

THE OFFICIAL PUBLICATION OF THE **SPORTS TURF MANAGERS ASSOCIATION**

JULY 2018

SportsTurf

SPORTS FIELD AND FACILITIES MANAGEMENT / www.sportsturfonline.com

New logo, same result **Georgia Tech wins another FOY**

See
pg 42



ALSO INSIDE

- » Keeping grass between the hashes through the season
- » PSU, UT centers put turf to the test
- » Management practices and surface hardness
- » Let's hear it for STMA Chapter officers!
- » Painting the turf in Chapel Hill

SAFE?

A close-up action shot of a baseball player in a red uniform sliding into a base. The player is wearing a red helmet and has a determined expression. A cloud of dirt is kicked up around the base. In the foreground, a catcher's black glove is open, holding a baseball. The background is a blurred green field.

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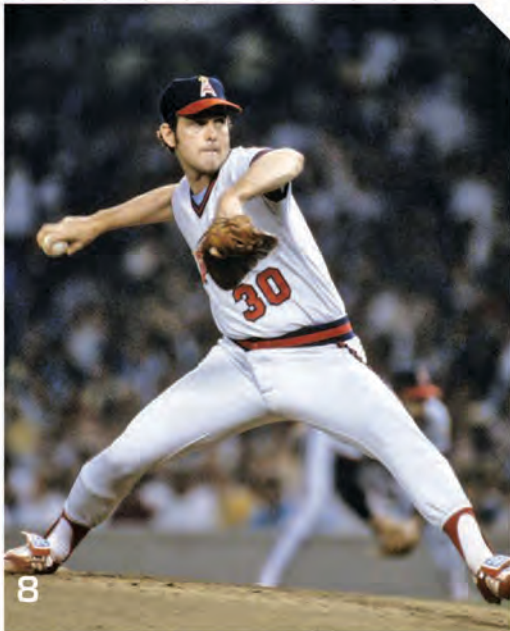


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ON THE COVER

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On the cover: After Major League Soccer began playing on his football field in March, Georgia Tech director of athletic grounds, Chris May, and his crew worked 114 straight days to make sure the surface at historic Grant Field was safe.

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NEW

FROM THE SIDELINES

Who's using your chapter's logo?



Eric Schroder / Editorial Director / Eschroder@epgmediallc.com / 763-383-4458

BRUCE SUDDETH IS THE LANDSCAPE DIRECTOR for the University of South Carolina Upstate in Spartanburg, and also serves as secretary of the state's STMA chapter. He has been an officer since the chapter's inception in 2004. Part of our email exchange for the feature article on STMA Chapter officers (p. 30) included Bruce's mentioning his chapter's logo. I asked him why the chapter wanted a logo (see it on p. 30).

"We felt we needed an organization identity back in 2005 and had a rough-looking palm tree as part of our logo. One of our [long-time] members, Patrick Jonas, CSFM, created a better logo that we thought looked pretty darn good. Well come to pass we have [entities] such as where I work, as well as municipalities, parks and recreation, along with our sponsors and commercial members, all using the logo to promote being a part of the SCSTMA, a professional organization.

"Well it grew more than we thought and it may have been used in places that it shouldn't have or maybe just not how the chapter officers would have done things," Bruce emailed.

"So this past year we decided to have the logo trademarked (or service marked in South Carolina because it says we provide a service with education) as the first line of business. This allows us to have recourse if the logo is used by someone in a way not serving the SCSTMA or its best interests."

He continued: "We want our members and sponsors to use our logo because it is a great way to publicize the chapter and hopefully attract more members or keep those interested so we can promote our education programs. It also gives us a great opportunity to have handouts such as pens, hats, shirts, and even lip balm in an effort to get our brand in front of potential members.

"We now have guidelines for using our logo that includes an approval process. Hopefully we can screen where it is to be used and how. We will see how it works out."

