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SPORTSFIELD AND FACILITIES

MANAGEMENT

November 2013

# SportsTurf

**25<sup>TH</sup> ANNUAL  
CONFERENCE & EXHIBITION  
JANUARY 21-25, 2014,**

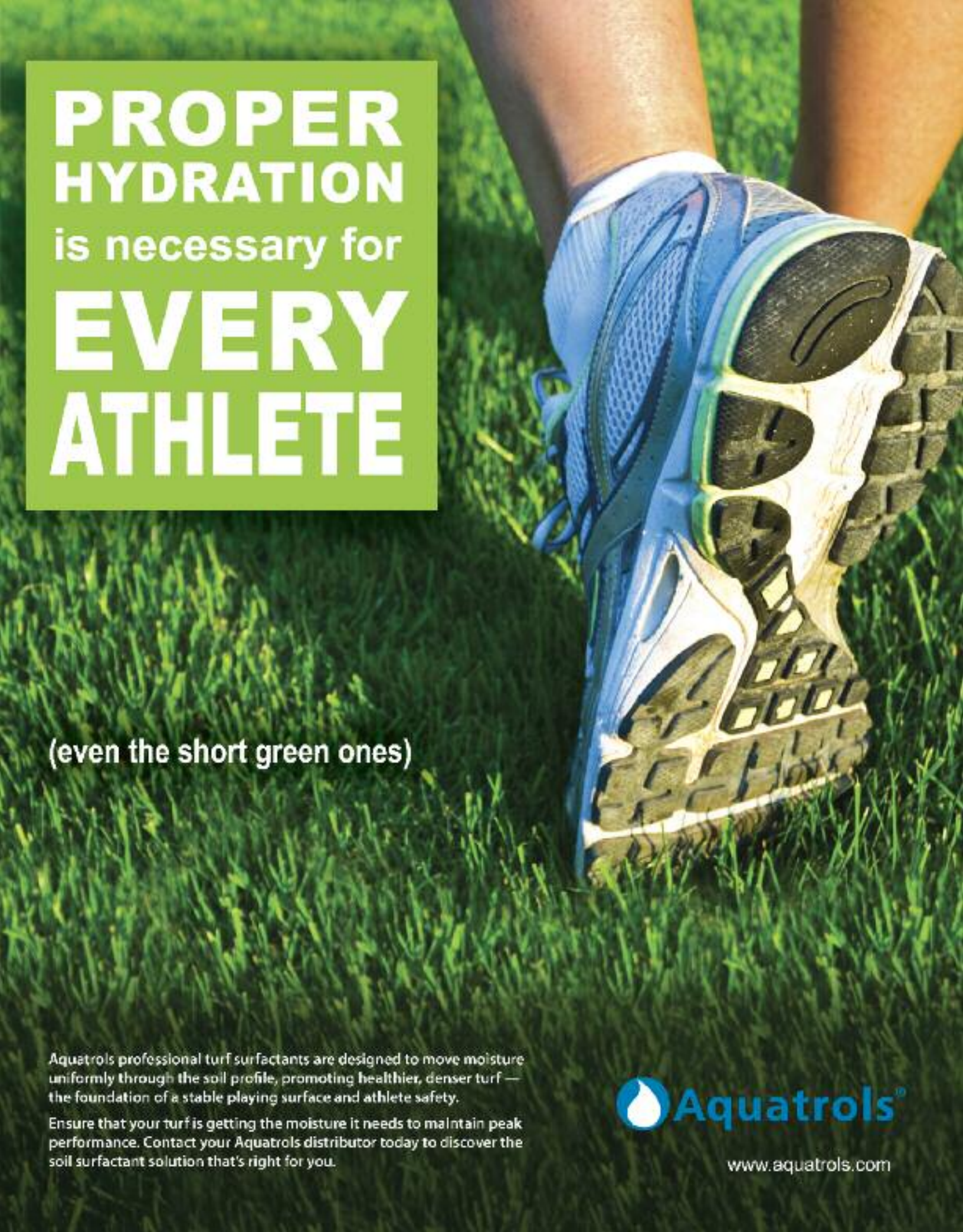
**SAN ANTONIO, TX**

**Conference Program: seminars, tours, ed sessions & other activities  
List of Exhibitors | Things to Do in San Antonio**

green  
media

SportsTurf  
MANUFACTURERS ASSOCIATION

OFFICIAL PUBLICATION OF THE SPORTS TURF MANAGERS ASSOCIATION

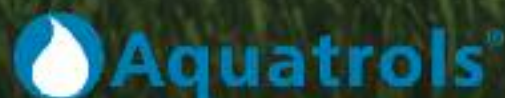


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IMPACT**

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BOOTH #325**

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### On the cover:

San Antonio and its iconic Alamo host the 25th Annual Sports Turf Managers Association Conference and Exhibition January 21-25, 2014.

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# From the Sidelines



**Eric Schroder**  
Editorial Director

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717-805-4197

## Spots to seek out in San Antonio

**A** S A PUBLIC SERVICE to readers considering or most assuredly attending the STMA Conference next January in San Antonio, here are some hot spots to check out during your free time, courtesy of *Current*, San Antonio's "alternative" newsweekly:

**Live Music**—Nighthrocker Live, 605 San Pedro, (210) 265-3573. Nighthrocker Live has been showcasing metal, rock, hip-hop, and even reggae regularly since opening in 2009. Stand-up comedy and a sexy tattoo ladies' night help round out the weekly schedule. The last time we visited, it was for the annual Ram Jam, a fitting place to host the tribute to dearly departed Ram Ayala since the venue, founded by Roland "Nighthrocker" Fuentes, sticks to Ayala's Taco Land formula pretty well: cheap tequila, loud, local music, and an utter disgust for pretension of any kind. Just the way a rock club should be.

**Romantic Dinner**—Grey Moss Inn, 19010 Scenic Loop, Helotes, (210) 695-8301, [grey-moss-inn.com](http://grey-moss-inn.com). There's always been a romantic element to "getting away from it all." Why else do newlyweds honeymoon? Grey Moss offers escapism about half an hour outside of downtown, under the shade of giant Oaks and twinkling lights on the edge of the Hill Country. They know better than to interfere with intimate dinners by throwing a complicated menu into the mix. Grey Moss proposes familiar, impressive choices like escargot, filets, lobster, and lamb, and a wine selection wide enough to turn even the most awkward first date into a relaxing evening. Top it off with a sweet treat, and try to keep your knickers on until you've signed the bill.

Two other choices that might be closer: Bliss, 926 S Presa, (210) 225-2547, [foodisbliss.com](http://foodisbliss.com); and Biga on the Banks, 203 S St. Mary's, (210) 225-0722, [biga.com](http://biga.com).

**Off the Beaten Path**—Two Step Restaurant and Cantina, 9840 W Loop 1604 N, (210) 688-2686, [twosteprestaurant.com](http://twosteprestaurant.com). Two Step Restaurant and Cantina, housed in the renovated historic Ruempel homestead, takes pride in its rustic roots. Vintage Texana decor adorns the walls, and the menu offers traditional comfort food favorites like chicken fried steak, prime rib, catfish, and barbecue. The noteworthy bread pudding and pecan pie with ice cream satiate the sweet tooth, while an El Jefe margarita whets the whistle. With reasonable prices at both lunch and dinner, patio seating, and live music in the evenings, this family friendly restaurant can persuade even the most discriminating Downtowner to make the trek.

**BBQ**—Rudy's, multiple locations, [Rudysbbq.com](http://Rudysbbq.com). Also, Two Bros. BBQ Market, 12656 West Avenue, (210) 496-022, [twobrosbbqmarket.com](http://twobrosbbqmarket.com); or, Augie's Barbed Wire Smokehouse BBQ, 3709 N St. Mary's St, (210) 735-0088, [augiesbs.com](http://augiesbs.com).

**Watch Sports**—The Ticket Sports Pub, 420 E Houston, (210) 222-9722, [ticketsportspub.com](http://ticketsportspub.com); or Fretail Brewing Company, 4035 N Loop 1604 W, (210) 395-4974, [fretailbrewing.com](http://fretailbrewing.com).

**Craft Beers**—The Friendly Spot, 943 S Alamo, (210) 224-BEER, [thefriendlyspot.com](http://thefriendlyspot.com). You'd be forgiven for mistaking this Southtown ice house for a dog park. Above the din of the crowd or the occasional Spurs game, you'll hear pooches barking next to their boozed-up owners. The laid-back, outdoor setting makes it a perfect place for four-legged friends and, with recent renovations, we expect to see even more dog owners pick The Friendly Spot as their favorite watering hole. With a monster new bar in the back, The Friendly Spot's tap count jumped from 20 to 76, almost all are craft beers, many of them Texas brews. Their micheladas are no slouch, either. ■

# SportsTurf

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# President's Message

Dr. Mike Goatley

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## Against the odds

**I** JUST FINISHED MALCOLM GLADWELL'S LATEST BOOK "DAVID AND GOLIATH." The author offers another thought provoking book that challenges conventional wisdom regarding the underdog, a term common to sport competitions. Gladwell proposes that perhaps Goliath was not really such an overwhelming favorite after all. Sure, he was a giant among men for his time in size and stature, equipped with the finest armor and weaponry. However, Goliath was apparently very slow-of-foot, had problems with his eyesight, and was prepared only for hand-to-hand combat. David, on the other hand, was a youthful shepherd (at the bottom of that era's social ladder), and his appearance as Goliath's challenger was met with mockery and derision by his opponent.

However, it turns out that David was quite a 'slinger': highly skilled in using stones to kill wild beasts that threatened his flock. He was deadly accurate with his sling, and he had competitive advantages of speed and surprise on his side. David never intended to fight Goliath in close quarters.

Underdogs regularly pull off major upsets on our athletic fields and these upsets are hard to predict based on the apparent talent discrepancies on paper. However, superior talent doesn't always overcome the will, desire and discipline displayed by seemingly less gifted athletes. Similarly, in sports field management I am amazed by how forward-thinking sports field managers overcome seemingly insurmountable challenges imposed by Mother Nature, budget and/or personnel limitations. There is no doubt that experience matters. David gained his slingshot skills while protecting his flock; you hone your skills plying your trade season after season. Still, experience alone can't overcome the importance of being properly equipped for the job. David didn't attack Goliath with boulders, but instead he selected very specific sizes, shapes, and weights of stones that allowed him to fight his enemy from a safe distance. As a sports field manager, you also need to be properly equipped with the right tools and strategies to overcome the challenges you face in delivering safe, great looking, and great playing athletic fields.

One of the best ways to equip yourself is to secure and apply the management strategies you will experience firsthand at the 2014 annual conference and exhibition in San Antonio this January. Whether on the trade show floor, in the classroom, or simply by word-of-mouth, your chances of overcoming the challenges you face in your job will grow by joining your colleagues at conference. STMA's conference programming committees have once again assembled a great mix of educational activities and site visits suitable for all levels of sports turf managers, regardless of facility, budget, or background.

In closing, November is synonymous with Thanksgiving for many of us. I suspect that David was very grateful that he had such good aim. I find myself grateful every fourth Thursday in November for a) wonderful family and friends, and b) turkey, dressing, and sweet potato casserole. How about you? I hope you can find some time to reflect on your blessings this season. Take care. ■

*Mike Goatley*



## Celebrate STMA's 25th Conference & Exhibition Deep in the Heart of Texas: San Antonio 2014!

**S**TMA TRAVELS TO SAN ANTONIO, TEXAS from January 21-25, 2014 for the association's 25th Conference & Exhibition. San Antonio is a city – the second largest in Texas – rich in American history and steeped in a unique cultural heritage. It is home to the historic Alamo, world-renowned Riverwalk, Missions National Historical Park and scenic Texas Hill Country.

A visit would not be complete without a stop at the world-famous Riverwalk, which opened a new 1.3 mile extension since STMA was there in 2007. In 2010, Travel + Leisure magazine named it one of "America's Coolest River Walks" saying "This granddaddy of river walks charms with four miles of cypress-lined cobble-and-flagstone paths along both sides of the narrow San Antonio River. Locals and visitors cool off on the horseshoe-shaped loop downtown, meandering past trendy shops and stopping at hot spots like Boudro's for guacamole prepared tableside." A number of varied shopping and cultural events abound; the downtown area surrounds the convention center.

The Alamo is, undoubtedly, one of San Antonio's highest-profile attractions and one of the most-visited historical sites in the United States. According to the San Antonio Convention and Visitors Bureau, "The Alamo (Mission San Antonio de Valero) was founded in 1718 as the first mission in San Antonio, serving as a way station

between east Texas and Mexico. In 1836, decades after the mission had closed; the Alamo became an inspiration and a motivation for liberty during the Texas Revolution. For 13 days in 1836, close to 200 Texas defenders held the Alamo from over one thousand of General Santa Anna's troops from Mexico. The most famous of the defenders, William Travis, Jim Bowie, and Davy Crockett, died fighting overwhelming odds for freedom." Additionally, contrary to public opinion, there actually is a basement in the Alamo.

