



Accelerating Turfgrass Grow-in From Sprigs or Sod Starting at the Sod Farm

Kathie E. Kalmowitz, Ph.D.

Partners on this project

Jamie Allen, Pike Creek Turf Farms

Tim Hiers, The Club at Mediterra, Director of Agronomy

Dr. Bruce Martin, Clemson University, Professor Emeritus

Lexicon Intrinsic brand fungicide-

Root growth enhancement and greater turfgrass health



- Lexicon treated turf has longer denser roots under drought



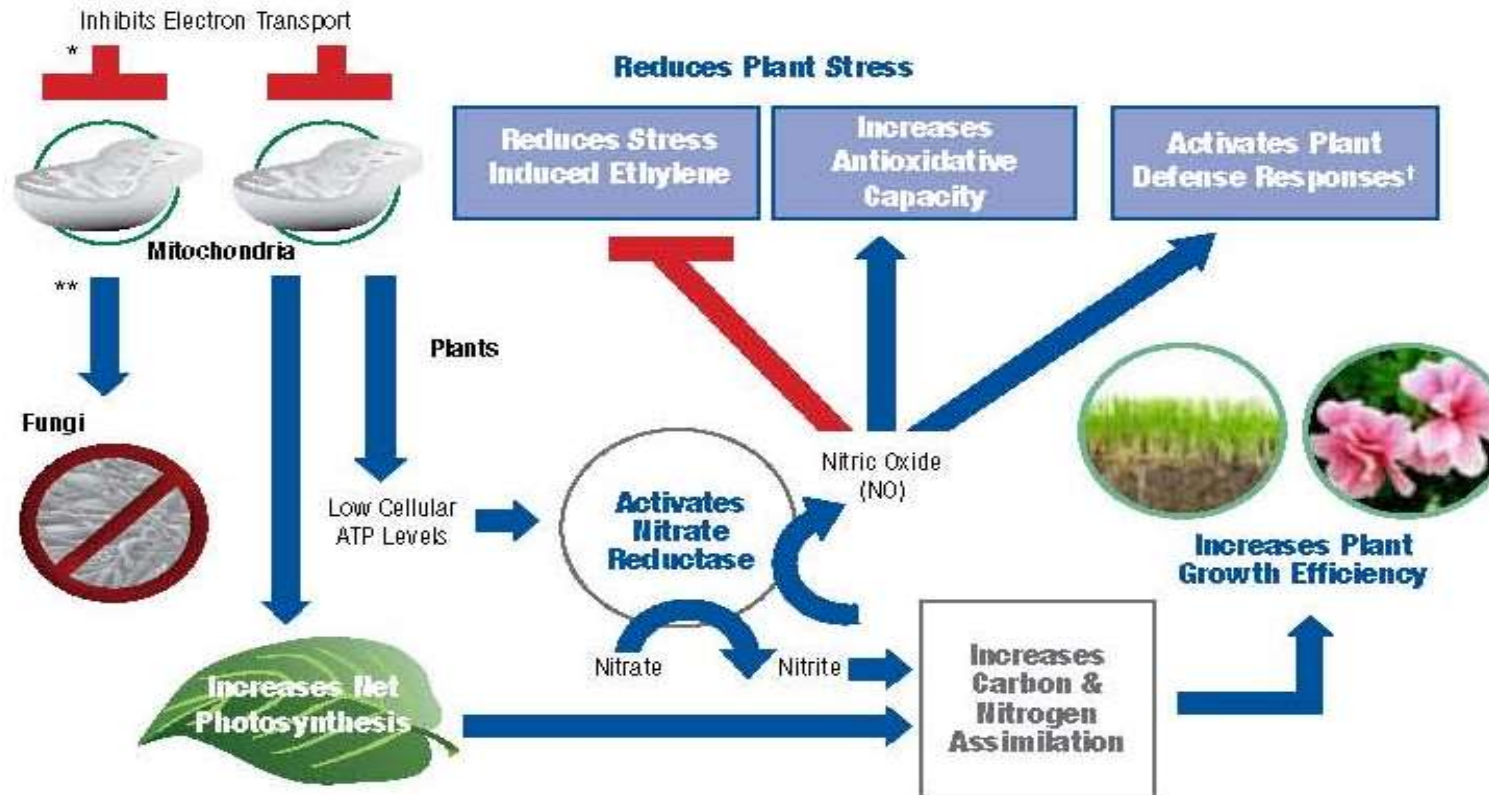
- Lexicon cool season turfgrass have stronger roots as tension is measured



