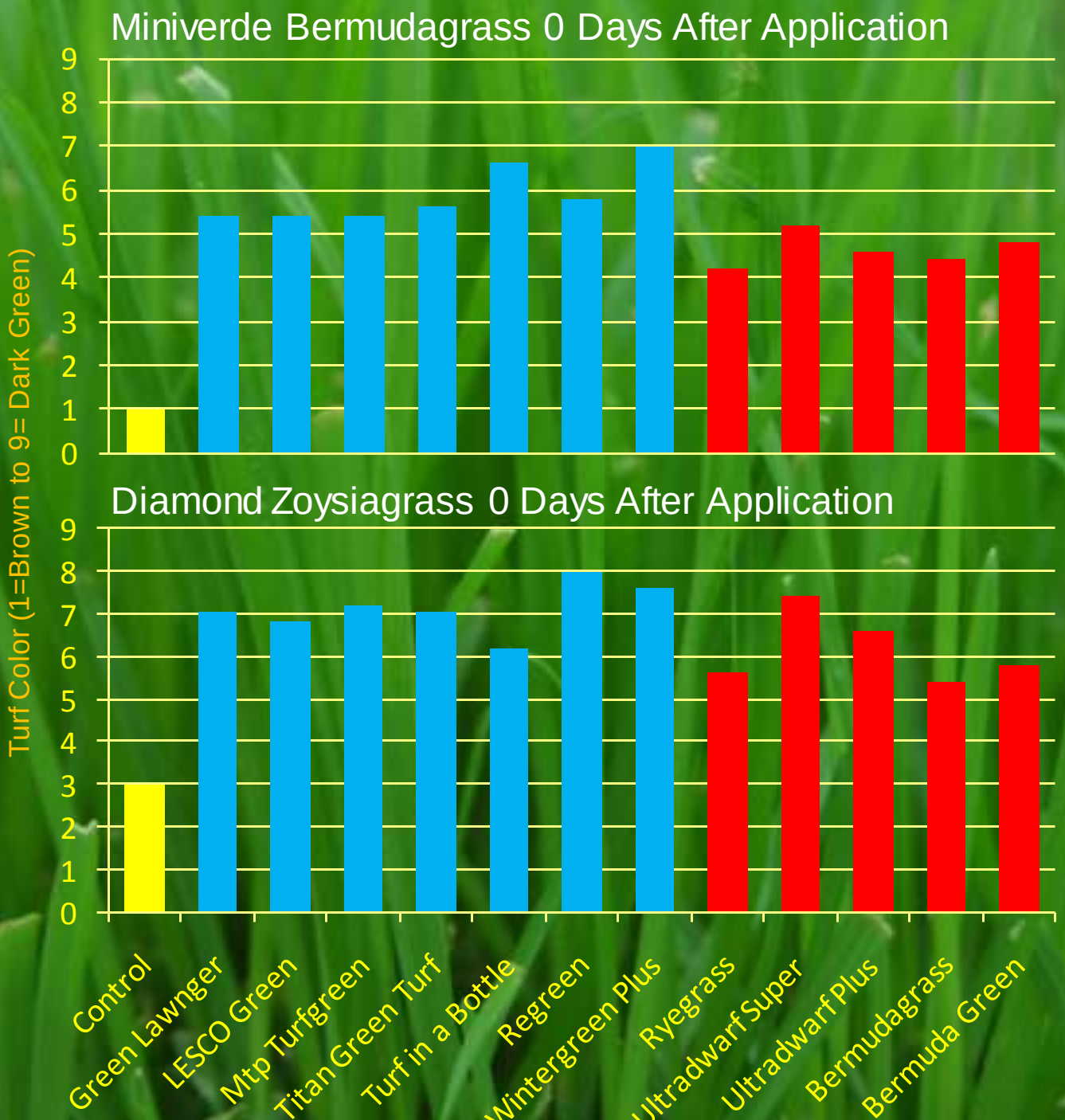
Colorant	App. Rate (gpa)	Dilution (colorant:water)
Green Lawnger	80	1:7
LESCO Green	80	1:10
Mtp Turfgreen	80	1:7
Titan Green Turf	80	1:10
Turf in a Bottle	80	1:10
Regreen	80	1:7
Wintergreen Plus	80	1:10
Ryegrass	80	1:7
Ultradwarf Super	80	1:7
Ultradwarf Plus	80	1:7
Bermudagrass	80	1:7
Bermuda Green	80	1:15
Green Lawnger	160	1:7
Turf in a Bottle	160	1:10
Ultradwarf Super	160	1:7
Regreen	40	1:7
Wintergreen Plus	120	1:10