For the past 25 conferences and exhibitions, STMA has provided attendees with a best-in-class experience through innovative educational sessions, networking opportunities, hands on tours of sports facilities and a singular focus on advancing the sports turf industry as a whole. As the premier not-for-profit, professional association for the men and women who manage sports fields worldwide, the association is excited at the opportunity San Antonio provides to show how our dedicated members have moved this organization to where it is now, and to share our board's vision for the next 25 years (and beyond).

We hope to see you in San Antonio, Jan. 21-24, 2014, for STMA's 25th Annual Conference & Exhibition!

### Conference Highlights

Celebrate STMA's 25th Anniversary in San Antonio with all the exceptional sessions, semi-

nars, and workshops you've come to expect from the industry's premier sports field association. Explore the rich culture, cuisine and character of a city that has proven to be one of our nation's most endearing travel destinations and benefit from the ultimate learning event of the year!

### STMA REGISTRATION HOURS

All at the Henry B. Gonzalez Convention Center

**TUES., JAN. 21 — 6:30 am – 6:30 pm**

**WED., JAN. 22 — 7 am – 6:30 pm**

**THURS., JAN. 23 — 7 am – 6:30 pm**

**FRI., JAN. 24 — 7 am – 1 pm**

### STMA EXPOSITION HOURS

**THURS., JAN. 23 — 1:30 – 7 pm (Reception)**

**FRI., JAN. 24 — 10 am – 1 pm (Lunch)**

### FULL CONFERENCE REGISTRATION

Just \$375

(Register by Dec. 15. After Dec. 15: \$450)

#### Includes:

- All education sessions, plus pre-conference workshops
- More than 76 hours of education
- Breakfasts and most lunches
- Receptions and Awards Banquet



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## General Session – New Time!

Wed., Jan. 22, 8 – 9:15 am

- STMA Past, Present and Future. Hear where we've been, where we are today and where we are going.
- Introductory Remarks – *STMA President Michael Goatley, Jr., Ph.D.*
- Brief History of STMA and the Annual Conference – *Steve Wightman*
- Where We Are Today – 2014 Conference Highlights – *Jeffrey Fowler*
- Keynote: "Skills to Survive in the Future" – *Dr. Rick Rigsby*



**Dr. Rick Rigsby**  
Photo provided  
by Lisa Nikole

## Keynote Address Dr. Rick Rigsby

### "Skills to Survive in the Future"

Dr. Rick Rigsby is a favorite among audiences worldwide. Born and reared in the San Francisco Bay Area, Rick graduated from college in 1978 with a degree in communications and a goal to be a network correspondent. Following a successful career as a television news reporter for a CBS affiliate in Northern California, Rick earned his Master's degree from California State University, Chico followed by his Doctorate from the University of Oregon. Graduate school was followed by two decades as a college professor – the last 14 years at Texas A&M University – where Rick also served as character coach and chaplain for the Aggies football team. In high demand among educational, business, and service organizations and a favorite among professional sports organizations including the PGA and the National Football League, Rick offers common-sense wisdom to those desiring to rise to greater levels of excellence.

**STMA Academy**  
Tuesday, Jan. 21, 2:30 – 5 pm

Attend high level education, pre-conference, at no additional fee.

## STMA Networking

Wed., Jan 22, 5:15 – 6:15 pm

Meet with your peers during this formalized networking session. Each category of membership meets separately to share issues and practical solutions.

## STMA Welcome Reception & Casino Night

Wed., Jan. 22, 7 – 10 pm

A must-attend networking event. Enjoy heavy hors d'oeuvres and beverages. For those who wish to gamble, there is a separate area for Casino Night, which benefits The SAFE Foundation.

## Annual Meeting & Lunch – Members Only

Thurs., Jan. 23, 12 – 1:15 pm

All members are invited to enjoy lunch, hear about STMA's progress and meet your new Board of Directors.

## Annual Awards Reception & Banquet

Fri., Jan. 24, 6:30 – 10 pm

Enjoy excellent food and beverages while helping to honor STMA's award winners. Registration required. Coat and tie preferred.

## Student Activities

Students are welcome and encouraged to attend all that the conference offers.

## Student Networking Session

Wed., Jan. 22, 5:15 – 6:15 pm

## Student Educational Track

Thurs., Jan. 23, 8 am – 12 pm

## Creating a New Career Path

Abby McNeal, CSFM – Wake Forest University Athletics

## Managing and Molding Tomorrow's Field Managers Today

Michael Boettcher – Milwaukee Brewers Baseball Club

## Internships and How to Get the Most Out of Them

Zach Severns – Architectural Design, Inc.

## STMA Annual Meeting and Lunch

Thurs., Jan. 23, 12 – 1:15 pm

Students have this time open to attend.

# SUPPORT SAFE



### PARTICIPATE & DONATE!

Last year's activities raised \$30,800. This year's goal: \$40,000

STMA's charity, SAFE, will be holding many activities to raise funds for scholarship, education, outreach, and research.

### NEW THIS YEAR – 5K RUN OR WALK!

Fri., Jan. 24, 3 pm.

Please see page 18 for more information.

### SAFE GOLF SCRAMBLE

Tues., Jan. 21, 9 am – 4 pm

Please see page 18 for more information.

### SAFE CASINO NIGHT

Wed., Jan. 22, 8:30 pm

Gamble for a good cause! Set within the Welcome Reception, Casino Night is a fee-based event that supports the SAFE Foundation. There is no charge to attend the

Welcome Reception. Register early and receive extra chips! See registration form. Walk-ups welcome. When you cash out, you are eligible to win prizes.

### SILENT AUCTION

Thurs., Jan. 23, 1:30 – 6:30 pm & Fri., Jan 24, 10 am – 12:30 pm

Held during the exposition. Take home some great bargains. New items daily!

### LIVE AUCTION

Fri., Jan. 24, 6:30 – 7 pm

Get some great technology, travel and gift items for unbelievable prices!

### RAFFLES

Buy raffle tickets throughout the conference for a chance to win exciting items. The drawing will take place at the beginning of the Awards Banquet (need not be present to win).

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**Joe Grandstaff**

*James W. Conroy Sports Complex, Dix Hills, IA*



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## SCHEDULE AT A GLANCE

### TUES., JAN. 21

6:30 – 8:30 am	Continental Breakfast
6:30 am – 6:30 pm	Registration Open
7 am – 5 pm	Full Day Seminar on Wheels
9:00 am – 4 pm	SAFE Golf Tournament
2:30 – 5 pm	STMA Academy: 400+ level education (included in full conference price)
3:30 – 7:30 pm	STMA Certification Exam
6 – 9 pm	Chapter Officer Training (includes dinner)

### WED., JAN. 22

7 – 8 am	Continental Breakfast
7 am – 6:30 pm	Registration Open
8 – 9:15 am	General Session: STMA Past, Present and Future. Keynote Address: "Skills to Survive in the Future" – Dr. Rick Rigsby, Educator & Former Broadcaster
9:30 am – 12 pm	Conference Education
12 – 2 pm	Break
12 – 2 pm	Women's Forum Lunch New Time!
2 – 5 pm	Conference Education
5:15 – 6:15 pm	Conference Networking Sessions
6:30 – 7 pm	First-Timers Reception
7 – 10 pm	Welcome Reception & Casino Night

### THURS., JAN. 23

6:45 – 7:45 am	Certification Breakfast
7 – 8 am	Continental Breakfast
7 am – 6:30 pm	Registration Open
8 am – 12 pm	Conference Education & Student Track
12 – 1:15 pm	Annual Meeting & Lunch
1:30 – 6:30 pm	SAFE Silent Auction on the trade show floor
1:30 – 7 pm	STMA Exhibition and Reception
2 – 6 pm	Committee meetings on the trade show floor

### FRI., JAN. 24

7 – 8 am	Continental Breakfast
7 – 8 am	Past President's Breakfast
7 am – 1 pm	Registration Open
8 – 10:30 am	Student Challenge
8:30 – 10 am	Conference Education
9 – 10 am	Commercial Member Meeting
10 am – 12:30 pm	Silent Auction on the trade show floor
10 am – 1 pm	Exhibition Open with Lunch, Innovative Sessions
12 – 1 pm	Student Luncheon
1 – 5 pm	Half Day Seminar on Wheels
1:15 – 3 pm	Conference Education
2 – 3 pm	Riverwalk Horticultural Tour via barge (1st departure)
2:30 – 3:30 pm	Riverwalk Horticultural Tour via barge (2nd departure)
3 – 5 pm	SAFE 5K Run/Walk
6:30 – 10 pm	STMA Reception, Live Auction and Awards Banquet

### SAT., JAN. 25

8 am – 12 pm	STMA Certification Exam
8 am – 1 pm	ASBA Certification Exam



### STMA Student Challenge

Fri., Jan., 24, 8 – 10:30 am

Participants receive FREE conference registration by competing in the Challenge. Undergraduates from two- and four-year institutions are eligible to compete in teams of up to four people. Graduate students are not eligible. Win \$4,000 for your school! Preregistration is required and can only be completed online.

### Student Luncheon

Fri., Jan., 24, 12 – 1 pm

Network with CSFMs and other industry professionals during the luncheon provided on the trade show floor. The winners of the Student Challenge will be announced following the lunch.

## Conference Tracks

### Agronomic

Tues., Jan. 21

2:30 – 5 pm

STMA 400 – Evaluation and Preparation of Fields for Heavy Use  
*Grady L. Miller, Ph.D.*

Wed., Jan. 22

9:30 – 10:45 am

STMA 102 – Making the Impossible Possible: Seed to Playing in 35 Days  
*Julie Adamski, Ryan Bjorn*

11 am – 12 pm

STMA 108 – Aerification Today... Methods and Styles to Help Improve Playing Conditions  
*Michael Hileman*

2 – 3:15 pm

STMA 113 – Changing Perceptions, Pushing Limits: Grass Fields Will Take More  
*Jerad Minnick*

Thurs., Jan. 23

9:15 – 10:15 am

STMA 206 – Keeping It Green While Being Green: Cutting-Edge Environmental Fertilization  
*Bryan G. Hopkins, Ph.D.*

9:15 – 10:15 am

STMA 207 – Bermudagrass Management  
*John Cisar, Ph.D.*

9:15 – 10:15 am

STMA 208 – Cool-Season Turfgrasses for Sports Fields  
*Brad Park*

Fri., Jan. 24

8:30 – 10 am

STMA 300 – Managing High Use Fields  
*Thomas J. Serensits*

8:30 – 10 am

STMA 301 – Teaching the Basics of Soil Physical and Chemical Properties: The Analogy Lecture  
*Elizabeth Guertal, Ph.D.*

### Pest Control

Tues., Jan. 21

2:30 – 5 pm

STMA 401 – What Are Your Weeds Telling You?  
*Jim Brosnan, Ph.D., Gerald Henry, Ph.D.*

Wed., Jan. 22

9:30 – 10:45 am

STMA 100 – Improving Plant Performance with Plant Protection Products  
*John Cisar, Ph.D.*

9:30 – 10:45 am

STMA 104 – Safe Playing Fields: IPM, Legislation, and the Sports Turf Manager  
*Rich Watson*

11 am – 12 pm

STMA 106 – Establishing Pest Thresholds on School Grounds  
*Don Savard, CSFM, CGM*

2 – 3:15 pm

STMA 112 – Insect Control Update for Sport Fields – Current & Future Programs  
*David Shetlar, Ph.D.*



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3:30 – 5 pm

STMA 118 – Advanced Turf Disease Management: Maximizing Pesticide Applications to Improve Product Performance  
*Mike Fidanza, Ph.D.*

**Thurs., Jan. 23**

8 – 9 am

STMA 204 – Managing Sports Fields without Conventional Pesticides  
*Eric M. Lyons, Ph.D.*

**Fri., Jan. 24**

8:30 – 10 am

STMA 303 – Preventative, IPM, and Organic Management Systems for Schools and Municipalities  
*Brad Park*

### Safety

**Tues., Jan. 21**

2:30 – 5 pm

STMA 402 – Playability and Safety of Bermudagrass Sports Fields  
*Phillipe C. F. Aldahir, Eric Kleypas*

**Wed., Jan. 22**

3:30 – 5 pm

STMA 119 – Bermudagrass Selection and Management for Athletic Field Performance and Safety in the Transition Zone  
*Adam Thoms, John Sorochan, Ph.D.*

**Thurs., Jan. 23**

8 – 9 am

STMA 203 – Sports Field Performance Testing: G-Max and Beyond  
*Ross Kurcab, CSFM*

10:45 am – 12 pm

STMA 216 – Sustainability – Player Safety – Performance Testing Are Critical and Integrated Issues for Sport Fields  
*Gerald Henry, Ph.D., Chase Straw*

### Facility Management

**Tues., Jan. 21**

2:30 – 5 pm

STMA 403 – Understanding Our Changing Weather and Climate  
*Brad Jakubowski*

**Wed., Jan. 22**

9:30 – 10:45 am

STMA 101 – Why Research Matters to Field Managers  
*Grady L. Miller, Ph.D.*

2 – 3:15 pm

STMA 115 – Shop/Tools/Tricks of the Trade to Improve Your Operation  
*Luke Yoder*

3:30 – 5 pm

STMA 123 – Maintaining High School Athletic Fields on a Limited Budget  
*Bruce Whitehead, CMAA; Hugh McReynolds, CAA*