Bruce encountered some headwinds during this process. "The state logo approval process only took about a month from start to finish. But coming up with our logo use guidelines was a different story. Hashing it out at our board meeting in February, the real work began. Do you know how difficult it is to find information on logo use and guidelines that anyone wants to share with you? You would think it's some government secret.

"I was able to find a few sources of information and documents that were similar to what we were after to help the process along. The new guideline isn't perfect but is a starting point and we can always refine and revise."

Advice for other chapters? "I would strongly recommend chapters consider this process if they have had similar circumstances. I would task the process to 2 or 3 people that can work together and complete the task then get approval from the rest of the officers and/or board. This is one of those things that if too many people have their fingers in the pie it gets contaminated and never is complete. We didn't go through any attorneys and worked with our state on obtaining the service mark, and all that business was completed online or by USPS. It would be a good idea to proceed with at least the guideline use manual." **/ST/**

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PRESIDENT'S MESSAGE

See the beauty of what you do



Sarah K. Martin / CSFM / sarah.martin@phoenix.gov / @neongrapefruit

SUMMER IS HERE with a vengeance; at least it is in Phoenix! As the temperatures and humidity continue to rise, I am reminded how important it is to take care of ourselves, not just our fields. Make sure to hydrate! Use that sunscreen! Wear long sleeves and wide brimmed hats!

For many of us, our fields are also being used to the max. Turf managers are faced with high levels of use, weather concerns (that dreaded tarp!) as well as additional non-sport events that require a huge amount of focus, willpower and tenacity to push through. This is a time when all the planning that was done in the off-season comes to fruition. New techniques and practices can be vetted, and we can truly shine.

Please take a moment to notice the beauty of what we

do ... that sunrise or sunset that takes your breath away, those storm clouds that bring havoc, but are amazing to watch take shape. The simple joy that kids of all ages get from playing on your fields. For that is the ultimate goal: a safe and aesthetically pleasing place for kids and adults, amateurs and professionals, to have fun as well as learn life lessons and hone their craft.

This is a great time to take pictures and notes for Field of the Year (FOY) submittals! Show us what you are working on throughout the year that makes your fields award worthy. Although the deadline for the FOY submittals isn't until October 15, documenting your work through its busy sports season is required.

On another note, new scholarship and awards processes are being rolled out this month. An update in software will help to make this process easier and smoother for the applicants as well as the staff and volunteers reviewing them. Please keep an eye out for information on this as it rolls out!

While the summer season can be a long hard road, keep your eyes on the goal at the end of the tunnel! Use the resources that the STMA offers as you hit road bumps, and never be afraid to pick up the phone and ask for advice! **IST!**

"Believe in yourself! Have faith in your abilities! Without a humble but reasonable confidence in your own powers you cannot be successful or happy." – Norman Vincent Peale

Sarah K. Martin, CSFM



Sarah tweeted the May 9 sunrise over her shop in Arizona.



@SUPER7OSSPORTS

In 1974, Nolan Ryan throws 235 pitches while walking 10 batters and striking out 19 over 13 innings. He was immediately scheduled for season-ending elbow surgery. Just kidding, he made his next start on 3 days rest and won.



@CHARLIEFULTZ

*#bluemuda Field #1 one week after first foliar application.
#trusttheprocess*



@MYDUETRADD

@mydudeTRADD, Myrtle Beach Pelicans, tweeted June 13, "It may have taken 2.5 inches of rain yesterday with no tarp but infield moisture is PERFECT with homestand starting tomorrow. @DuraEdge is insanely good!"



@GBREEDEN

@gbreedden, University of Tennessee, "Put these markers in the ground yesterday afternoon and when we came to spray this AM the kudzu had already grown up and around it."



@LOTMOTHS (ENTOMOLOGIST FROM SOUTHWEST FRANCE)

Mowing the top lawn this afternoon and came across Clathrus archeri, the Devil's Fingers or Octopus Stinkhorn. I know 4 legs not 8 but evidently it can have up to 8 hence the vernacular name and it stinks too. This is only the second I have seen here in 18 years.