- Champion treated sprigs-replicated simulated grow-in

Model Proposed for Plant Health Benefits Derived With Pyraclostrobin

Pyraclostrobin



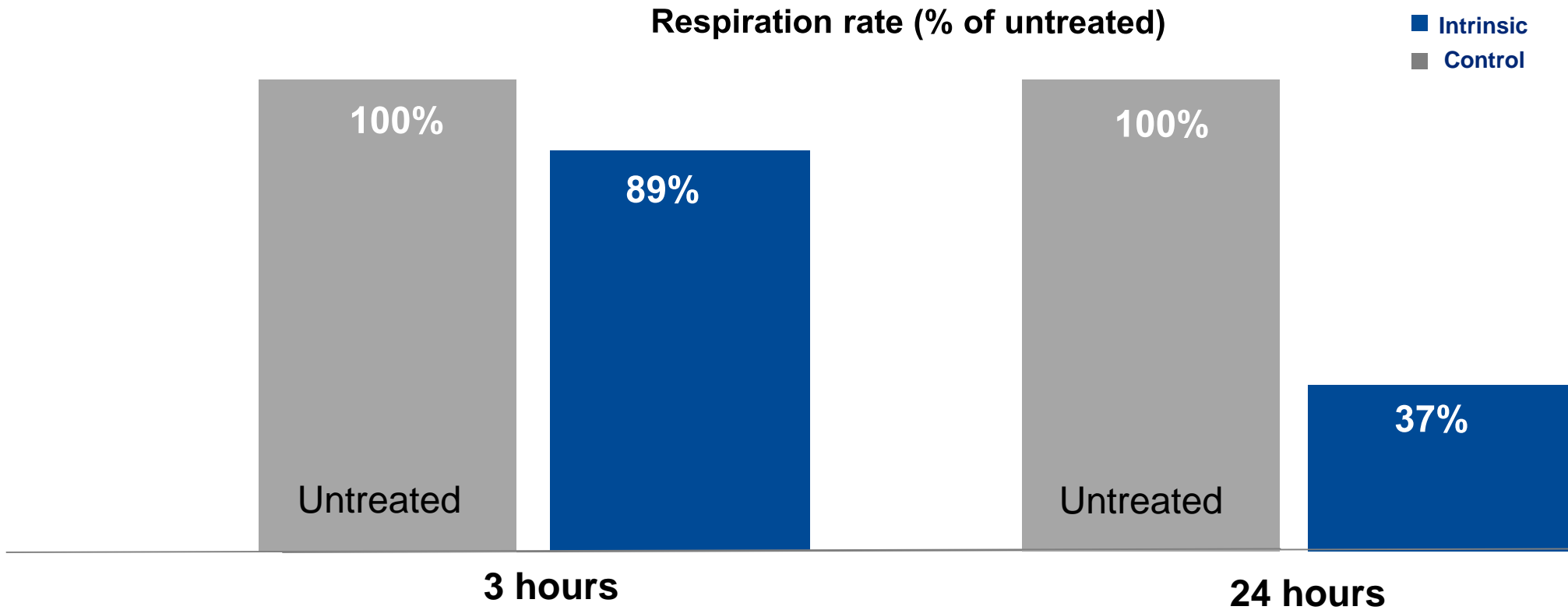
*red lines indicate inhibition of pathway or process