**Thurs., Jan. 23**

9:15 – 10:15 am

STMA 210 – Liability and Your Facility  
*Patrick D. McGuinness*

10:45 am – 12 pm

STMA 214 – Infield Maintenance at Overbrook HS: Working With What We Have  
*Rich Watson*

**Fri., Jan. 24**

8:30 – 10 am

STMA 304 – Turfgrass Mathematics 101  
*Barry Stewart, Ph.D.*

1:15 – 3 pm

STMA 309 – John Mascaro's Photo Quiz Comes Alive  
*John Mascaro*

### Water

**Tues., Jan. 21**

2:30 – 5 pm

STMA 404 – Developing and Implementing

Best Management Practices for Sports Field Water Conservation

*Kenny Pauley, Kent Dickerson*

**Wed., Jan. 22**

3:30 – 5 pm

STMA 121 – Understanding the Basics of Irrigation Design, Installation, and Troubleshooting  
*Lynda Wightman*

**Thurs., Jan. 23**

10:45 am – 12 pm

STMA 217 – Sports Fields as a Stormwater Best Management Practice  
*Rich Moffitt*

**Fri., Jan. 24**

8:30 – 10 am

STMA 302 – Water Quality and Soil Conditions  
*Nick Christians, Ph.D.*

### Professional Development

**Wed., Jan. 22**

9:30 – 10:45 am

STMA 103 – Bridging the Generation Gap in the Turf Industry  
*Joel Rieker, Tim VanLoo, CSFM*

2 – 3:15 pm

STMA 114 – The Lost Art of Communications  
*Jeffrey Fowler, Evan Fowler*

3:30 – 5 pm

STMA 122 – Reading the Tells – Learning How to Read Body Language  
*Jerry Balistreri*

**Thurs., Jan. 23**

8 – 9 am

STMA 200 – The CSFM Process Demystified  
*Tim VanLoo, CSFM*

10:45 am – 12 pm

STMA 212 – 2013 Field of the Year Winners 2013 FOY Winners



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**10 am**  
STMA 305 – Traffic/Wear Tolerance of Kentucky Bluegrass and Perennial Ryegrass Cultivars  
*Melodee Fraser, Ph.D.*

**10:30 am**  
STMA 306 – Technology Tools and Innovations for Groundskeepers  
*Michael D'Ascanio*

**11 am**  
STMA 307 – Overseeding Species: Best Choices for Success  
*Kathleen Dodson, Ph.D.*

**11:30 am**  
STMA 308 – The Use of Grow Lights to Grow Grass Inside Stadiums  
*Luis Lauretti; Nico Van Vuuren*

## **Construction/Renovation**

**Wed., Jan. 22**

**11 am – 12 pm**  
STMA 109 – Complete Baseball Field Renovation  
*Keith Winter*

**2 – 3:15 pm**  
STMA 116 – Trials and Tribulations of Building a New Sports Field Complex  
*Roger Havlak*

**Thurs., Jan. 23**  
**9:15 – 10:15 am**  
STMA 209 – Arizona Stadium: 2 Years, 2 Renovations  
*Matt Anderson, CSFM*

**9:15 – 10:15 am**  
STMA 211 – Managing Turf in the MLS  
*Robert Heggie*

**10:45 am – 12 pm**  
STMA 213 – Renovation Practices at Real Madrid and Manchester United FC – Part 2  
*Simon Gumbrell*

## **CEUs**

### **CEUs and Pesticide Recertification Credits**

Many organizations recognize the caliber of STMA education and are awarding CEUs! CEUs have been approved by ASBA, NRPA, TTA, TNLA, IA, NIAAA, GCSAA, TCEQ, and PLANET. CEUs are pending for Texas Pesticide Recertification Credits.

### **Special Professional Development Sessions Dedicated To Students:**

**Thurs., Jan. 23**  
**8 – 9 am**  
STMA 218 – Creating a New Career Path  
*Abby McNeal, CSFM*

**9:15 – 10:15 am**  
STMA 219 – Managing and Molding Tomorrow's Field Managers Today  
*Michael Boettcher*

**10:45 am – 12 pm**  
STMA 220 – Internships and How to Get the Most Out of Them  
*Zach Sevens*

### **Synthetic** **Wed., Jan. 22**

**11 am – 12 pm**  
STMA 107 – Replacing your Synthetic Infill Playing Surface  
*Darian Daily*

**2 – 3:15 pm**  
STMA 117 – Synthetic In-Fill: Compaction and Advancement in Relief Options  
*Jason Sentell, Chad Price, CSFM, CFB*

**Thurs., Jan. 23**  
**8 – 9 am**  
STMA 205 – Reuse, Repurpose – Where's my synthetic going?  
*Chuck Klafka*

## **Industry Developments**

**Wed., Jan. 22**  
**11 am – 12 pm**  
STMA 110 – New Trends and Technology in Sports Turf  
*Representatives from STMA Commercial Companies*

**3:30 – 5 pm**  
STMA 120 – Latest Trends in European Turfgrass  
*Massimiliano Del Viva, Marco Volterrani, Alessandro De Luca*

**Thurs., Jan. 23**  
**8 – 9 am**  
STMA 201 – Traffic Tolerance and Turf Recovery: It Just Doesn't Happen  
*John Rector, Joseph K. Wipff, Ph.D.*

**8 – 9 am**  
STMA 202 – Using Soil Moisture & Temperature Sensors as a Part of an Integrated Approach to Managing Athletic Fields  
*Amy Fouty, CSFM*

**10:45 am – 12 pm**  
STMA 215 – Crumb Rubber Research and Real World Applications to Improve Athletic Fields  
*John Sorochan, Ph.D., Tim Vanini, Ph.D.*

**Fri., Jan. 24**  
**10 am – 12 pm**  
Innovative Sessions:



# JOHN MASCARO'S PHOTO QUIZ

John Mascaro is President of Turf-Tec International

Can you identify this sports turf problem?

- Problem:** Weak turf on field
- Turfgrass area:** Fast pitch softball field
- Location:** Fargo, North Dakota
- Grass Variety:** Bluegrass

**Answer to John Mascaro's Photo Quiz on Page 33**



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# OPTIONAL EVENTS

## Seminar on Wheels Tour

Tues., Jan. 21

Full day tour, 7 am – 5 pm

The tour begins at the STAR soccer complex, a 13-field natural grass complex located in the former Longhorn Quarry. STAR is home to the San Antonio Scorpions, a new professional soccer team playing in the North American Soccer League (NASL). Tour stops also include Texas State's Jim Wacker Football Field in Bobcat Stadium, which recently had a \$20 million renovation, and its softball and baseball fields. The baseball field has a special infield mix that reduces the need for tarping. Participants will stop next at the Park West Athletics Complex that holds a new International Association of Athletics Federations (IAAF) track and Fédération Internationale de Football Association (FIFA) soccer field at the University of Texas—San Antonio. These facilities opened in August, each seat 1,000 people, and were built through a unique partnership with the university, the City of San Antonio, and Bexar County. The

final stop is at Oak Hills Country Club, one of the oldest private country clubs in the country, to tour the renowned tennis centre. It has a rare combination of three court surfaces including grass, clay and hard surface. Transportation and lunch included. Pre-registration and additional fee required.

## Seminar on Wheels Tour

Fri., Jan. 24

Half day tour, 1 – 5 pm

Participants will see the baseball, softball, soccer, football and intramural fields at Trinity University. These fields are in an urban setting and are closely located by each other. Trinity has no practice fields. The next stop is The Park at St. Mary's University, a new sports complex that has baseball, softball and soccer. The new 2200-seat baseball stadium, renamed Dickson Stadium for its benefactor, is built on the steel structure of the previous stadium. The final stop is at Nelson Wolff Stadium, the oldest ballpark in the Texas League and home to the Mis-

sions, a AA Minor League Baseball team. Many high schools and colleges play at Nelson Wolff including the UTSA Roadrunners. Transportation provided. Pre-registration and additional fee required.

## Riverwalk Horticultural Tour

Fri., Jan. 24

Two Departures: 2 – 3 pm and 2:30 – 3:30 pm

Board a barge and take a tour of the world-famous Riverwalk. Hear how all of the plant materials are managed in a 100 percent organic program from the horticulturists for the Riverwalk. Pre-registration and additional fee required. Each tour is limited to 25 people, so sign up early.

## CSFM Testing

Tues., Jan. 21, 3:30 – 7:30 pm &

Sat., Jan. 25, 8 am – 12 pm

Pre-qualification and pre-registration by Dec. 15 is required for those who wish to take the exam. If you test on Tuesday and do not pass all of the sections, you may be able to retest on those sections on Saturday. To find out if you qualify for the certification program, call STMA at 800-323-3875.

# New this Year!

## Join STMA As A New Member, Get Conference Registration Free

If you are not an STMA national\* member, you are eligible to receive a free conference registration to be used within three (3) years of joining STMA! This is an excellent way to experience conference education, peer-to-peer networking and access to the latest technology – the top three reasons members join STMA.

Go to [www.stma.org](http://www.stma.org) or call STMA at **800.323.3875** for more information.

\*Must not have been a national member since 2000. Affiliate and student memberships are not eligible.



## New This Year – 5K RUN or Walk!

Fri., Jan. 24, 3 pm.

Join your peers in this inaugural event! For your entry fee of \$35, you get a great 5K course, an event managed by professionals and a high quality shirt that will definitely become a keepsake. Start training now to take top honors and to help SAFE achieve its goals. Pre-registration is required.

## ASBA Testing

Sat., Jan. 25, 8 am – 1 pm

The American Sports Builders Association (ASBA) offers three certifications for field builders and will be offering these tests during the STMA Conference. To find out if you qualify to test, go to [www.sportsbuilders.org](http://www.sportsbuilders.org). The deadline to apply to test is Dec. 15. Those testing must register for the STMA conference, purchasing a one-day package at a minimum. Questions? Contact ASBA, 866-501-2722.

## Chapter Officers Training – for Chapter Board Members

Tues., Jan. 21, 6 – 9 pm (Dinner provided)

Chapter board members are invited to attend a chapter networking and brainstorming session to address the challenges of strengthening your chapter with a focus on how to fundraise and your role as a volunteer leader. Preregistration is required.

## SAFE Golf Scramble

Tues., Jan. 21, 9 am – 4 pm



The SAFE Golf Tournament will be held at The Republic Golf Club, 10 minutes from the STMA host hotel. The course routing follows Salado Creek as it winds through heavily wooded areas, making each hole completely secluded. The terrain is mostly flat and has player-friendly features such as wide fairways with generous landing areas and open approaches. Republic has four sets of tees that allow players to adjust the game to their skill level. Transportation, lunch, hole-in-one and other prizes are included. Rental clubs are available. Pre-registration is required.

## NEW TIME!

### Women's Forum Lunch

Wed., Jan. 22, 12 – 2 pm

Celebrating its seventh year, all women at the conference are invited to participate in a facilitated discussion and enjoy lunch.

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# STMA 25<sup>th</sup> Conference & Exhibition

January 21 — 25th, 2014 ★ San Antonio, Texas

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## Join STMA As A New Member Get Conference Registration Free

If you are not an STMA national\* member, you are eligible to receive a free conference registration to be used within three (3) years of joining STMA. This is an excellent way to experience conference education, peer-to-peer networking and access to the latest technology — the top three reasons members join STMA.

See registration form or go online at [www.stma.org](http://www.stma.org) for more information.