@CWS_GROUNDSCREW

Ladies and Gentlemen, your 2018 College World Series field pattern! It may look like a basic checkerboard, but if you take a closer look, you might see it a little differently.



@AGGIETURF

Growers getting a closer look at #DALZ1308, an attractive greens-type zoysia that exhibits excellent winter color retention.



@JODYGILLTURF, OVERLAND PARK, KS

Unedited drone pic of its own shadow while landing.

University research centers put turf to the test

// By TIM NEWCOMB



Dr. Andy McNitt, left, and Dr. John Sorochan shared their views and took questions from the audience to open the general session at January's STMA Conference in Ft. Worth.

For close to a decade a pair of university research centers have put turf to the test. And as their influence continues to grow, their reach in the sports turf world extends, leading researchers, turf companies (natural and artificial) and entire sports leagues in new directions.

Since debuting in 2009, Penn State University's Sports Surface Research Center, and in 2011 the University of Tennessee's Center for Athletic Field Safety, have championed efforts to test sports surfaces, learn how turf interacts with equipment and players and support efforts to improve the durability and playability of sports turf of all kinds.

"Our overall focus and goal is safety and playability to the athlete," says Dr. Andrew McNitt, director of the PSU

center and coordinator for the university's Turfgrass Science Undergraduate Program. But from there, the center wants to also help sports turf managers improve their craft and get manufacturers and sports officials to think in new ways when it comes to designing surfaces.

South of State College, PA almost 600 miles, the University of Tennessee center, led by Dr. John Sorochan, aims to improve the quality of turf fields, no matter the budget or expertise of those maintaining it.

Along the way, both centers run multiple studies and expand focuses to encompass a variety of research, all geared toward improving sports turf, whether in the NFL's most pristine stadium or a city-owned park continually mobbed by children.

Sorochan and McNitt were both instrumental in starting their respective centers. Since landing at Tennessee in 2002 and working in turfgrass since 1992, Sorochan helped start the Tennessee center. McNitt, working with Penn State since 1984 and as faculty since 1998 has seen much change since the inception of his center. “You conceive of something out in the future and when you get there, things are different than you thought it would be,” he says.

At PSU, McNitt has recently concentrated on improving sod quality for lay-and-play fields. As field managers get less time to prepare new sod – what was once months often turns to days – McNitt wants the entire industry to understand the ramifications. The NFL (both McNitt and Sorochan work personally with differing aspects of either the NFL or the NFL Players Association when it comes to field quality) instituted a rule that all resodding must wrap 48 hours prior to game time. “Basically, field managers were getting pushed and pushed and the league decided something might not get done in time,” McNitt says. “This idea of resodding continuously as a maintenance practice is growing. Because sod isn’t on the field very long it has limited ability to change hardness.”

McNitt says his center wants to take technology to the sod farm to help them understand how to manage turf akin to finished fields, allowing for the immediate use of drop-in fields. A pair of recently published papers from the center investigated growth regulators, fertilizers schemes and sod on plastic in relation to lay-and-play. As the lay-and-play concept turns more efficient and cost effective, McNitt expects it to move more mainstream, allowing locations that did have resodding continually as an option in their budget explore the concept. “If you run the numbers,” he says, “and extend it out over 20 years, the numbers are pretty favorable.”

New for 2018, the PSU Sports Surface Research Center placed a focus on evaluating ways to measure surface hardness. With so many measures already available, McNitt says “a lot of dust in the air” muddies the world of evaluating fields for hardness, let alone how that hardness relates to concussions. “The hurdle in this process is not which tool to use, the hurdle is no one is testing their fields,” he says. “Let’s lower that hurdle and put out the cheapest reliable one to get people testing their fields and get the discussion going. We are evaluating all of the tools.”