**blue arrows indicate activation of pathway or process

[†]Increased tolerance to bacterial and viral infections

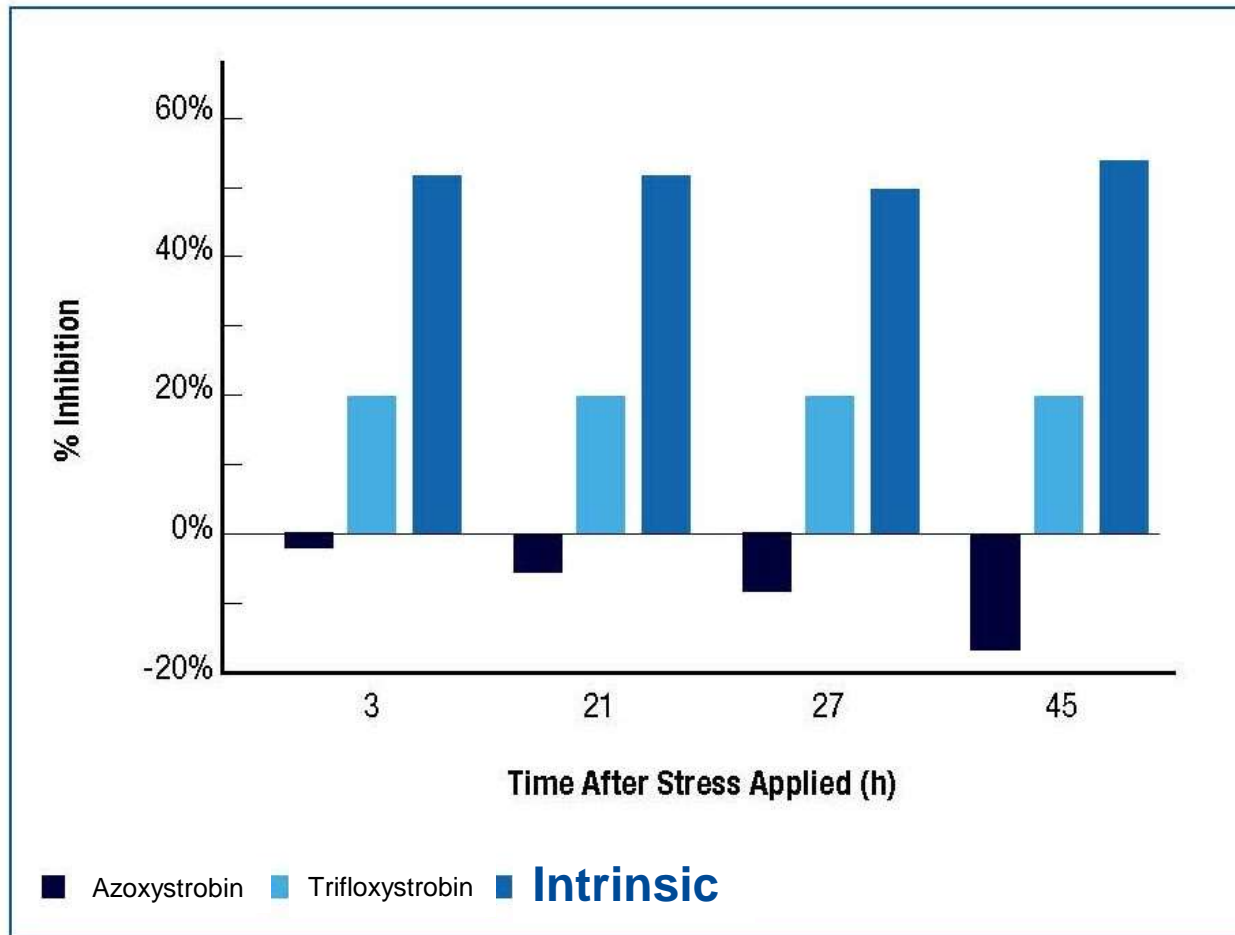
Decrease in Plant Respiration: Increased Growth Efficiency