*\*Must not have been a national member since 2000. Affiliate and student memberships are not eligible.*

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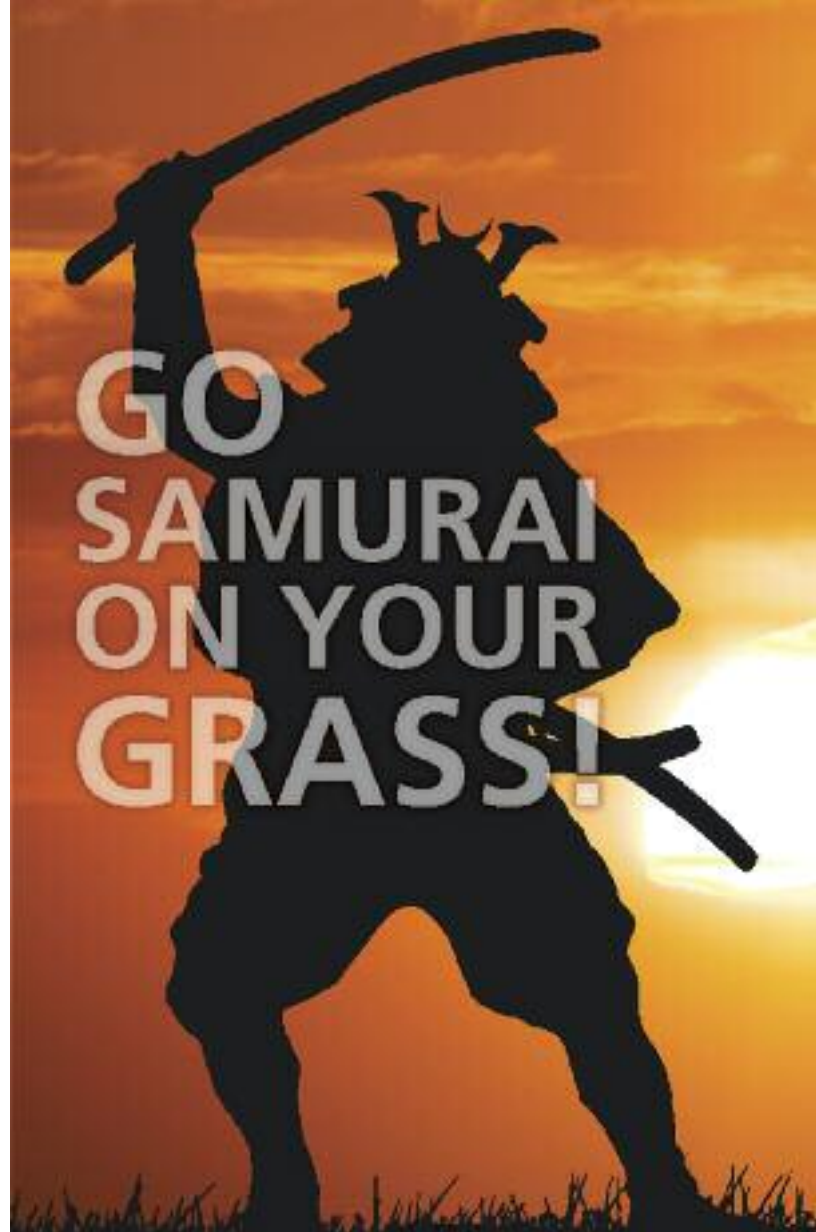
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Our faculty, including Corey Russell who teaches at HGTC along with his primary responsibilities as Grounds Manager for the Myrtle Beach Pelicans, worked hard to expand our turf program in the sports turf arena. HGTC has long been a well-known golf course management program, so going to Daytona Beach became a litmus test for how far we have come as a sports turf program. Our team came out of the student challenge test cautiously optimistic. When the scores were posted and HGTC finished first it felt as if we had won an NCAA title! We will again compete at the local turf competitions in the hope we can return to the STMA convention in San Antonio. The entire HGTC team, faculty included, was amazed at the convention setup, professionalism, and trade show.

On the heels on returning to Conway, SC our students started making the transition to our brand new educational facility. The new classrooms and labs, including collaborative learning areas, are part of a campus-wide modernization program. The transition to the new facility has challenged and invigorated students and faculty alike.

Now that we have settled in, we looked at how we could best use the generous prize money to aid and inspire our students. We decided to purchase two different types of field painting machines. While the science of turfgrass is something we feel we teach well, the art of sports turf management is an evolving target. Part of that art is to prepare sports fields for these important game day functions that garner so much attention. By purchasing a "high end machine" as well as a model found in more "modest" facilities, we felt that no matter where our graduates go...they will be prepared.

At HGTC we have always tried to educate in the classroom and in the field. Being surrounded by golf courses and sports field complexes allows the students to put their classroom training to work in a job application of their choosing. A strength of our program has always been the excellent climate for year round turf experience. Most of our students work in the turfgrass industry while in school, allowing

them to learn in the classroom and visualize that knowledge at work. By allowing the students to operate these machines we believe the students will be better suited to assisting their employers while in school and upon graduation. People ask for our graduates every year because they say HGTC students are "shovel ready," meaning that HGTC grads show up and get to work without needing their hands held. The ability to operate these painting machines without "game day pressure" should only add to the students' confidence levels.

As HGTC graduates enter the workplace in Sports Turf, Parks and Recreation, and Ground Management, industry experience will be crucial to their success. The hands-on education that the STMA Student Challenge afforded our students will serve them well. By this I don't just mean the prize money. The opportunity for the students to network with industry professionals and observe specialized equipment at the trade show heightened the desire and dedication of each student that came with our team. All of us at Horry Georgetown Technical College are grateful to the STMA for striving to grow the next generation.-Ashley G. Wilkinson, professor, Golf and Sports Turf Management.



» CONFERENCE PROGRAM

» OPTIONAL ACTIVITIES

» EXHIBITOR LIST

» STUDENT CHALLENGE

**UNIVERSITY OF MARYLAND**

As the winning 4-year school at the 2013 STMA Student Challenge, the University of Maryland used the \$4,000 award from SAFE to enhance student instruction for the lab component of PLSC 402 (Sports Turf Management).

Currently the University of Maryland offers a two-year academic certificate and a baccalaureate program in Turfgrass Management. The two-year program added a Sports Turf Management option in 2009. The major emphasis of the award was to develop two additional laboratory activities that centered on assessing sports field quality and safety. Equipment such as the Field Scout TDR moisture meter, infrared ther-

The commitment of SAFE to promote safe, playable, and sustainable athletic fields by awarding such grants has enhanced our sports turf educational program...

▼ **STUDENTS GATHERING VARIOUS PIECES OF MEASURING EQUIPMENT** such as the Field Scout moisture meters to determine soil moisture content of the practice football field.



mometers, soil temperature probes, sand sieves, a Kestrel pocket weather station, and soil textural analysis equipment such as hydrometers and bouyoucos cylinders were purchased from the funds provided by SAFE. Also other equipment was purchased using the leverage of the SAFE award to acquire a Clegg Impact Soil

Tester, soil infiltration equipment, and soil probes.

The commitment of SAFE to promote safe, playable, and sustainable athletic fields by awarding such grants has enhanced our sports turf educational program at the University of Maryland and we are extremely thankful for their support. ■

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# Don't get salt stress from measuring salinity

**S**TOP! DON'T TURN THE PAGE! Living close to the coast is not the only place where a turfgrass manager needs to be concerned about salinity. Irrigation water and soils can be influenced by salts in more ways than you think: (a) in arid environments where there is not adequate rainfall to leach salts through the soil profile; (b) in cold climates where snow is melted from roads by salt deicers; (c) in the High Plains and in coastal regions, where water from naturally occurring saline aquifers is used for irrigation; (d) using treated effluent as a water source; (e) saltwater intrusion into naturally freshwater wells; and yes, (f) using irrigation water from tidally influenced creeks and rivers, or on the East Coast, from an intracoastal waterway. Convinced? Good! After reading this article you will be able to easily navigate the sea of salinity units that are commonly used. If want more information WHY you should monitor salinity, see **SportsTurf** May 2012 page 32.

Let's start off by defining "salinity." Salinity is a measure of the salts dissolved in water (or a soil). Before we get into the many reporting units for salinity, it is important to understand how salinity is typically measured.

## MEASURING SALINITY

You may have heard of using refractometers to measure salinity. Refractometers measure the change of direction or bending of the light as it passes from air to water. When we first began to measure salinity, it was common to use a refractometer. While still used, precise refractometers come with a hefty price tag. Furthermore, they are not automated, thus cannot be deployed to determine salinity continuously.

And that leaves us with the following two techniques commonly used to measure salinity:

1. The first involves *using a conductivity meter to measure the electrical conductivity (EC) of a solution* in the field. The electrical conductivity of a solution is a measure of the total dissolved solids (TDS) within the solution. These dissolved solids are generally made up of inorganic and organic compounds that have passed through a 2 micrometer ( $\mu\text{m}$ ) sieve. TDS is

Salinity Conversion Table
$\mu$ = micro, m = milli $1 \mu\text{mhos/cm} = 1 \mu\text{S/cm}$ $1000 \mu\text{S/cm} = 1 \text{mmhos/cm} = 1\text{mS/cm} = 1 \text{dS/m}$
ppt = part per thousand, ppm = part per million $1 \text{g/kg} = 1 \text{ppt} = 10,000 \text{ppm} = 1.0\%$
$\text{ppm} = \text{dS/m} \times 550$ (water with high proportion NaCl) $\text{ppm} = \text{dS/m} \times 700$ (hydroponic solutions, other salts dominant)

**THIS TABLE** makes it easy to convert reported salinity units to those you are familiar with:

typically a measure of the concentration of *salts* that have dissociated (split) in the water to form both positively (cations) and negatively (anions) charged ions. The idea behind using EC as a measure for salinity is that the more salts present, the more electricity conducted, and the higher the EC reading.

2. The second method, *measuring TDS directly*, can only be performed in a laboratory and is generally the method by which laboratories report your salinity value. To measure TDS, a specific volume of sample is weighed, filtered through a  $2 \mu\text{m}$  sieve to remove any particulate, gently dried until all water has evaporated, and the remaining salts/solids in the sample weighed. The dry weight of salts remaining divided by the original weight of the evaporated sample tells us the sample salinity.

## REPORTING SALINITY

How does TDS relate to EC and what can both measurements tell us about the salinity of a given water sample?

Salinity is discussed with many different units. It is common to see salinity expressed as a concentration (from the direct TDS measures) – such as 35 g dissolved salt / kg sea water = 35 ppt (part per thousand) = 35,000 ppm (part per million) = 3.5%. For irrigation purposes, many labs report salinity as TDS. Values below 500 ppm are generally not of any concern; values between 500-2000 ppm are considered an "increasing" concern and should be monitored, and > 2000 ppm are considered a severe problem.

To get a TDS or concentration measure of salinity, you have to submit an irrigation sample to an analytical laboratory and wait for results. If you need a more immediate measure of irrigation water salinity in the field, using a conductance meter to measure EC is an accurate and inexpensive (once the meter is purchased) method. While there is not exact relationship between EC and TDS, there is an approximate relationship. In water with a higher proportion of sodium chloride (water typical to SC) to get to ppm multiply the dS/m reading by 550; for other water sources (like hydroponics solutions) multiply the dS/m reading by 670 or 700 to convert to ppm. For the most part, turfgrass managers would use the 550 conversion factor.

EC is generally reported in deciSiemens/meter (dS/m), milliSiemens/cm (mS/cm), or millimhos per centimeter (mmhos/cm), which are numerically equivalent to each other. Here is a piece of trivia for you: as mentioned above, EC is a measurement of conductivity that is commonly measured in mmhos/cm. The opposite of conductivity is resistivity, which is measured in ohms. Ohms spelled backwards is mhos! When using an EC meter to determine relative salt levels, the recommended EC range of irrigation water is generally <0.75 dS/m for seedlings, or propagation areas and 0.75 – 3.0 dS/m for general irrigation purposes. If concentrations are less than 0.5 dS/m or greater than 3.0 dS/m, severe problems can occur. ■

*Dara M. Park is Assistant Professor, Turfgrass, Soil & Water Quality and Sarah A. White is Assistant Professor, Nursery Extension Specialist, School of Agricultural, Forest, and Environmental Sciences, Clemson University.*



# JOHN MASCARO'S PHOTO QUIZ

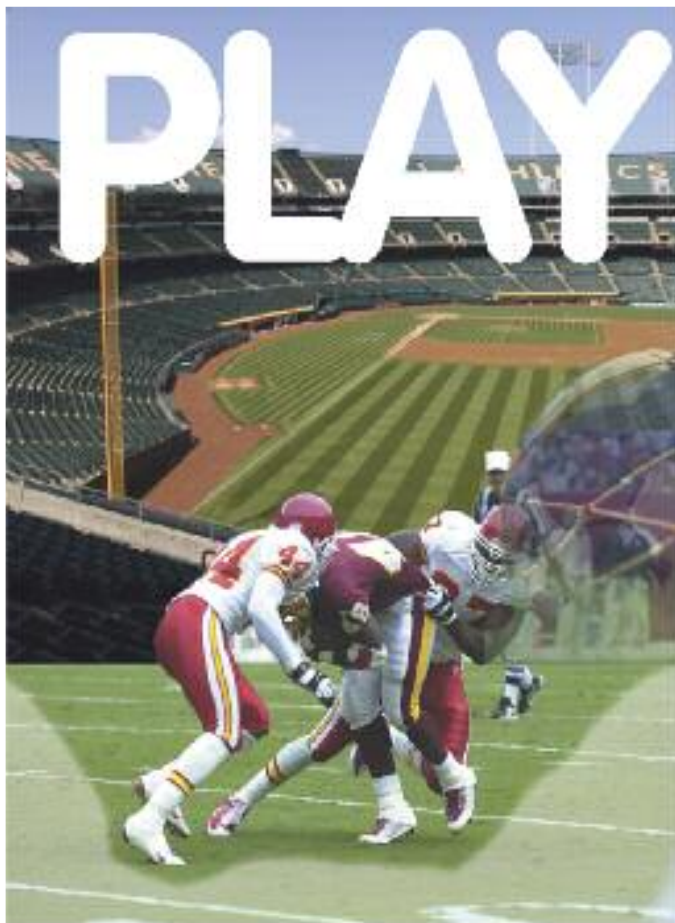
## Answers from page 17

**ALTHOUGH WEAK TURF** on softball fields can be caused by a variety of things, this weak turf is a result of too much silt in the soil. This seven-field fast pitch softball facility in North Dakota was built on a former lake bed in the famed Red River Valley and the park has dealt with flooding for many years now. This past spring as the winter snows melted, the river crested above flood stage, leaving about 14 feet of water on these fields and they remained underwater for about 2 weeks. The length of time the fields remain under water is directly proportional to the amount of silt that is left on the soil surface when the waters recede. Some years it is 1 inch or less and can be easily broken up. In 2009, the river was on the fields for almost a month and left 4 inches of silt behind. The parks department had to use skid steers to push the silt up and haul it away. This year about an inch of silt was deposited by the flood waters and they were able to break it up and re-seed into the soil with ryegrass to get a quick cover. This fall they will be interseeding the rye with bluegrass. After the facility was cleaned up, it was re-opened on July 8; the evening of July 9, they received 6 inches of rain and the storm drains filled this facility again with about 3 feet of water and it was underwater again for 5 days. They re-opened again on July 25. The city will start a levee project this fall which will protect four of the fields; the other three will be taken out of play as they are in an area that the new levee cannot protect. Next spring after the levee project, they are planning a major overhaul of the fields. ■

*Photo submitted by Rene' Smith, Athletic Field Coordinator for the Fargo Park District.*



If you would like to submit a photograph for John Mascaro's Photo Quiz please send it to John Mascaro, 1471 Capital Circle NW, Ste # 13, Tallahassee, FL 32303 call (850) 580-4026 or email to [john@turf-tec.com](mailto:john@turf-tec.com). If your photograph is selected, you will receive full credit. All photos submitted will become property of *SportsTurf* magazine and the Sports Turf Managers Association.