Ongoing work at PSU includes a rolling database of fiber wear – McNitt says he wants to see new submissions to help



Dr. John Sorochan is director of the Center for Athletic Field Safety at the University of Tennessee.



Researchers at work at the University of Tennessee.

keep it current and requires that a piece be cut and submitted from a field manager, not a manufacturer – and how cleated footwear interacts with differing surfaces.

As both PSU and Tennessee study footwear relationships with turf, it allows the centers to partner with biomechanics researchers and move work inside labs.

Sorochan says the main area of interest in Knoxville features surface interactions. Beyond how cleats respond to turf, Tennessee has started investigating how a soccer ball reacts to differing surfaces. Take a look at Major League Soccer stadiums, for example; five have artificial turfs and the others a mix of warm- and cool-season grasses. “The way the ball interacts with the surfaces are different,” Sorochan says. “We want to gauge how they are doing and what can

be done.” Using high-speed video, slow-motion capture to measure ball angles, time of contact, exit speed and more, the center explores scenarios where artificial turf can play more like natural grass and how turf can create a more uniform experience.

Current research also has Tennessee exploring hybrid turf systems, such as SISGrass, that stitches artificial fibers into the root base to “act like rebar to stabilize the sand.” Seen in half a dozen World Cup fields in Russia and expected in Green Bay’s NFL field, Tennessee is testing the system with bermuda and bluegrass to look at the tolerances of the hybrid system.

While the breeding programs at Oklahoma State University and the University of Georgia have developed excellent new varieties, Sorochan says, it was the testing at Tennessee that helped push new varieties mainstream. The in-center testing showed the superior wear tolerance of new grass, resulting in a handful of NFL stadiums becoming early adopters.

With so many unique angles of study, each center relies not only on three full-time equivalent researchers, but a stable of graduate and undergrad students. Collaborations, such as with biomechanics, from within the university and across other institutions allow for continually diversifying work.

Often that diversity comes not only from researcher interest, but funding sources. When a young center, McNitt says he was chasing money and publishing papers to find research dollars, but now that the center has an established reputation, he can put a focus on improvement and not worry about every individual study opportunity. Sorochan says his center launched with a 100% focus on natural grass. But as university graduates were entering the workforce dominated by artificial surfaces, “we had to learn to understand it” and expand the scope of the center.

Funding models for both centers look similar. FieldTurf, the Pennsylvania Turfgrass Council, and the Keystone Athletic Field Managers Organization (an STMA chapter) represent Penn State’s big three donors. FieldTurf, the primary funder from the start, gifts money to the university for research with no strings attached. “We have discussions,” McNitt says about the relationship and potential studies. “They have good ideas at times and they have some bad ideas at times. They have been very generous to us and we use that (money) not just for synthetic, but it also funds a portion of our natural turf.”

AstroTurf has proven one of the biggest supporters of research at Tennessee, but has really funded more natural turf research “than anyone I know,” Sorochan says. “The goal for



Dr. Andy McNitt is director of Penn State's Sports Surface Research Center.



Penn State's Pennfoot measures rotational or translational traction.

AstroTurf is to understand the baseline of what natural grass is and get their artificial turf as close to it as possible,” he says. “That is what kicked off the start of the center.”

Additional funding comes from Carolina Green, SIS Pitches, The Motz Group, Brock International and others.

Even as research defines best practices for some of the highest-level fields in the country, Sorochan says he hopes the 99% of fields with poor budgets, little maintenance and the most use reap the greatest reward over time. With two centers now well established, Penn State and Tennessee have the expertise to set the tone in all things sports turf research, no matter the surface. **IST/**

Tim Newcomb has written about stadiums and turf for Sports Illustrated, TIME, Wired and more. Follow him on Twitter at @tdnewcomb.