Decreased respiration = More sugars (carbohydrates) available for plant growth

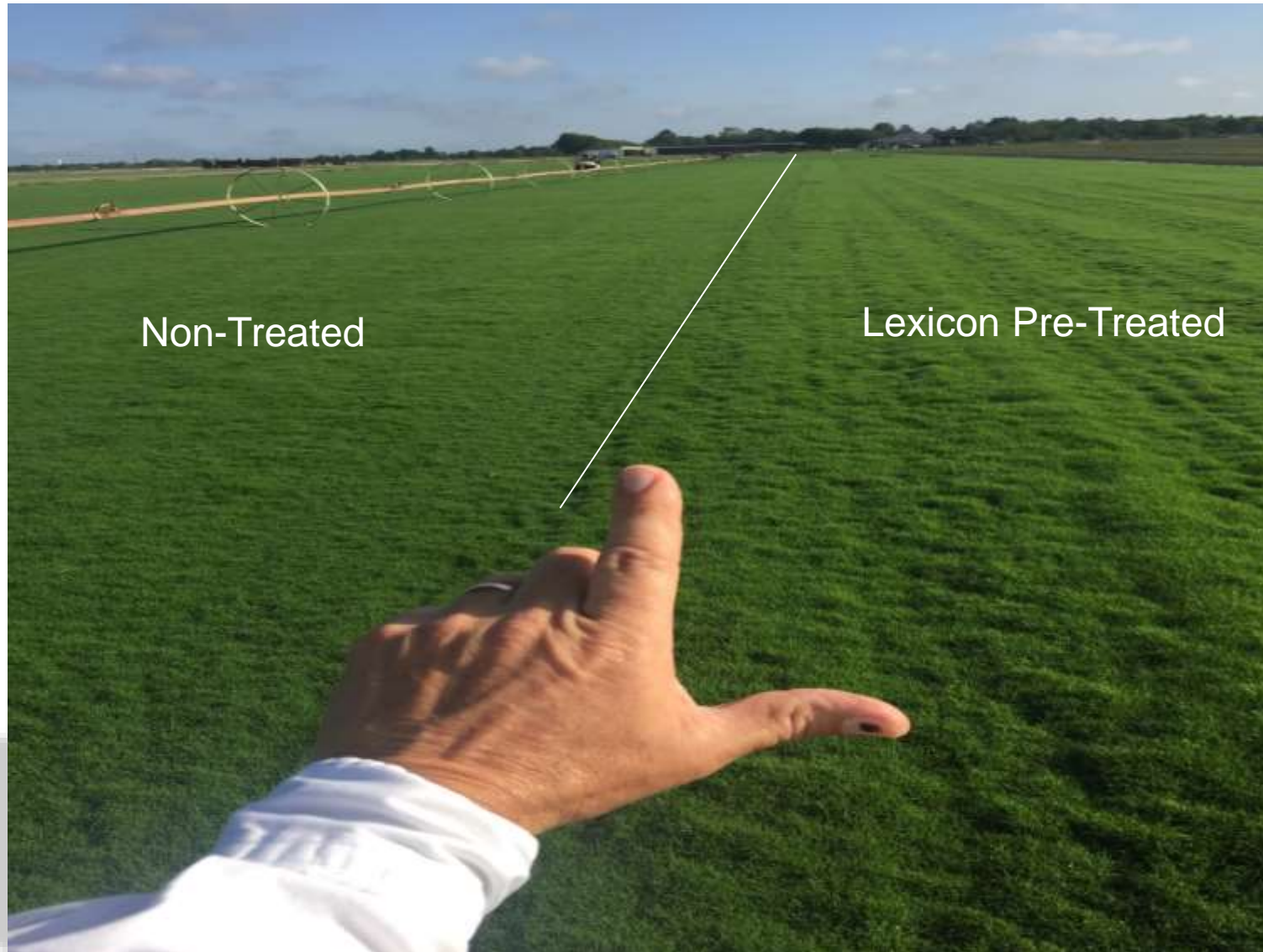


Intrinsic: Inhibition of Ethylene Production

Not all Strobilurins Behave Similar
Differences in Inhibition of Ethylene Production after Stress



Champions Turf Farms, Bay City, TX 2017



Bay City sod farm owner identifies field pretreated with Lexicon Intrinsic resulted in greater sprig growth prior to harvest