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► **GRADUATE STUDENT NORMA FLOR** screens zoysiagrass for large patch response in a growth chamber. Photo: Kevin Kenworthy, University of Florida



# The future of turfgrass research

**L**IKE MOST COMPANIES and individuals in today's economy, turfgrass breeders are expected to do increasingly more with less . . . more in the way of developing increasingly sustainable varieties in a climate that is *literally* changing . . . with less funding due to budget cuts in both public and private sectors. And it is clear that continued drought in some areas is having a lasting effect on how breeders view the future.

Given all of this, where will we see turfgrass breeding headed, how will it be funded and how will it affect turfgrass sod producers? To gain some insight, *Turf News*, the publication of Turfgrass Producers International, asked a number of turfgrass breeders in both public and private sectors a few questions. *Turf News* wishes to thank the following individuals for responding:

- Keenan Amundsen, University of Nebraska
- Ambika Chandra, Texas A&M
- Doug Brede, Jacklin Seed of the J.R. Simplot Co.
- Milt Engelke, Professor Emeritus, Texas A&M
- Bingru Huang, Rutgers University
- Melodee Fraser, Pure Seed Testing

- Kevin Kenworthy, University of Florida
- Brian Schwartz, University of Georgia
- Eric Watkins, University of Minnesota
- Joseph Wipff, Barenbrug USA, Inc.

## Where do you think we will see turfgrass breeding moving forward? Will it be focused on particular traits and, if so, which traits?

**Chandra:** A lot more needs to be done. The changing climate, including extreme temperatures and recurring droughts, as well as the shortage and increasing cost of potable water plus evolving pathogens and insects, require continued work for more sustainable turfgrass production systems.

Different turfgrass species have their unique sets of strengths and weaknesses. Depending on intended use, region of adaptation and consumer preference, breeders are focusing on improving different traits in different species. Ball roll, divot recovery, thatch management, shade and traffic tolerance, for example, may be of more importance to golf course superintendents whereas shade tolerance, drought and disease/insect resistance may be more valuable to homeowners.

Growing grasses in the transition zone presents

its own challenges, especially in dealing with extreme temperatures. Regardless, everyone wants a grass that looks and feels good, and that they do not have to mow as often. Therefore, dwarf varieties with higher establishment and recovery rates are very desirable.

**Engelke:** Consumers pay more for water on a per gallon basis than they do for oil. Therefore, we must focus on drought tolerance and low water consumption. The South already has been dealing with a long-lasting drought and some communities are reaching the stage where no watering will be allowed.

We also need to look at salt tolerance. Salinity becomes a problem when we do not have rain for extended periods. In this case, salt rises to the surface and concentrates in the crown of the plants and kills either the plant or the soil. Turfgrass then no longer has moisture or oxygen needed to grow. In these types of conditions, even halophytic plants can die.

At the same time, those who say that turfgrass uses too much water must be reminded of the many benefits of turfgrass, such as soil stabilization, cooling attributes, and the purification of water through grass's filtering effects.

**Wipff:** Water use efficiency; improved ability to use less than optimal quality water and effluent water; improved salinity tolerance; faster establishment; and reduced overall maintenance requirements will continue to be highly desired and sought after traits.

Another often overlooked trait and not widely considered by the end-user is the need for improved seed yields. Without higher seed yield and a strong dollar return per acre of seed production, the turfgrass seed industry will continue to find difficulty competing for production acres with food, forage, energy, and other high value crops.

**Amundsen:** The big traits of concern these days are based on water issues, especially given last year's widespread drought. Drought tolerance and water use efficiency are key. Other traits of interest include salt tolerance, cold and heat tolerance, disease and insect resistance, and nutrient use efficiency.

Breeding programs continue to focus on traits that are important for the turf industry (e.g. canopy density, color, uniformity, mowing tolerance, wear tolerance, recovery from damage), but there has been more focus toward biotic and abiotic stress tolerance over the past few decades and these traits will be at the forefront of breeding efforts in the next couple of decades.

I believe the next big advancement will come from the implementation of genetic tools that will allow us to evaluate and advance populations of plants more efficiently and cost effectively. This is not necessarily an advance in turfgrass breeding specifically, but new technology should allow us to maximize increasingly limited resources for turf improvement.

**Huang:** We will see more work on improving traits for stress resistance, and for more efficient use of water and fertilizers.

**Brede:** The plant breeding process is not linear.

We do not sit around a boardroom trying to imagine the next great trait. Instead, plant breeding is a random process requiring the breeder to be vigilant when something great comes along. We never really know what the next great thing will be. We have to wait for the plants to tell us.

Nonetheless, each breeder carries a mental list of the top 10 most wanted traits, such as bluegrasses that germinate faster, tall fescues that resist brown patch disease, bunch grass species that show a tendency to creep, grasses that need fewer inputs and anything that yields more seed per acre for the seed grower (and thus makes seed of that variety less expensive).

**Kenworthy:** I think that we will see more niche grasses developed for regions, with traits that have resistance to particular strains of the same pathogen, and more drought tolerance. My zoysia program, for example, is focused on large patch disease, and in bermudagrass, we are seeing more of a focus on tolerance or resistance to sting nematode.

**Schwartz:** I believe that turfgrass breeders will look at alternative species that fit niche situations and markets rather than a “one-size-fits-all” approach. You may see specific cultivars of popular species (like bermudagrass) that are developed for certain situations and not widespread adaptation. Specific trait development will probably depend on the application. But, we all are trying to improve drought tolerance.

With regard to golf greens, I am looking for nematode tolerance and reduced maintenance requirements. For home lawns, I am looking for reduced maintenance requirements.

### Speaking of alternative species, will we see more work being focused on them?

**Chandra:** There is potential in exploring native grasses that have evolved to be genetically adapted to their native environments and associated stresses.

But, they may not necessarily have desirable turfgrass quality traits such as high tiller density, dwarf stature, dark green color and so on. Texas bluegrass, bahiagrass, curly mesquite and blue gramas are just a few examples of the grasses on which breeders are working.

**Engelke:** Existing breeding programs have limited resources to fully exploit the existing genetic diversity available in any one species. Too often, because of those limited resources, we tend to see major efforts in any one species be limited to a fairly narrow genetic base. Subsequent varietal releases tend to look alike without fully exploiting a broader genetic base.

Going to an alternate species, while it may present opportunities for “low hanging fruit” to be harvested, is not as likely to have long-term ramifications as more in-depth scientific endeavors with major species already being studied. We must look for greater diversity, as well as discourage the idea that grass must be green all year long at any cost.

**Amundsen:** As the buffalograss breeder at the University of Nebraska, my view is certainly biased toward the use of non-traditional species. I think there are opportunities for buffalograss, poverty oatgrass, the gramas, salt grass, alkali grass, prairie junegrass, some of the wheatgrasses and other natives.

There may also be opportunities for non-conventional uses of traditional species, such as using alternative bentgrass species for lawns. With many of the native species, regional adaptation is a distinct advantage, so the market will likely be tailored to certain species in certain regions.

**Schwartz:** I can only speak for warm-season grasses. There is currently a big push to develop new zoysiagrasses. Seashore paspalum has really taken off, especially in the international market. Some breeders are selecting turf-types out of species that are often considered weeds. These types of projects are usually very long-term and require a lot of work and patience.

**Brede:** There is always some breeding work going on with new species, but

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the track record for novel species over the last 25 years has been dismal. The typical response most breeders get when they present a brand new species to a salesperson is “But my customers aren’t asking for that.” I think we will see a handful of novel turfgrasses hit the market in the next decade, but none will gain a sizable market share nor will they be around very long if salespeople do not actively promote them.

### What do you see as the next major breakthrough?

**Chandra:** The use of major advances in molecular biology, such as genome sequencing. The development of trait-specific molecular markers in marker-assisted breeding will enhance the speed and efficiency of progeny selection and, thus, the cultivar development process.

Turfgrasses are genetically complex and are challenging to manipulate since they are perennials and, in most cases, open-pollinated and have higher ployploids.

Several new and powerful tools of molecular biology have been developed and are available to us. The adoption of these tools in turfgrass genomics research is in its infancy (unlike major agronomic crops) mainly due to the lack of or limited funding. The turfgrass industry’s interest and future funding would significantly enhance our ability to tap into the advances of molecular biology for turfgrass research.

**Schwartz:** Because some mutations happen spontaneously in nature that can lead to herbicide resistance, I think we may see non-genetically modified herbicide resistant turfgrasses.

**Kenworthy:** I think we will see improved drought tolerance and pest tolerance in varieties. This will help to make the turfgrass manager’s job easier and make the turfgrass industry more sustainable (by reducing some use of pesticides, for example).

**Amundsen:** We continue to see significant, albeit incremental, gains in overall turf performance. Recent advances, such as rhizomatous tall fescue are interesting, but the major breakthroughs will likely come from host resistance or tolerance to stresses. The quality we have is pretty good and the challenge for most breeders will be developing new varieties that can maintain that quality with fewer inputs.

**Wipff:** There is great need for improved turfgrasses for the renovation and improvement of high use ‘park and rec’ fields. These characteristics would include faster germ and establishment, significantly improved traffic tolerance and recovery.

**Brede:** For several years now, there have been several vegetatively propagated varieties designed specifically for sod production. We have not seen a similar phenomenon with seeded types, but I believe we are close to seeing some specialized for sod production.

### Will we see some warm-season grass varieties becoming more cold tolerant?

**Huang:** I am collaborating with Chinese scientists to perform mutation and genetic transformation work to improve cold tolerance in warm-season species. This work is in progress, but we cannot share details at the moment.

**Chandra:** Absolutely. As long as warm-season turfgrass breeders have access to a germplasm source with cold tolerance in the gene pool/germplasm collection, they can work on improving cold tolerance. There is increased interest in the use of warm-season turfgrasses in northern states mainly because of their enhanced wear tolerance and higher water-use efficiency (compared to cool-season turfgrass species).

One effort in this direction is a USGA-funded project where Texas A&M AgriLife Research, Kansas State University (Jack Fry and Megan Kennelly) and Purdue University (Aaron Patton) are collaborating on the development of cold-tolerant zoysiagrass cultivars with large patch disease resistance. There are also a few bermudagrasses being tested on golf courses as far north as Pennsylvania.

**Schwartz:** I believe that the breeding programs in Oklahoma and North Carolina will continue working on grasses that can be grown farther north. In Tifton, GA, this is a difficult goal to reach on our own. But, we

have established plots in central Illinois and Indiana during the last year that will hopefully allow us to identify warm-season grasses that do well in both northern and southern locations.

**Amundsen:** I think we will continue to see gains in cold tolerance of warm-season grasses and heat tolerance of cool-season grasses, but there are limits to the range of adaptation of most species. As you move away from the zone of adaptation for a species into environments less favorable, some outliers will survive and tolerate a given stress. Since these outliers represent only a small fraction of the diversity for the species, there are genetic limitations to further advancing the species in less desirable regions.

The best approach probably lies with inter-generic hybridization to move certain turf traits into more widely adapted species, or move adaptation traits into better performing turf species. This is a challenge because there are limits in compatibility among species which would require a sizeable investment to make significant gains.

**Fraser:** While improvements in cold tolerance or winter survivability are goals for warm-season turfgrass breeders, one objective is to increase the portion of the year that those grasses are green. A warm-season turfgrass may have very good cold tolerance and winter survivability, but that may be because it has long winter dormancy. Cultivars that green up earlier in spring and have good fall color retention, along with winter survivability, will help expand the use of warm-season turfgrasses.

**Wipff:** There are a number of warm-season grasses currently available that are significantly cold tolerant. But, with colder climates typically come longer winters, shorter days, reduced summer temperatures and significantly longer winter dormancy. Prolonged winter dormancy generally precludes warm-season grasses from being used on a widespread basis. Most sod producers already seek out varieties that offer reduced dormancy and early spring green-up.

### There is some concern that dwarf turfgrass varieties are unable to adequately compete with weeds. What are the pros and cons of dwarf varieties?