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Keeping grass between the hashes through the season

Seeding

Using high seeding rates for athletic field renovation allows for faster ground coverage and provides better competition with weeds, especially crabgrass. Higher than normal seeding rates of Kentucky bluegrass applied at 3–4 lbs./1,000 ft.², and perennial ryegrass at 10–15 lbs./1,000 ft.² provide faster coverage. However, it is important to increase the fertilizer rate with these higher seeding rates. Applying seed with a drill seeder or drop spreader after hollow coring is preferred, according to an Iowa State Extension bulletin recently revised by Ryan S. Adams, lecturer and Extension specialist in turfgrass with Iowa State, and originally prepared by the legendary Dr. Dave Minner.

A goal for grass-bare areas is for seeding to occur within 24 hours of discovery. Instead of waiting to seed and re-establish the grass once or twice per year, use multiple seeding events, as much as 6–10 times during the year. There is no bad time to seed, as some seedlings die, others will survive. It is not a waste of money, but rather using seed as a building block for the future. Seed grass whenever the soil is exposed or loss of turf cover due to heavy traffic is anticipated. If there is any doubt that the field may not withstand the traffic from the next game or practice, the seeding should have happened last week.

Perennial ryegrass is often used to reseed damaged athletic fields because of its quick seed germination and establishment, as well as excellent wear tolerance. However, perennial ryegrass has poor to moderate heat tolerance. This moderate heat tolerance can cause summer “burn out” in non-irrigated fields. Instead of reseeding these areas every fall, consider adding a small percentage (less than 30%) of a low-maintenance and drought tolerant Kentucky bluegrass. Adding this small percentage of Kentucky bluegrass will reduce the likelihood of having to replace

these areas. Tall fescue is known for its ability to handle heavy traffic, hot temperatures and drought. The new, improved cultivars are finer in texture and are generally more aesthetically pleasing. With the introduction of new tall fescue cultivars, it is being considered in many low-maintenance facilities with limited access to water.

If Kentucky bluegrass and perennial ryegrass have failed, due to the lack of water, it may be time to try tall fescue. It is important to consider that while tall fescue can be used as an alternative to an adequate irrigation system; it would be a mistake on soccer fields where a smooth ball-rolling surface is desired. Tall fescue’s excellent drought and traffic tolerance, coupled with its bunch type growth, can cause a clumpy and uneven playing surface when subjected to intense traffic and insufficient water. Should clumping become a problem, overseeding

with additional tall fescue and temporary watering with a portable rain gun will be needed to regain adequate turf density and acceptable playing conditions. The key is to not discourage use of tall fescue, instead emphasis that a temporary irrigation system may be necessary regardless of species choice. Watering as little as five times during the summer may be sufficient to maintain an acceptable tall fescue athletic field.

Irrigation

Too much, too often, too shallow can all describe situations where irrigated athletic fields fail. As a general rule, turf should be allowed to slightly wilt before irrigation. At this stage of wilting, soils are well aerated because air has replaced the water that was removed from the soil pore space by the roots. Roots need water to grow, but they also need air-filled pore space. Excessively

BETWEEN THE HASHES

Advice from Tim Van Loo, CSFM, Iowa State Athletics, on keeping grass between the hashmarks throughout the season.

Seed often, usually try to time the germination (seed 10ish days before) when the plant might have a week or two to establish. We usually seed 2-3 times during the fall.

Needle tine aerify/solid tine after each game. Get the gas exchange as well as relieve compaction.

Repair all divots, fixing each one like a ball mark on a golf green. We use screwdrivers to accomplish this right after each game.

We also turbine blow all debris left after a game. This just gets all the small divots from getting into the profile and blocking new growth.

If divot is too big, we remove the area with 9-inch hex plugs from the sideline. Repair area and make sure it is safe to play on.

We continue to spoon feed nutrients throughout the season every 2 weeks. We also have a base of slow-release fertilizer on the field.

Watch moisture leading up to game times and events. Make sure it's not too dry or wet.

Stay off as much as possible on off weeks to let the grass do what it does best, grow!