Resilient - Hydrated Sprigs Treated with Lexicon Intrinsic



Protocol For Champion Sod Farm and At Sprigging for Pinehurst

- Sprigs Treated at Champion Sod Farm, Bay City, TX
- Lexicon Intrinsic applied 28 days and 5 days before harvest
- Both applications were Lexicon Intrinsic fungicide at 0.47 fl oz/1000 sq ft
- Greens were sprigged on June 14th, 2017
- Greens #2, #4, #5 and #6 were split in half with ½ pre-treated Lexicon Intrinsic fungicide sprigs and ½ non-treated sprigs from the sod farm.
- All fertilization, mowing and topdressing consistent for all greens



BASF – Pinehurst

***Course NO. 7 Turf
Health Comparison
Using Aerial Imagery***

September 19, 2017



Capturing Your Renovation Project – Drones and Digital Analysis



Resilient - Hydrated Sprigs Treated with Lexicon Intrinsic at Pinehurst



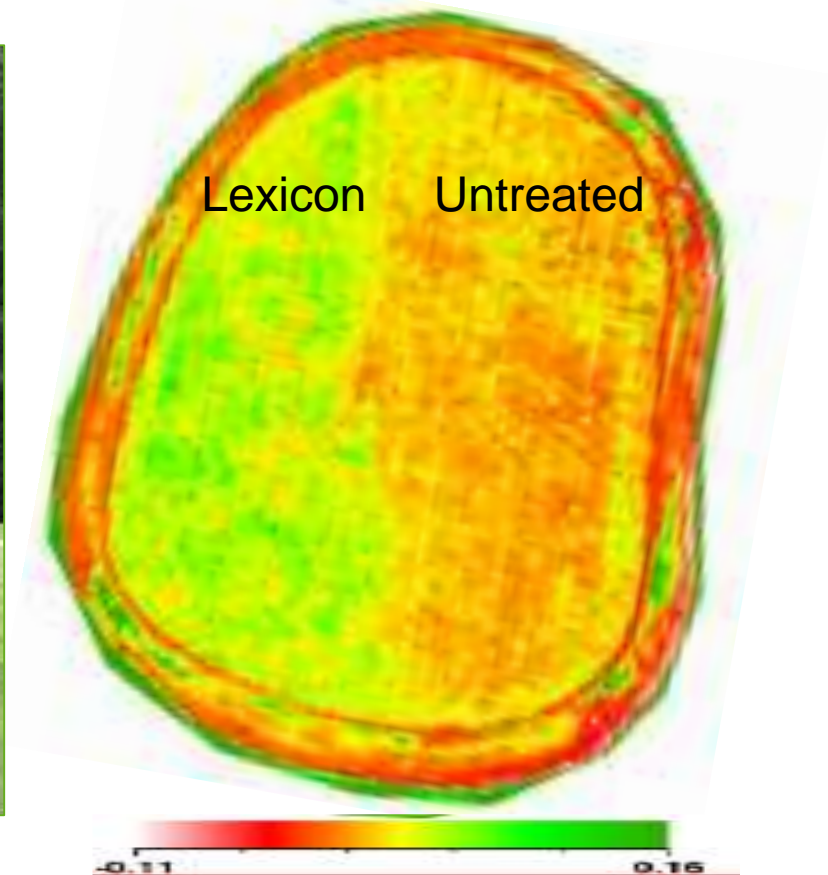
Pinehurst Grow-In 2017: In Review



Pinehurst #7

Drone recording Green Leaf Index 6 WAS, right

Green Leaf Index at 50 M



Club at Mediterra, Naples FL– Tif Eagle Grow-In 2017

■ Protocol for Pike Creek June and August 2017 (South and North Courses)

- Lexicon Intrinsic applied at 0.47 fl oz / 1000 sq ft 5-10 days prior to the cutting/ washing/ shipping.

- Apply at required spray volume of 70-75 gal/Ac.

** Irrigation should occur directly following the application so that Lexicon Intrinsic is moved off the foliage, through the thatch and into the root zone.*

- Original plan was to have 2-4 greens spilt for comparison of treated and non-treated sprigs. Due to weather conditions that was abandon –all greens had pre-treated sprigs.