**Fraser:** The advantage of dwarf varieties is that their growth habits are very well suited for turf. A very low, very dense growth habit can be beneficial for many uses. Some disadvantages could be that some dwarf plants might have shallower root systems or slower growth rates. Plants with these characteristics might be less tolerant to drought stress, establish more slowly, recover more slowly from injury or be less competitive with weeds.

The good news is that there is usually variation in these traits which allows us to select plants that have beneficial characteristics that we can use in the development of new varieties.

**Chandra:** Dwarf varieties are generally slow to grow and spread. Therefore, during the establishment stage, weeds may have a competitive edge. Recovery from damage (mechanical, disease/insect, drought, etc.) in dwarf varieties may be slow, again allowing room for weeds to emerge.

Once fully grown-in, however, dwarf varieties are actually better than non-dwarf varieties. In addition to reduced mowing requirements, dwarf varieties have superior turfgrass quality, especially in term of higher shoot density that makes it difficult for weeds to creep in.

Dwarf varieties retain more leaf tissue below the low mowing height. This is the machinery for photosynthesis and, therefore, dwarf varieties maintain higher carbohydrate reserves, making them stronger than non-dwarf varieties.

There is a trade-off between dense, dwarf varieties and their rate of establishment/recovery. Some species respond better to trade-off manipulations than others, and turfgrass breeders work to balance these attributes.

**Schwartz:** Dwarf warm-season grasses (specifically bermudagrasses) are currently the only option for maintaining acceptable golf greens. While less aggressive, I have never seen a non-dwarf Bermudagrass variety make a putting green.

In the future, there may be dwarf zoysiagrasses that can be mowed low enough to be planted on golf greens and also have shade tolerance and dense rhizomes that would allow them to grow successfully off of a golf green.

## It seems that more breeders are submitting materials to the Grass Variety Review Board than for Plant Variety Protection (PVP). What are the advantages and disadvantages of doing this?

**Chandra:** The purposes of the Grass Variety Review Board (GVRB) and the Plant Variety Protection Act (PVPA) are very different and should not be confused. The GVRB provides a third-party screening process which is administered by the Association of Official Seed Certifying Agencies (AOSCA) to evaluate the scientific merits, genetic purity and novelty of new varieties based on adequate data provided by plant breeders.

The GVRB ensures that new varieties meet the eligibility requirements of AOSCA's genetic seed certification standards. Recommendations made by the GVRB are considered by the state seed/plant certification agencies, permitting inclusion of the new variety into their state certification program.

Plant Variety Protection (PVP), on the other hand, provides plant-patent type protection to sexually-reproducing varieties for 20 years from the certificate's date of issue. This gives the breeder/company rights to exclude others from sexually reproducing the variety; or selling or distributing it without any prior agreement/contracts in place with the breeder/company. To be eligible for a PVP certificate, the breeder/company must show that the new variety is unique (new and distinct), uniform and stable.

Some companies/breeders decide to apply only to the GVRB. This is a decision each company makes based on the market and utility of the new variety.

**Wipff:** Many newer entries are not capable of meeting PVP standards for exhibiting distinctive turf characteristics whereas the guidelines for GVRB approval focus on seed certification only. Unfortunately, the GVRB does not evaluate the merits/distinctiveness of the entry and many "look alike" varieties will flood the market.

Ultimately, the disadvantages to the industry are the reduction and hindrance of turf innovation. At a time when significant gains in turf research are required to sustain a healthy, vibrant industry, GVRB paves the path towards mediocrity and similarity.

## How is patenting varieties (vs. PVP) going to change the future of turfgrass breeding?

**Engelke:** Breeders must be able to protect their varieties with intellectual property rights. If others do not respect these rights, we will not have turfgrass breeding programs with any kind of stability or longevity. And, if intellectual property rights are not respected, we will not see continued funding to support turfgrass development.

**Chandra:** Plant patents and plant variety protections should not be confused. PVP provides protection to sexually-reproducing varieties (seeded turfgrass varieties). Plant patents, on the other hand, provide protection of asexually reproducing varieties (vegetatively propagated sod or apomictically produced seed).

**Schwartz:** Plant and utility patents definitely change what and whose plant material you can or cannot use as parents in your breeding program. It will likely lead to individual programs collecting or breeding their own germplasm pools or, in some instances, may lead to collaborations where a turf breeder licenses a patented variety from another breeder for use in their program. Time will tell.

**Wipff:** Patenting a turfgrass allows that the unique, distinctive characteristics of a variety are protected from theft, whereas with the current PVP system of registration, only the name is protected. At five times the monetary cost of a PVP, patented turfgrasses readily identify those research programs that are focused on proven innovation, true improvement and the willingness to protect them.

## Is there anything else that you would like to share with turfgrass sod producers about your particular research interests or about turfgrass breeding in general?

**Schwartz:** I am not only looking for grasses that have end-user benefits,

but also work with several sod producers in my state to conduct the final stage of research at their farms to look for grasses that they can profitably grow. By giving them enough of a potential future release, we have been able to determine if the establishment, lifting, sod strength and regrowth are satisfactory. If we can save money on the production side, we can increase farm profitability even if prices fall to the level of older varieties.

**Chandra:** We have several ongoing breeding projects, including the development of St. Augustinegrass cultivars with improved drought and disease resistance (funded by the Turfgrass Producers of Texas); development of seeded zoysia grass varieties (USGA funded); and development of cold tolerant and large patch disease resistant zoysiagrasses (USGA funded).

We also are developing hybrid bluegrasses (Texas bluegrass x Kentucky bluegrass) adapted to the southern US (funded by NGTurf; funding expired April 2012); and a multi-state project for the development of drought and salinity tolerant grasses for suitable turfgrass production in the southern US (funded by USDA-NIFA Specialty Crops Research Initiative).

We work closely with producers to help find solutions and develop cultivars that meet their needs and generate profits in their businesses.

**Wipff:** Ultimately the market needs to bear the cost of innovation. Unfortunately, most professional and non-professional end-users are not willing to pay for innovation or investigate the advantages gained by purchasing improved turfgrasses. Be it a penny a square foot or a nickel a pound, far too many end users are willing to 'go cheap' and bear the consequences.

Whether seed or sod, the amount of planning, effort, installation and planting dollars, water, fertilizer, etc. required to grow and establish a square foot or a pound is virtually the same regardless of the quality of sod or seed. For both situations, the only extra cost to be incurred is the investment in quality, innovation and long term performance. ■

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### TempLine removable synthetic turf paint

TempLine water based paints are easy to apply and remove, with outstanding brightness, opacity, play durability and weather resistance in between. TempLine paint is available in three grades, depending on your need for extended durability versus short term utility and ease of removal. All three grades come ready to use in a broad range of colors formulated to dry fast and stay flexible without binding together turf fibers or infill granules. TempLine paints are valued for the brightness and durability they provide without creating heavy build-up.

**Eco Chemical, Inc.**



### Streamliner dryline marker

The Streamliner is simply the best dryline marker in the business. With its variable flow control, field testing has proven the Streamliner is the best for the quality of the chalk line while using less chalk than its competition. A heavy-duty steel frame, pneumatic tires, rugged molded plastic hopper, flexible brush agitator, accurate string-line guides, and a one-button retractable handle for easy storage set the Streamliner apart. Available in 2-, 3-, and 4-wheel models with optional Double-Play aerosol paint attachment.

**Beacon Athletics**

### App measures relative greenness

The FieldScout GreenIndex+ Turf app allows users to measure turf health via relative greenness using a smartphone camera. The app quickly and conveniently captures images from a smartphone, calculates the DGCI (Dark Green Color Index), and correlates to visual ratings. Users can customize the visual rating calculation for different species of grass and specific plots of land. Measurements can be compared to identify variability or trends in turf health across sports fields and golf courses, providing valuable data for decisions regarding fertilization and irrigation. All data is logged and geo-referenced, and can be emailed to a personal computer for further analysis.

**Spectrum Technologies**



### Hunter announces I-Core 3.0 Solar Sync

The controller now has built-in compatibility with the Hunter Solar-Sync climate sensor, allowing automatic self-adjustment for changing weather conditions. The new version of the I-Core controller features a Solar Sync dial position, and allows all sensor setup functions from the main control panel. The controller also permits a Solar Sync Delay feature, allowing the installer to specify a number of days before the controller switches to automatic adjustment mode. Version 3 I-Core controllers need only add a Solar Sync Sensor, or the increasingly popular wireless version of the sensor, to take full advantage of automated water saving technology. Each of the controller's 4 irrigation programs may be set to use the weather adjustment, or to run individually without automatic adjustment for special applications.

**Hunter Industries**



### Pro-Stripe Extreme White marking paint

Whitlam Paint offers a wide range of athletic field marking paint including Pro-Stripe Extreme White. Our exclusive formula is environmentally friendly, has higher solids and a low VOC content. It also contains Optiwhite optical brighteners for better reflectance under UV stadium lights and sunlight. Making it the brightest and most durable field paint we manufacture. Dilution rates vary up to 3:1 for better savings. Extreme White can actually stimulate root growth and development allowing grass to remain vibrant and healthy.

**Whitlam Paint Company**



### Got geese?

Do you have geese at your facility? If yes, then it's important that you know about our line of [www.geeseproblemsolved.com](http://www.geeseproblemsolved.com) products that can and will solve your geese problem. Solar powered, maintenance free, easy to install, no harm to geese or your environment. Guaranteed to work or your money back. We also provide a no cost/no obligation "Placement Survey" to assure the right product and placement. Shipping is free.

**Geese Problem Solved**



### A-Turf Titan has 12-year warranty

A-Turf Titan is the ultimate synthetic turf surfacing system, featuring the best combination of A-Turf's blended Mono & XP fiber design, creating an amazingly plush, natural looking surface with outstanding performance, durability attributes and backed by an industry-leading 12-year warranty. When installed with a resilient ShockPad (with a 25-plus-year life cycle), Titan has the industry's best safety rating, resulting in less severe and fewer concussions from surface impact, throughout the system's life. Featuring optimal footing, true ball roll and ideal shock absorption, A-Turf Titan can be engineered for optimal play of a specific sport or multiple sports played on one field.

**A-Turf**

### New Smithco Super Liner

The new SMITHCO SUPER LINER offers precision lining, ease-of-operation and superior agitation and features front- and side-mounted marking boxes for straight or circular lining and a 16 hp Vanguard engine. Hypro-diaphragm pump provides pressure ranging from 0 to 150 PSI. Easy operation hydraulic wheel motors for smooth transitions for starting and stopping and hand control for constant speed.

**Smithco**



## Sports field assessments

Evaluate field conditions. Demonstrate fields meet industry standards. Be Proactive. Use Turf Diagnostics for your sports turf testing. We specialize in site investigations of synthetic turf fields. Testing includes Gmax field hardness, turf and infill depths measurements, and seam and inlay observations. We also perform laboratory analyses of base stone used in field construction to help ensure stability and drainage. Our accredited laboratory is the heart of our natural turf testing capabilities. We perform soil drainage assessments, compaction evaluations, rootzone mix design, and baseball/softball skin testing. All testing is performed to current ASTM standards.

**Turf Diagnostics**

## Shear Strength Tester

Turf-Tec International introduces the new Turf-Tec Shear Strength Tester/shear vane apparatus. This is a specially designed tool to test the stability of natural grass athletic field turfgrass root systems. In addition, the Turf-Tec Shear Strength Tester can also test the types and depth of cleats that will perform best in your particular turfgrass root system and environment. Knowing the shear strength and correct cleats to play in will not only insure proper footing during play and may also create a safer playing environment for athletes.

**Turf-Tec International**

## All seasons Ultraplex 4-0-3 +2% Fe

Ultraplex 4-0-3 +2% Fe & micros is a sophisticated combination product containing Grigg Brothers exclusive Elicitor Technology and is designed for use in all seasons. Ultraplex now conveniently includes the following six components: effective natural biostimulants, amino and organic acids; sea plant extract; water buffering agent; macro nutrients (N & K); fully organic chelated micronutrient package including Iron (Fe), Magnesium (Mg), Manganese (Mn), Zinc (Zn), Copper (Cu), and Boron (B); natural, non-ionic and organic surfactant for improved leaf coverage and absorption. Many years of research data highlight the many uses and value of Ultraplex®.

**Grigg Brothers**

## NewRider 1700 HP

The NewRider 1700 is the economical ride-on high pressure airless striping machine for marking athletic fields. The NewRider 1700 is designed to quickly spray straighter, brighter looking lines and the 25-gallon paint tank will stripe numerous fields without having to be refilled. Additionally, the fully adjustable spray pump saves money by spraying just the turf and not the dirt with any paint. The on-board purge tank eliminates clogging of spray tips and makes clean-up a snap. This model features a hydrostatic drive and a 10.5 hp OHC engine with electric start, and removable gun with 25' hose for stencils.

**Newstripe, Inc.**

## Revolution soil surfactant

Revolution is a unique soil surfactant technology that is scientifically proven to balance air and water in the rootzone. Revolution's patented formulation allows water to move in a thin continuous film through the soil profile, perfectly balancing air-to-water ratios and increasing the performance of turf under stress. By maximizing the growing environment, Revolution allows your turf to function more efficiently and perform at consistently higher levels. Users often report significant reductions in costs related to irrigation and other expensive inputs. Revolution reduces the impacts of daily stresses on turf health and promotes faster recovery when stresses do occur.