Turfgrass Color

- Differences in turf color were found between colorants and grasses at every rating date
- Differences in grasses likely caused by the level of dormancy during colorant application

Bermudagrass

Zoysiagrass



*All colorants applied at 80 gpa

Miniverde Bermudagrass
0 Days After Application


Untreated Control


Green Lawnger


Lesco Green


Mtp Turfgreen


Titan Green Turf


Turf In A Bottle


Regreen


Wintergreen Plus


Ryegrass


Ultradwarf Super


Ultradwarf Plus


Bermudagrass


Bermuda Green

Diamond Zoysiagrass
0 Days After Application


Untreated Control


Green Lawnger


Lesco Green


Mtp Turfgreen


Titan Green Turf


Turf In A Bottle


Regreen


Wintergreen Plus


Ryegrass


Ultradwarf Super


Ultradwarf Plus

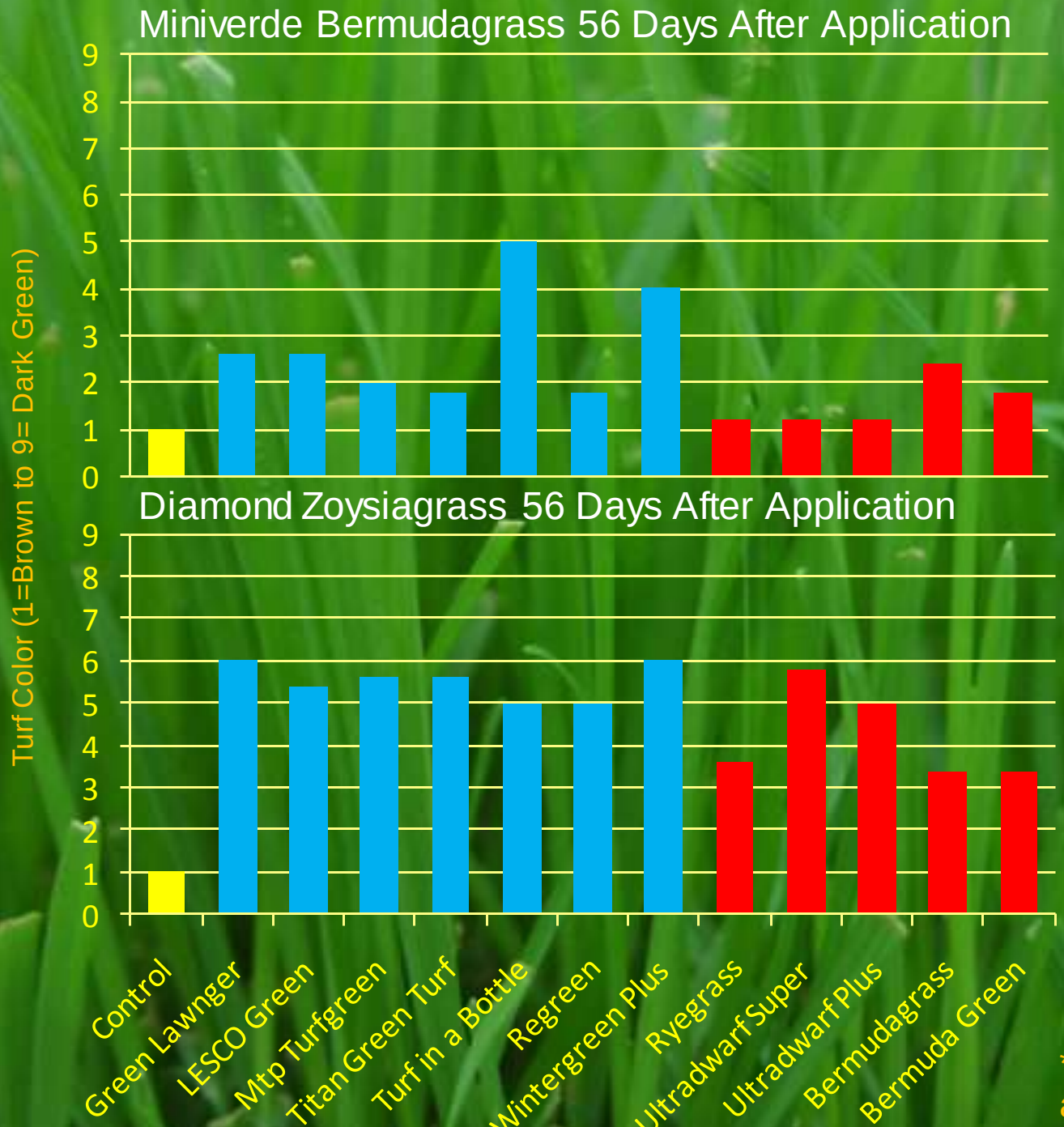

Bermudagrass


Bermuda Green


Miniverde Bermudagrass
0 Days After Application
Bermuda Green 80 gpa
Regreen 40 gpa
Turf In A Bottle 80 gpa
Ultradwarf Plus 80 gpa
Ryegrass 80 gpa
Untreated Control
Wintergreen Plus 120 gpa
Mtp Turfgreen 80 gpa
Green Lawnger 80 gpa