Photo courtesy of West Coast Turf.

wet soils become anaerobic and can produce a distinct sulfur odor of rotten eggs. Root growth and overall plant health is poor in these anaerobic conditions. About 1-1 1/2 inches of water per week is sufficient for soil-based fields. Sand-based fields require more frequent watering than a native soil field. The best time to water is in the early morning hours, from 4 to 6 am, because of the limited moisture time on the leaf. As the sun rises, it quickly dries and reduces the humidity and free moisture surrounding the grass plant. Midday watering, as well as dusk, may result in increased diseases and a loss of water because of evaporation

Mid-season sod replacement

Joe Traficano responded to our request for the “why, when, and how” about replacing the middle of the football field, or “the gut” as Joe said some people call it. Joe is sales manager for West Coast Turf’s Arizona operations.

Why. “Typically when the middle is replaced it is due to excessive wear from several games in a row that have caused the grass to become dirt, weather event such as rain, or outside activity like concerts. All of these contribute to why some portion of the field is replaced. The lack of turf does not provide good footing, a consistent level surface and for safety of the players. Another why would be the look, everything outside the hash marks looks nice and green then you have a brown tint down the middle and it does not show well on television, especially now with the new HDTV,” Traficano wrote in an email.

When. “The sports turf manager knows based on their experience, schedule, and weather when the field will be replaced. Typically the first 3-4 games there is no issue and the weather provides good growing conditions to have the grass recover after each game, but once fall starts

and the nights are cooler, the grass tends to shut down and the density of the grass is decreased. Also a rain event during a game depending on how well it drains will dictate if it needs to be replaced or not.”

How. Sports turf managers look at their schedule and map out a tentative plan based



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The unit operates similar to a slicer shaft but requires less horse power by using a cluster of slicer blades attached to vibrating rotor. The vibrating slicer blades operate on 1 1/2" centers moving the seed down through the turf canopy and thatch resulting in great seed to soil contact with minimal damage to the playing surface. The new power seeder shaft can seed in the shallowest rooted areas without lifting or tearing the existing turf that allows the newly seeded surface area to recover faster reducing down time.

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Comparable crumb rubber topdressing sizes. Photos courtesy of Kyley Dickson, PhD.

on their experience on when to replace the field. Prior to any work being done, he/she will let the school know that this week is closed for potential work on field so there is nothing scheduled, then contact the sod grower, contractor to remove the grass, and grading company so they can be prepared for this work. This type of organization is essential due to the limited time they have to finish the project. It is not uncommon to remove the grass on Monday, put new grass in on Tuesday and play on Saturday or Sunday. That is the new norm.”

Topdressing with crumb rubber

Thanks to Kyley Dickson, PhD, for allowing us to sample from his research (with Doc Sorock!) at the University of Tennessee on the impact of crumb rubber on traffic tolerance in hybrid bermudagrass:

Topdressing is one method that field managers use to mitigate some of the negative impacts of traffic. Topdressing has been identified as a way to reduce undulation, increases water infiltration, aids in thatch decomposition, modifies topsoil, and improves surface firmness. Crumb rubber generated from recycled automotive tires can be used as a topdressing medium on athletic fields. Prior research has shown that when subjected to traffic, topdressing with crumb rubber was more effective in increasing Kentucky bluegrass cover and shear strength than topdressing with sand. Additionally, Kentucky bluegrass cover increased with crumb rubber topdressing rate.

Increased wear tolerance and decreased surface hardness and soil bulk density were

observed in ‘Tifway’ hybrid bermudagrass as well as ‘Riviera’ and ‘Quickstand’ common bermudagrass when topdressed with one inch (0.04 – 0.09 in particle size range) of crumb rubber. Similar results might be achieved using less crumb rubber of a smaller particle size, as they more fully envelope stoloniferous meristems of bermudagrass compared to larger particles. The goal of this study was to determine optimal crumb rubber particle size and topdressing depth combinations for use on hybrid bermudagrass athletic fields.