**Aquatrols**

## EVERGREEN turf blankets keep practice fields 'Game Shape'

EVERGREEN Radiant turf blankets from Covermaster Inc. have protected the length of the field between the hash marks of the San Diego Chargers' practice fields since 2011 with great success. So much so, that they ordered additional blankets to cover both their natural turf fields on an alternating schedule. While one field is covered, the other is used for practice. That way both fields will remain very playable and allows practice to continue on good quality fields well into the playoffs. Additionally, the Chargers rely on Covermaster's TARPmate rollers and the unique TARP MACHINE for easy handling of the covers with a limited crew.

**COVERMASTER Inc.**

## Pro Mound packing clay

Fortify your mound and batters' boxes with Pro Mound packing clay. Pro Mound alleviates common wear problems by forming a solid subsurface under the mound and batter's boxes, keeping them resilient and easy to manage, season after season. Made from a unique blue gumbo clay, Pro Mound is highly durable and remains firmly intact while reducing maintenance and providing solid footing for athletes. The packing clay allows pitchers and batters to "dig in" and establish footing without leaving large holes. Pro Mound is easy to install and requires only a shovel, rake, tamp and water. Approximately forty 50lb. bags (1 pallet) of Pro Mound are needed to resurface and maintain the mound, batters' and catcher's boxes.

**Pro's Choice**

## Water removing machine

The BowDry is a water removing machine that can remove water from and sport field as well as indoor playing surfaces, tennis courts and/or pool decks. The thick foam roller absorbs water and then it is pressed off and sheeted into a 16-gallon holding tank at the rear of the machine. The holding tank and rear of the machine is supported by four large wheels so, even full, the BowDry never loses its outstanding maneuverability. The BowDry removes the water from any surface and transports it to the drain. BowDry is fast, quiet and efficient.

**Seago International, Inc.**





## New Jacobsen TurfCat out-front mower

In 2014, Jacobsen will update its legendary TurfCat out-front mower. The new mower will feature a Tier IV final Kubota engine, foldable ROPS, and less maintenance thanks to new hydraulic deck drives (gone are the belt and pulley drives). The TurfCat is popular with sports field managers because it's the only mower that offers a 60" flail deck, which discharges grass and debris down into the turf, significantly reducing the danger of thrown projectiles and providing a more attractive after-cut appearance. In addition to the fine-cut flail, the TurfCat offers five other deck configurations, including 60-inch, 63-inch and 72-inch hydraulic-drive rotary decks. Other attachments include a brush, plow, snow blower and debris blower.

**Jacobsen**



## Athletic field materials from Game Time Sports Systems

It Ain't Just Dirt" ... Louisville Slugger/Game Time Sports Systems offers quality athletic field materials that help create a uniform appearance and enhance the playability on all fields. These products are all safe for the environment. From the best quality field conditioners, to the right tools, Game Time can provide you with all the resources to make your fields the field of dreams. Game Time Sports Systems offers a full line of products.

**Game Time Sports Systems**



## Toro Sand Pro 2040Z infield groomer

The new Toro Sand Pro 2040Z is the industry's first zero-turn infield groomer. With a unique design that enhances maneuverability and productivity, the SP2040Z is powered by a 12.2 hp Kawasaki gas engine, and is outfitted with a specially designed nail drag/flex groomer attachment. The nimble SP2040Z will save you valuable time in your workday, improving infield surface playability and consistency.

**The Toro Company**



## New Pro League Champion Brown infield conditioner

New Pro League Champion Brown, a superior infield conditioner with a rich brown color, joins Natural, Red, and Heritage Red in the Pro League line up. Champion Brown, like the other colored Pro League conditioners, features an improved coloring process and a color-fast dye for long-lasting field aesthetics. The patented Pro League particle size ensures the ultimate fielding and sliding surface to keep skinned infields safe and playable. Pro League absorbs its weight in water to prevent puddles on the infield and provide sure footing. That absorbed moisture will later release to keep the infield from becoming hard and cracked.

**Profile Products**



## Double-sided home plate

Professional size and quality home plate weighing 40 lbs. and made of 3" of solid rubber. Its double-sided design allows for an extended life of the product which reduces equipment and labor costs. New 2013 product, currently being tested with various professional baseball teams and universities. Introductory price \$225

**Bulldog Field Equipment Booth**



## Aerate, topdress, amend in one pass

DryJect/Maximus are the only machines in the world that aerate, topdress, and amend in one pass. DryJect is a revolutionary service which, when added to your maintenance program, can reduce the need for core aeration and greatly amplify the benefits of sand amendments by distributing them into the ground more completely. DryJect/Maximus high-pressure, water-based injection system blasts aeration holes through the rootzone to fracture the soil, while its patented vacuum technology simultaneously fills holes with amendment. Relieve compaction, increase water filtration, reach the root zone with oxygen and amend your soil all at the same time, leaving the surface smooth and playable.

**DryJect Inc.**



## Harper TV30 self propelled sweeper/vacuum

Equipped with a 44HP Kubota turbo charged diesel engine & a 3.25 cubic yard hopper, the TV30 offers unmatched performance and maneuverability, making for quick and efficient cleanup. The patented dust control, re-circulating air system makes the operation of the unit clean and quiet as well as causing minimal disturbance to bystanders and the operator. A variety of attachments make the TV30 effective on many types of surfaces; turf, artificial, hard surface, while picking up most any type of debris; clippings, leaves, goose droppings, litter, or aeration cores. The hopper lifts to a height of 6ft 3in to dump directly into a cart or waste dumpster, eliminating the need to handle the material twice.

**Harper Industries**



## Vipol Matrix Mesh by Aer-Flo, Inc.

Just over 7 years ago, Aer-Flo, Inc. introduced Vipol Matrix Mesh to the sports turf industry. Our BP Zone Turf and Bench Zone Sideline Turf Protectors, as well as Tuffy Windscreens are made with our exclusive Vipol Matrix Mesh. Vipol is the strongest, longest lasting mesh in the industry! Found at virtually all levels of turf management, NCAA baseball and football (to include all football and/or baseball teams with natural fields in the SEC), 15 NFL fields and numerous Major and Minor League Baseball fields. We have over 21 colors to choose from. Custom sizes and shapes available. Add Chroma-Bond imprinting for that "home field" touch!

**Aer-Flo, Inc.**



## Fastest Verti-Drains yet

The Redexim Verti-Drain 2220 and 2216 (also called the Bullet) are the fastest Verti-Drains yet. The Bullet gives you the ability to aerate both fast and deep, penetrating 9 inches into the soil at speeds up to 3.5 mph. With the hydraulic option on the Bullet depth adjustments can be made easily from the tractor chair by adjusting the front and rear rollers. Additionally the three point hitch on the Bullet is offset which makes the machine more efficient by reducing the chance of tracking over previous passes. The Bullet is a tough and fast Verti-Drain that is setting a new standard in the aeration industry.

**Redexim North America**

Continued on page 45



# Membership Application

## SportsTurf MANAGERS ASSOCIATION

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Fax to: (785) 843-2977

Or mail with payment to:  
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Name	Title	
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Address		
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Signature		
Direct Supervisor Name		

### New Members\*

As a new members, you receive a FREE conference registration, value \$375, to be used within 3 years! Just indicate your status on the conference registration form.

Did someone refer you to STMA? We would like to thank them, and reward them with an STMA \$100 voucher.

Person who referred you:

\_\_\_\_\_

Facility name:

\_\_\_\_\_

\*Not been an STMA national member since 2000. New student and affiliate memberships do not qualify for the free conference registration. However, all members are eligible to receive the \$100 voucher for referring a new qualifying member.

### Membership Category:

- Sports Turf Manager \$110  
 Sports Turf Manager Associate\* (Additional member(s) from the same facility) \$75

Please select the primary facility type where you are employed:

- Professional Sports  Higher Education  Schools K-12  Parks and Recreation

- Academic \$95  
 Student (verification of enrollment) \$25  
 Commercial \$295  
 Commercial Associate\* (Additional member(s) from the same commercial company) \$75

- Affiliate (Person who is indirectly or on a part-time basis, involved in the maintenance/management of sports fields) \$50  
 Retired \$50

- Chapter Dues (contact headquarters for amount)  
Chapter name) \_\_\_\_\_ \$ \_\_\_\_\_  
 Contribution To SAFE Foundation (research, education and scholarship): \$ \_\_\_\_\_

**Total Amount Enclosed:** \$ \_\_\_\_\_

### Payment Method:

- Check  Money Order  Purchase Order #: \_\_\_\_\_

Credit Card:  Mastercard  Visa  American Express  Discover

Name on Card

Card #: \_\_\_\_\_ Exp. Date: \_\_\_\_\_

Signature: \_\_\_\_\_

\*There must already be a national sports turf member from your facility or commercial member from your company before you may sign up in the Associate category.

Phone: 800-323-3875

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# STMA Announces its 2014 Slate of Candidates, Bylaws Amendment

**THE STMA NOMINATING COMMITTEE** has announced the association's Slate of Candidates for the 2014 Board of Directors election, which they will officially present to the membership in late November. In addition to voting for the Board candidates, the membership will also be asked to vote on a Bylaws change that will further clarify the membership category of a Sports Turf Manager.

The Slate of Candidates includes:

## Officers

Immediate Past President, James Michael Goatley Jr., Ph.D., Virginia Tech, Blacksburg, VA

President, David Pinsonneault, CSFM, CPRP, Town of Lexington, Lexington, MA

President-Elect, Allen Johnson, CSFM, Green Bay Packers, Green Bay, WI

Commercial VP, James Graff, Graff's Turf Farms, Inc., Ft. Morgan, CO

Secretary/Treasurer Mike Tarantino, CSFM, Poway Unified School District, Poway, CA  
or, Jeff Salmond, CSFM, University of Oklahoma, Norman, OK

## Directors

\*Professional Facilities, Phil McQuade, Dick's Sporting Goods Park, Commerce City, CO

Higher Education, Tim Van Loo, CSFM, Iowa State University, Ames, IA or, David Schlotthauer, Brigham Young University, Provo, UT

\*Schools K-12, Andrew Gossel, Covenant Christian High School, Indianapolis, IN

Academic, Jeffrey Fowler, Penn State Cooperative Extension, Franklin, PA or, Brad Fresenburg, Ph.D., University of Missouri, Columbia, MO

Parks and Recreation, Sarah Martin, CSFM, City of Phoenix, Phoenix, AZ or, Brian Winka, CSFM, City of Chesterfield, Chesterfield, MO

Commercial Representative, vacant due to James Graff being slated for VP Commercial; (to be appointed by the President, per Bylaws)

At-Large (Elected), Brad Jakubowski, Doane College, Lincoln, NE or, Kevin Mercer, CSFM, Vassar College, Poughkeepsie, NY

\*in second year of 2-year term

The President also has one additional appointment to make, the Appointed At-Large position. Both the Appointed and the Elected At-Large positions are 1-year terms, as are the Officer Positions. Director positions are 2-year terms.

Go to STMA.org to read the bios of the candidates. Ballots will be sent electronically in late November.

Members of the Nominating Committee include: Chair, Immediate Past President Troy Smith, CSFM, Mike Andresen, CSFM, Chris Calcaterra, M. Ed., CSFM, CPRP, Darian Daily, Dale Getz, CSFM, CSE, Jody Gill, CSFM, Abby McNeal, CSFM, Andrew McNitt, Ph.D., Mary Owen, Don Savard, CSFM, Mike Trigg, CSFM, and Lynda Wightman.