Diamond Zoysiagrass

0 Days After Application



*All colorants applied at 80 gpa

Miniverde Bermudagrass
56 Days After Application


Untreated Control


Green Lawnger


Lesco Green


Mtp Turfgreen


Titan Green Turf


Turf In A Bottle


Regreen


Wintergreen Plus


Ryegrass


Ultradwarf Super


Ultradwarf Plus


Bermudagrass


Bermuda Green

Diamond Zoysiagrass
56 Days After Application

Untreated Control

Green Lawnger

Lesco Green

Mtp Turfgreen

Titan Green Turf

Turf In A Bottle

Regreen

Wintergreen Plus

Ryegrass

Ultradwarf Super

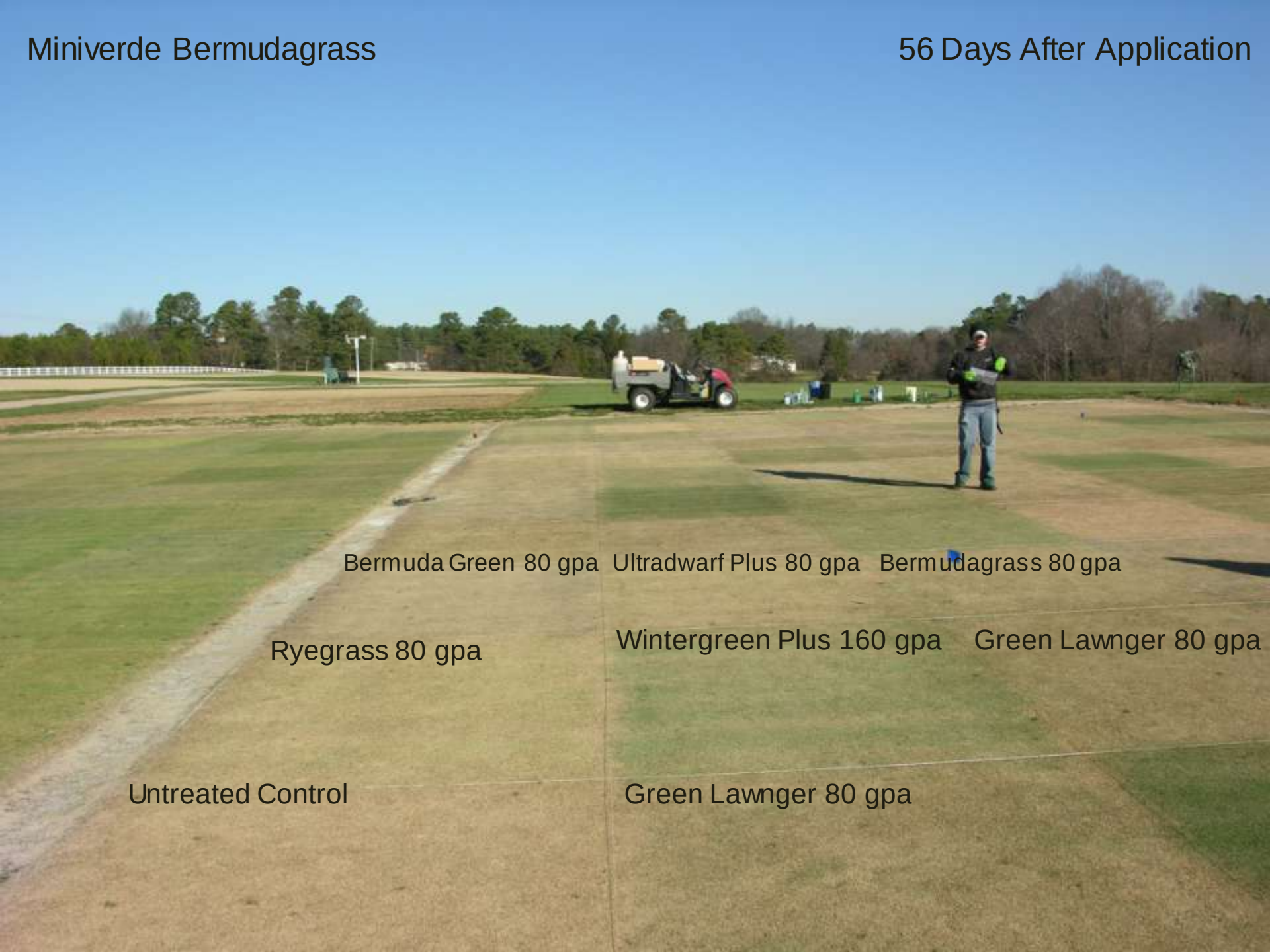
Ultradwarf Plus

Bermudagrass

Bermuda Green

Miniverde Bermudagrass

56 Days After Application

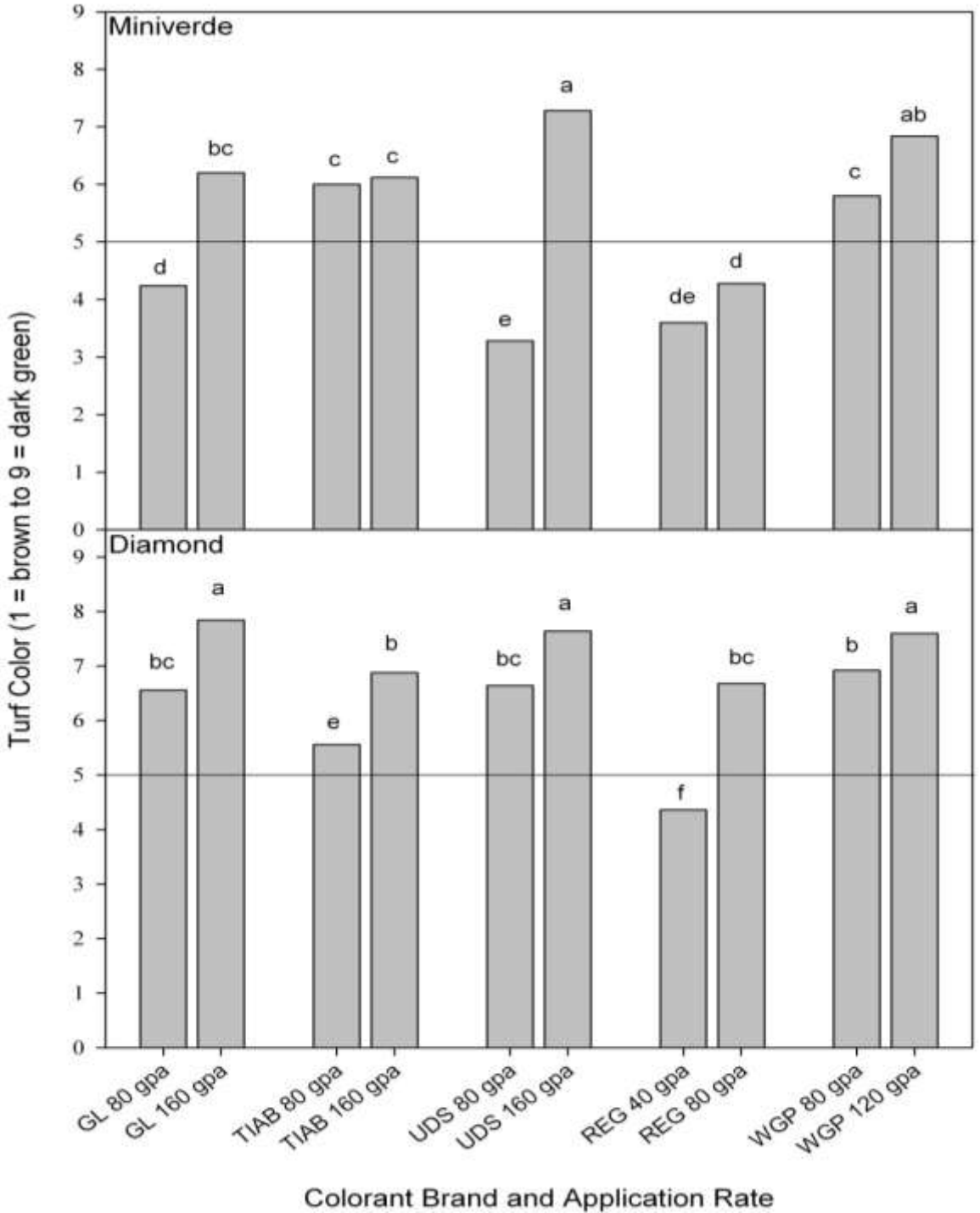


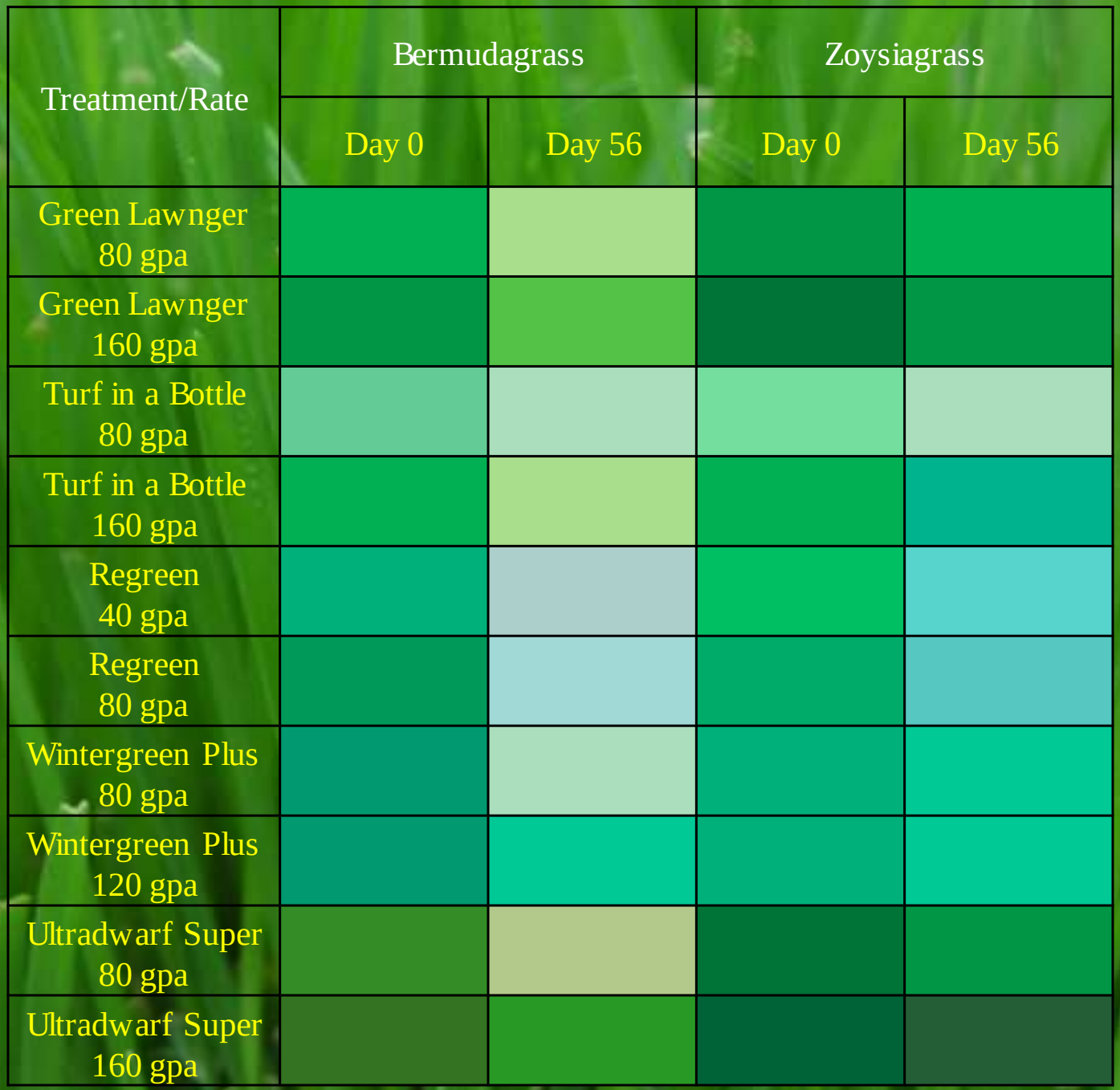
Diamond Zoysiagrass

56 Days After Application