Club at Mediterra, Naples FL– TifEagle Grow-In 2017

Treatment Protocol for Club Mediterra

Date	Product Application	Rate per 1000 sq ft
May 26	Daconil Ultrex + Signature Xtra Stressgard	3.2 oz + 4 oz
May 31	Lexicon Intrinsic	0.47 fl oz
June 5	Segway fungicide + Daconil Ultrex	0.45 oz 3.2 oz
† June 14	Lexicon Intrinsic *	0.34 fl oz *
June 21	Daconil Ultrex + Signature Xtra Stressgard	3.2 oz + 4 oz
June 26-28	Lexicon Intrinsic + Segway fungicide	0.34 fl oz + 0.45 oz
July 5	Daconil Ultrex + Signature Xtra Stressgard	3.2 oz + 4 oz
July 12	Lexicon Intrinsic	0.34 fl oz

* May-August 2017 Lexicon Intrinsic lower total rate per year/acre label



#18 Green South left

#2 Green North right



All pictures courtesy of Tim Hiers, The Club at Mediterra Director of Agronomy

Experimental Grow-In at Clemson Pee Dee Station, 2017



Slide courtesy of Dr. Martin

- TifEagle sprigs, 35 bushels per 1000 ft²
- Treated 0.47 oz Lexicon 7 days before harvest at New Life Turf Farm
- No fungicide sprigs also harvested same field, same time
- Sprigs planted the next day at Clemson Pee Dee Research & Education Center 12,000 ft² research green, USGA specs