## Bylaws Amendment

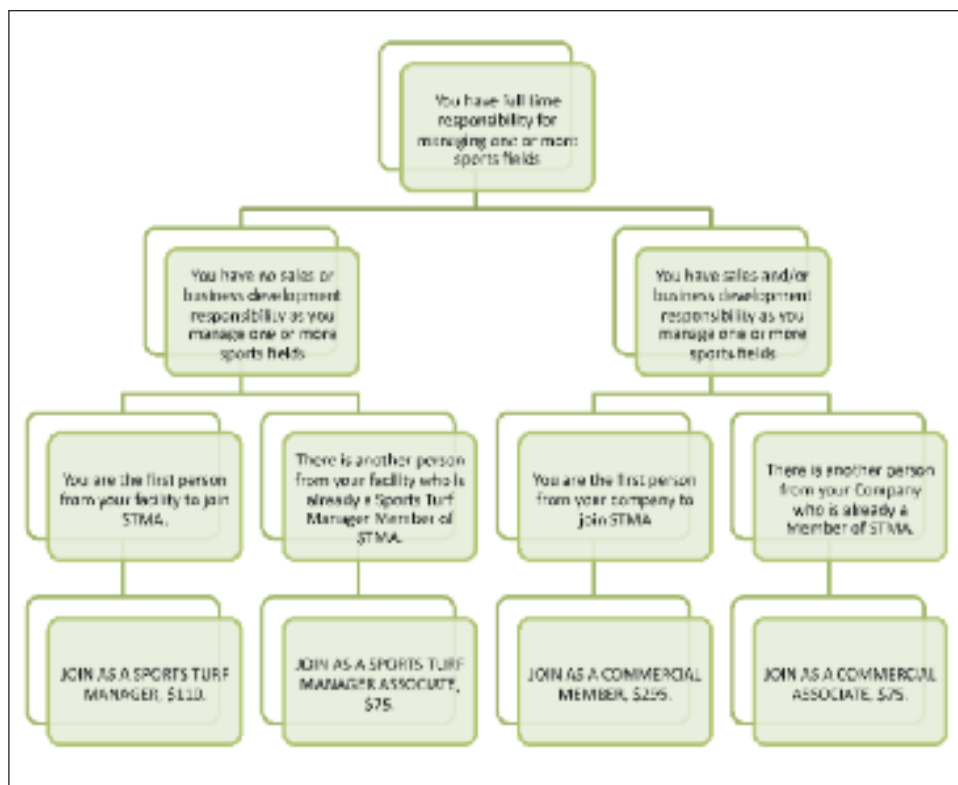
Early this year, the Bylaws Committee was asked to review membership categories 1 - Sports Turf Managers and 3 - Commercial, to be certain that they each clearly define who is eligible to be classified in each. After careful review, the Committee identified situations where there are gray areas in the current language. They presented to the Board at its summer meeting their recommendations on how to clarify the Sports Turf Manager category (1), which the Board supported. The Board subsequently took action on the recommendation at its fall Board meeting and is recommending the amendment noted below be made to the Category I description (addition is noted in BOLD). This amendment will be included with the Election ballot in November.

**PROPOSED:** 3.3.1 Category 1 - Sports Turf Manager: Person with primary responsibility of employment in the management/maintenance of sports field(s) and has no responsibility to sell or promote services and/or products, upon payment of dues and being accepted for membership, may become an active voting member in STMA and is eligible to hold elective office.

**CURRENT:** 3.3.1 Category I – Sports Turf Manager: Person with primary responsibility of employment in the management/maintenance of sports field(s) upon payment of dues and being accepted for membership, may become an active voting member in STMA and is eligible to hold elective office.

If approved, the amendment will be officially adopted on January 23, 2014, during the STMA annual meeting.

Members of the Bylaws Committee include: Chair Mike Trigg, CSFM, Chris Calcaterra, M.Ed., CSFM, CPRP, Jesse Driver, CSFM, Jody Gill, CSFM, Mary Owen, Troy Smith, CSFM, Scott Phippen, and Jay Warnick, CSFM.



◀ **THE BYLAWS COMMITTEE** developed a decision making tree to help membership determine the appropriate membership category.

# SAFE's new initiative for 2014

## THE FOUNDATION FOR SAFER ATHLETIC FIELDS FOR EVERYONE

(SAFE Foundation) seeks your support for a new initiative. In 2014, SAFE's focus will be to begin a crucial project of community education. This education will be provided to parents, coaches, players and volunteers, and it will teach them how to improve the safety of sports fields. This initiative kicks off in January 2014 in San Antonio. From there, it will expand throughout the US, focusing on the 33 geographic regions where the STMA has its local affiliated chapters. The training is being developed by industry experts, and your donation will help to insure a comprehensive train-the-trainer series as this program expands nationally.

STMA members collaboration and involvement is extremely important to help SAFE to continue to carry out its mission, which is to *enrich communities through championing safe, sustainable sports and recreation fields for all athletes.*

Through this new initiative, SAFE will actively contribute to the growth and enjoyment of outdoor sports activities, improve community health through physical activity and healthier living, and most importantly help to insure the safety of athletes on the playing field.

Please visit SAFE's new website, [SafeFields.org](http://SafeFields.org), to learn more about this program. Your donation of as little as \$15 can help us protect young athletes from injury.

## SAFE Board of Trustees:

**Cathy Bradley**, SAFE Chairman of the Board and Executive Director of the Baseball Tomorrow Fund

**Jon Butler**, Executive Director, Pop Warner Little Scholars

**Ken Curry**, Vice President, Covermaster, Inc.

**Kim Heck**, Executive Director and CEO, Sports Turf Managers Association

**David B. Houseknecht**, Sr. VP of Administration/CFO, Little League International

**Allen Johnson**, CSFM, SAFE Vice-Chairman and Fields Manager for the Green Bay Packers

**Debra Kneeshaw**, Lead Park Techni-

cian, City of Portland Parks & Recreation

**Gil Landry, Jr., Ph.D.**, Retired Professor/Turfgrass Management, University of Georgia-Griffin Campus

**Chad Price**, CSFM, CFB, President, Carolina Green Corp.

**Doug Schattinger**, SAFE Treasurer and President of Pioneer Manufacturing

**Paula Sliefert**, Sr. Marketing Manager, The Toro Company

**Jay Warnick**, CSFM, Sports Turf Manager, The Kansas City Chiefs

**Steve Wightman**, SAFE Secretary and retired Sports Turf Manager

## STMA Affiliated Chapters Contact Information

**Sports Turf Managers Association of Arizona:** [www.azstma.org](http://www.azstma.org)

**Colorado Sports Turf Managers Association:** [www.cstma.org](http://www.cstma.org)

**Florida #1 Chapter (South):** 305-235-5101 (Bruce Bates) or Tom Curran CTomSell@aol.com

**Florida #2 Chapter (North):** 850-580-4026, John Mascaro, [john@turf-tec.com](mailto:john@turf-tec.com)

**Florida #3 Chapter (Central):** 407-518-2347, Scott Grace, [scott@sundome.org](mailto:scott@sundome.org)

**Gateway Chapter Sports Turf Managers Association:** [www.gatewaystma.org](http://www.gatewaystma.org)

**Georgia Sports Turf Managers Association:** [www.gstma.org](http://www.gstma.org)

**Greater L.A. Basin Chapter of the Sports Turf Managers Association:** [www.stmalabasin.com](http://www.stmalabasin.com)

**Illinois Chapter STMA:** [www.ILSTMA.org](http://www.ILSTMA.org)

**Intermountain Chapter of the Sports Turf Managers Association:** <http://imstma.blogspot.com/>

**Indiana - FORMING** - Contact Clayton Dame, [Claytondame@hotmail.com](mailto:Claytondame@hotmail.com) or Brian Bornino, [bornino@purdue.edu](mailto:bornino@purdue.edu) or Contact Joey Stevenson, [jstevenson@indyindians.com](mailto:jstevenson@indyindians.com)

**Iowa Sports Turf Managers Association:** [www.iowaturfgrass.org](http://www.iowaturfgrass.org)

**Kentucky Sports Turf Managers Association:** [www.kystma.org](http://www.kystma.org)

**Keystone Athletic Field Managers Org. (KAFMO/STMA):** [www.kafmo.org](http://www.kafmo.org)

**Michigan Sports Turf Managers Association (MiSTMA):** [www.mistma.org](http://www.mistma.org)

**Minnesota Park and Sports Turf Managers Association:** [www.mpstma.org](http://www.mpstma.org)

**MO-KAN Sports Turf Managers Association:** [www.mokanstma.com](http://www.mokanstma.com)

**Nebraska Sports Turf Managers Association:** [sphillips4@unlnotes.unl.edu](mailto:sphillips4@unlnotes.unl.edu)

**New England STMA (NESTMA):** [www.nestma.org](http://www.nestma.org)

**Sports Field Managers Association of New Jersey:** [www.sfmanj.org](http://www.sfmanj.org)

**Sports Turf Managers of New York:** [www.stmony.org](http://www.stmony.org)

**North Carolina Chapter of STMA:** [www.ncsportsturf.org](http://www.ncsportsturf.org)

**Northern California STMA:** [www.norcalstma.org](http://www.norcalstma.org)

**Ohio Sports Turf Managers Association (OSTMA):** [www.ostma.org](http://www.ostma.org)

**Oklahoma Chapter STMA:** 405-744-5729; Contact: Dr. Justin Moss [okstma@gmail.com](mailto:okstma@gmail.com)

**Oregon STMA Chapter:** [www.oregonsportsturfmanagers.org](http://www.oregonsportsturfmanagers.org) [oregonstma@gmail.com](mailto:oregonstma@gmail.com)

**Ozarks STMA:** [www.ozarksstma.org](http://www.ozarksstma.org)

**Pacific Northwest Sports Turf Managers Association:** [www.pnwstma.org](http://www.pnwstma.org)

**Southern California Chapter:** [www.socalstma.com](http://www.socalstma.com)

**South Carolina Chapter of STMA:** [www.sc-stma.org](http://www.sc-stma.org)

**Tennessee Valley Sports Turf Managers Association (TVSTMA):** [www.tvstma.com](http://www.tvstma.com)

**Texas Sports Turf Managers Association:** [www.txstma.org](http://www.txstma.org)

**Virginia Sports Turf Managers Association:** [www.vstma.org](http://www.vstma.org)

**Wisconsin Sports Turf Managers Association:** [www.wstma.org](http://www.wstma.org)

## Chapter Sponsors





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Reduces 95% of the maintenance needed in these high-wear areas, while providing the safety and feel of properly maintained clay.

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# Overseeding options

*The price of perennial ryegrass seed seems high this year, should I overseed this fall with something else? With our warmer winters the past few years, is overseeding even necessary if the field will not get heavy use until spring?*

*North Carolina*

At the end of each summer the North Carolina STMA has a meeting and the suggested topics always include “overseeding.” This year was no different. Overseeding is one of those annual rituals that many turf managers growing bermudagrass go through each fall. Some love it, but most do not. And nobody likes the added expense. With perennial ryegrass prices up 20 to 35% this year, turf managers are again wondering if they could do something different.

In a climate like North Carolina’s, a turf manager should expect their bermudagrass being dormant by late-November through early-March most years. I have seen green, actively growing bermudagrass the first week in March in central North Carolina, but generally I would not expect it to be fully out of dormancy until at least April. So, spring use of a bermudagrass field most often includes time on a dormant field.

Bermudagrass will suffer damage from too much play under harsh winters, especially during extended wet periods. Normally, overseeding a field can protect the bermudagrass turf and help maintain the field’s integrity by providing a wearable playing surface. Recent studies at University of Tennessee quantified a 12 to 56% increase in turf coverage after 20 events when a bermudagrass field was overseeded versus not overseeded.

Despite promising research results, there is still no guarantee that overseeding will prevent damage to the field surface. Events played during severe cold and wet conditions can still easily wear through over-

seeded turf and damage to bermudagrass crowns, stolons, and rhizomes.

Then there is the issue of overseeding competing with the bermudagrass in the spring. Perennial ryegrass can dramatically slow down green-up of bermudagrass. And with a cool spring many of the ryegrass plants may survive into summer, leaving clumpy ryegrass that result in poor uniformity (aka, ankle breakers) for field users. This has led to the popularity of chemical removal of perennial ryegrass stands, most often with an herbicide in the sulfonylurea family.

While chemical removal does have some downsides (primarily cost and determining the best time to spray), it does offer a great alternative to just taking a chance and hoping for a good natural transition. Most field managers have experienced at least one bad natural transition and would prefer to not have another.

Considering these issues, it is no wonder that turf managers seek alternative grasses for overseeding. The major cool-season grasses that have been mentioned as potential candidates include: annual ryegrass, roughstalk bluegrass, and tall fescue. While an extensive justification why someone would not want to use these could be written, in the end the only grass among these three that has seen appreciable use as an overseeding grass on tall-mown bermudagrass is annual ryegrass.

Annual ryegrass has enjoyed a rich history. There was a time that it was the go-to grass for all overseeding needs—even getting widespread use on golf greens. But new perennial ryegrass cultivars provided better color, more controlled growth, better density, and better tolerance to stresses resulted in its widespread acceptance. With these improved qualities, the use of annual ryegrass for overseeding dropped significantly.

Plant breeders responded with considerable development efforts towards produce better quality annual ryegrasses as well as intermediate ryegrasses. I’ve tested some of these grasses and they certainly have much better quality than the older annual ryegrass cultivars. In fact, many have early-season quality that is similar to good perennial ryegrasses. These annual and intermediate types also have the benefit of quicker transitioning. Some noted downsides have been these new grasses may cost as much as a perennial ryegrass, often have poor late-spring growth habits, and the sulfonylurea herbicides are not nearly as effective at removing them compared to perennial ryegrasses. Look for the gap between these ryegrass types to continue narrowing.

The new trend the last few years is to forego overseeding and just “paint” the turfgrass green. This can provide a nice color but offers only marginal improvement in wear tolerance (via encouraging growth later in the fall and earlier in the spring). This can be a great alternative if heavy traffic is not an issue, but it is certainly not a good option for every situation. With a mild winter and good spring growing conditions, a turf manager that painted rather than overseeding can really come out ahead. But too much traffic without any overseeding protection can result in field failure.

There are limited overseeding grass alternatives to perennial ryegrass. For high-use field for spring sports not overseeding is a risky option. As a turf manager you will have to base your overseeding decision on the past while considering the implications if things do not go as planned. If it were only a money decision, it would be easy. But the health of the existing turfgrass and the playability of the field are also part of the mix. ■

**BY DR. GRADY MILLER**

Professor, North Carolina State University

## Questions?

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