Treatment/Rate	Bermudagrass		Zoysiagrass	
	Day 0	Day 56	Day 0	Day 56
Green Lawnger 80 gpa				
LESCO Green 80 gpa				
Mtp Turfgreen 80 gpa				
Titan Green Turf 80 gpa				
Turf in a Bottle 80 gpa				
Regreen 80 gpa				
Wintergreen Plus 80 gpa				
Ryegrass 80 gpa				
Ultradwarf Super 80 gpa				
Ultradwarf Plus 80 gpa				
Bermudagrass 80 gpa				
Bermuda Green 80 gpa				

- Data represents the mean of five rating weeks following the initial application (November 2008)
- Horizontal line is an indicator of acceptable quality
- Values with the same letter are not different at the 95% probability level
- Abbreviations:
  GL: Green Lawnger
  TIAB: Turf in a Bottle
  UDS: Ultradwarf Super
  REG: Regreen
  WGP: Wintergreen Plus




Treatment/Rate
Bermudagrass
Zoysiagrass
Day 0
Day 56
Day 0
Day 56
Green Lawnger 80 gpa
Green Lawnger 160 gpa
Turf in a Bottle 80 gpa
Turf in a Bottle 160 gpa
Regreen 40 gpa
Regreen 80 gpa
Wintergreen Plus 80 gpa
Wintergreen Plus 120 gpa
Ultradwarf Super 80 gpa
Ultradwarf Super 160 gpa

Colorant Considerations

- Desired turfgrass color
  - Cost
  - Shade of green
- Application timing
  - Level of turfgrass dormancy
- Desired coverage
  - Dilution
  - Application method
  - Application rate

Product	Product Cost	Dilution	App. Rate	App. Cost
	$ gal^{-1}	paint: water	GPA	$ acre^{-1}
Pioneer Ryegrass	$45.00	1: 7	80	$450.00
Pioneer Bermudagrass	$45.00	1: 7	80	$450.00
Pioneer Ultradwarf Plus	$45.00	1: 7	80	$450.00
Pioneer Ultradwarf Super	$45.00	1: 7	80	$450.00
Precision Lab. Regreen	$45.00	1: 7	80	$450.00
Precision Lab. Wintergreen Plus	$45.00	1: 10	80	$360.00
Titan Green Turf	$28.50	1: 10	80	$228.00
Lesco Green	$65.00	1: 10	80	$520.00
Green Lawnger	$49.58	1: 7	80	$495.80
Missouri Turfgreen	$49.95	1: 7	80	$499.50
US Specialty Turf Dye	$39.95	1: 10	80	$319.60

* Product Cost as of September 2009

Application Methods

Boom Applied

11 November 2008

Wand Applied

15 November 2009

Application Methods

- Issues with both application methods
  - Amount of time to apply colorant
  - Blending vs. Full Coverage
  - “Streaking”

Why Paint?

- Painting is a viable option during the fall and winter
  - Reduced cost compared to overseeding
  - Aesthetically pleasing?
    - Depends on who you talk to!
- However, research needs to be conducted on new products, dilution rates, application timings/methods, and the effects of colorants on spring green-up


NORTHEAST
HILBISH
TILLEY
CT
WM
Budweiser

Questions?

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