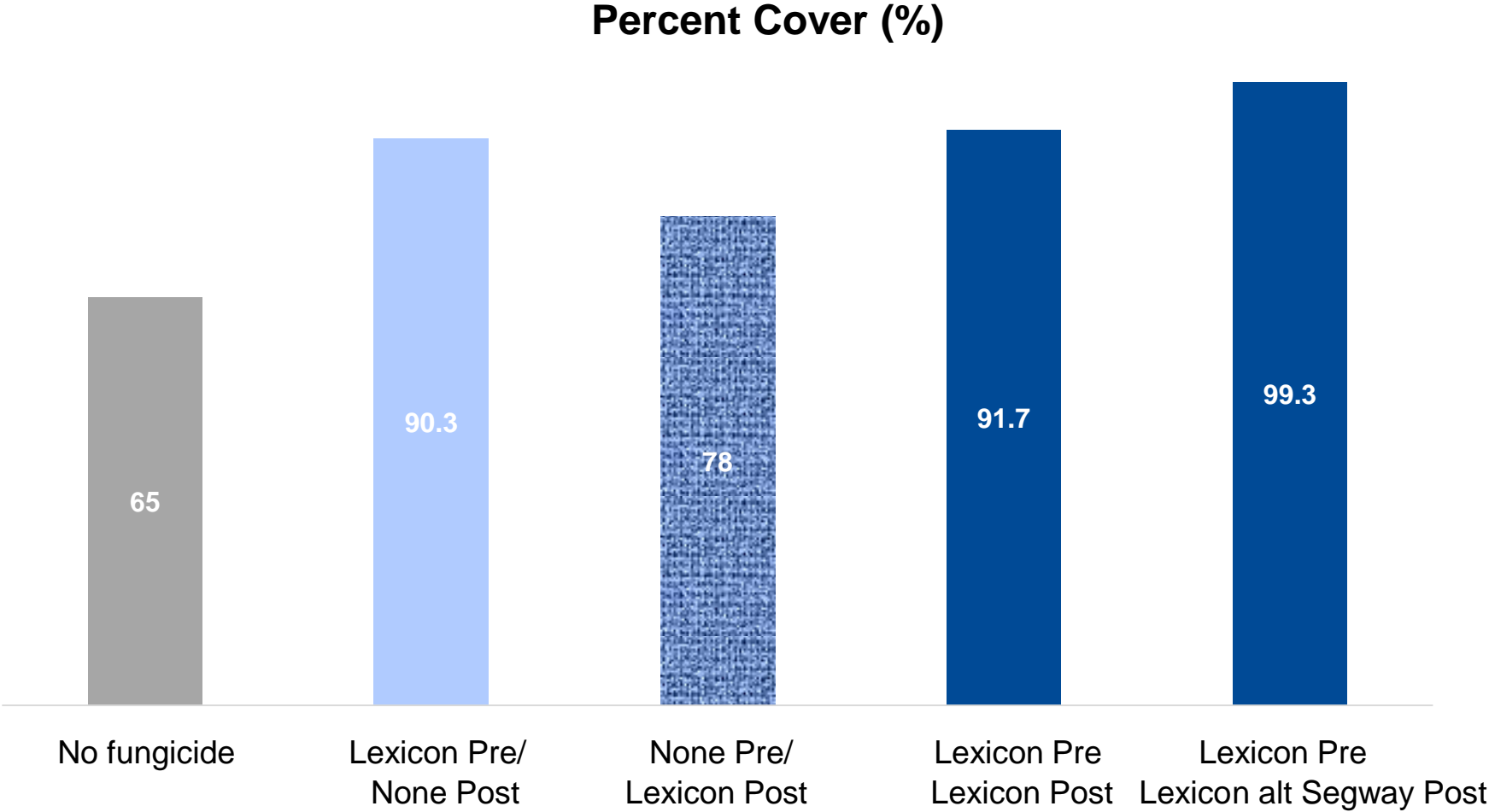


**To Left: Sprigs treated with Lexicon
Intrinsic at the Sod Farm
To Right: Sprigs not treated with Lexicon
Intrinsic at Sod Farm**

Grow-In at Six Weeks After Sprigging

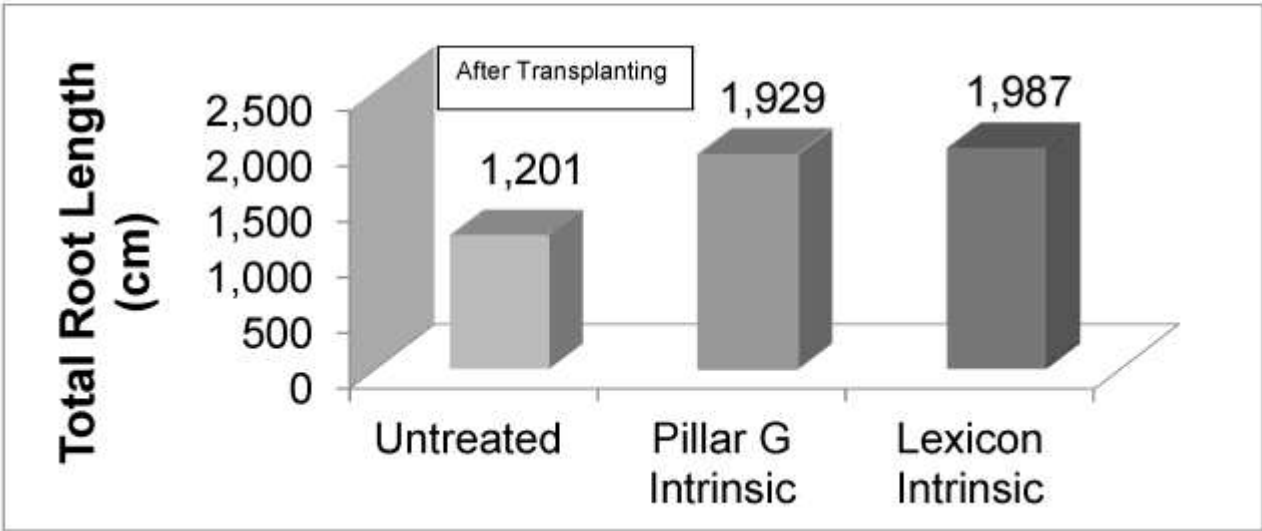
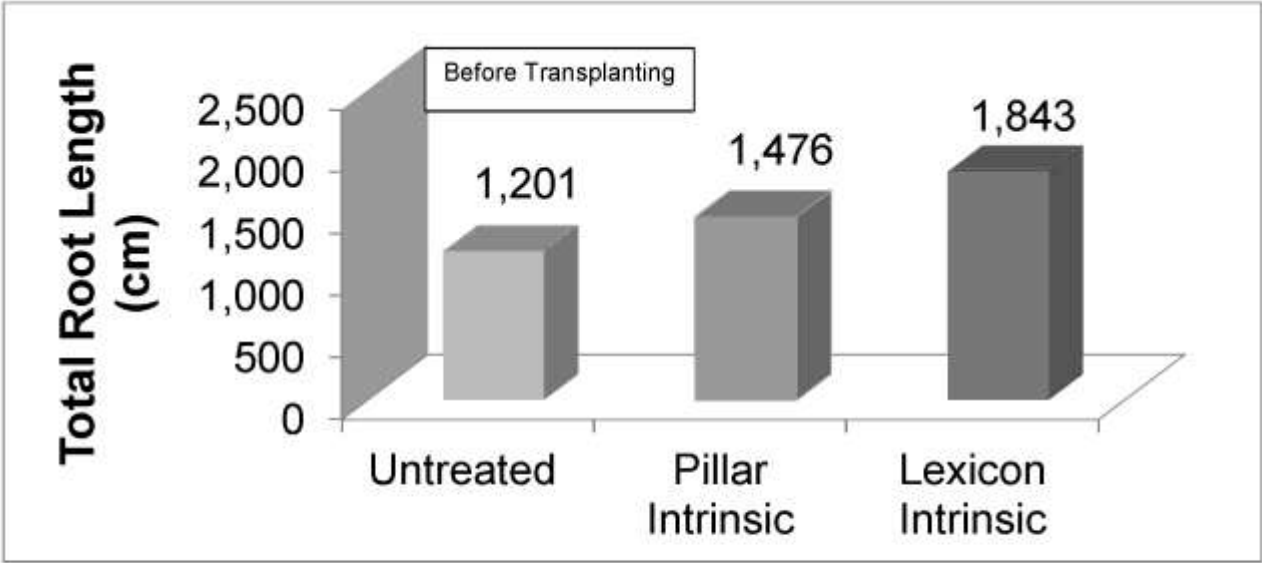
Clemson Univ. Pee Dee Research & Education Center
picture and data courtesy of Dr. Bruce Martin, 2017

Effect of Lexicon on Sprig Quality and Establishment -SC



Data courtesy of Dr. Bruce Martin, Clemson REC, Florence, SC 2017

Rooting Response with Sod: Before and After Transplanting



Before applications to St. Augustinegrass made 14-days prior to cutting sod for transplanting. Treatment cores measured by Winrhizo; statistically different from untreated. Dr. Bruce Martin, Clemson University, 2012.

The Key Take-Away to What Has Been Seen

- Grow-in on time; every course reported successful renovations, greater speed to coverage
- Labor savings – Lexicon Intrinsic treatment resulted in denser greens, less holes
On average, 35 plugs needed for each non pre-treated side of greens
- Sprigs come that look better- more hydrated, root quicker: the result is reported better overall healthy turfgrass
- The pre-treatment at sod farm resulted in less call back to farm- an Insurance policy for both grower and superintendent

Lexicon Intrinsic Cost for Sod Farm Application Prio to Grow-In

- Lexicon Intrinsic cost per acre = \$483.84 or \$11.11 per 1,000
- One acre of treated sod can produce enough sprigs to cover 18 greens-
Lexicon Intrinsic average cost per green = \$26.88
- Average green size of 5,000 sq ft – Lexicon Intrinsic cost is = \$5.38/ 1,000 (\$0.005 / sq ft)
- 100,000 square feet of greens / course = \$4.84 / 1,000 for Lexicon (\$0.005 / sq ft)
- Sprigs are sold per square feet: 100,000 at \$484 = (\$0.004 / sq ft)
- In summary, Lexicon Intrinsic cost the sod grower less than ½ cent per square ft per app



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Introducing Maxtima and Navicon Intrinsic fungicides

New active mefentrifluconazole

Expected US EPA Registration 3rd Q 2019

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