All depths of crumb rubber topdressing maintained green cover longer than non-topdressed control plots. Only 12 traffic events reduced green cover below 50% on non-topdressed control plots compared to 20 traffic events for those receiving crumb rubber at 0.5 or 0.75 in. Applying 0.25 in of crumb rubber topdressing improved 50% green cover values compared to non-topdressed control plots but less so than applications at 0.5 or 0.75 in. On Kentucky bluegrass, Rogers et al. also reported that topdressing crumb rubber to a minimum depth of 0.25 in increased turfgrass cover in response to traffic events and suggested that this response may be a result of crumb rubber particles protecting plant crowns during traffic application. The improved traffic tolerance observed herein could be due to crumb rubber protecting hybrid bermudagrass crowns by attenuating impact forces exerted during foot strike with the turf canopy. Regardless of particle size, all plots receiving crumb rubber maintained green cover longer than non-topdressed control

plots. Non-topdressed control plots were reduced to 50% green cover after 12 traffic events while those receiving crumb rubber topdressing required 19 to 21 traffic events to be reduced to 50% green cover. However, few differences due to crumb rubber particle size were observed in our study.

Crumb rubber topdressing depth impacted surface hardness after application of 25 traffic events. Surface hardness on non-topdressed control plots measured 73 Gmax compared to 52-57 Gmax for plots topdressed to a 0.5 or 0.75 in depth. A similar response was observed in our green cover data with the 0.25 in topdressing depth having a less pronounced effect on hybrid bermudagrass athletic field turf than 0.5 or 0.75 in. Regardless of crumb rubber particle size, every increase in topdressing depth resulted in a significant reduction in surface hardness, similar to responses reported by Rogers et al. on Kentucky bluegrass.

All crumb rubber treatments in this study increased traffic tolerance compared to plots not receiving crumb rubber topdressing. All crumb rubber topdressing depths increased number of traffic events to 50% green cover values more than 50% compared to non-topdressed control plots and reduced surface hardness. Crumb rubber particle size did not have any practically important differences on green cover or surface hardness. Given the responses observed in the current study, depth is a more important factor in selecting crumb rubber topdressing for hybrid bermudagrass athletic fields than particle size. **IST/**



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////////

ANSWER
ON
PAGE 33

CAN YOU IDENTIFY THIS SPORTS TURF PROBLEM?

PROBLEM:

Green rectangular area with brown surrounds in spring

TURFGRASS AREA:

PE field and some youth soccer

LOCATION:

Weston, Massachusetts

GRASS VARIETY:

Tall Fescue / Kentucky Bluegrass / Ryegrass mix



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Head-to-surface contact (photo courtesy of Bloomberg News).

Hammer time: management practices and field surface hardness

// By *CHRISSE SEGARS, PHD, ADAM THOMS, PHD, TIM VANLOO, CSFM, AND JEFF SALMOND, CSFM*

As sports field managers, you take pride in your field and want it to be not only beautiful but be safe for all involved. Athlete safety should be the number one priority of a turfgrass manager in any capacity. Injury in the form of concussions have been a concern in the past, but is gaining more and more attention on a national level from concerned parents and athletes, the media, and various research organizations.

While most concussions may happen from athlete to athlete contact much of the previous research has been on making the game safer as well as improving helmets and equipment, but surfaces are also to blame. According to the American Journal of Sports Medicine, approximately 10-15%, up to 20% at times, of concussions in American

football are caused by head-to-surface contact. Increased surface hardness results in a higher likelihood of concussions.

Recently, the NFL began requiring more action in the realm of field maintenance and documentation of field maintenance practices, which should result in a safer playing surface. Not only were they concerned with helmets, cleats, and pads and how they could better protect the players, but also they began to be concerned with field surface hardness (FSH). The NFL now requires each field manager, whether a natural or synthetic surface, to perform field surface hardness testing 72 hours before every game using a certain set of protocols.

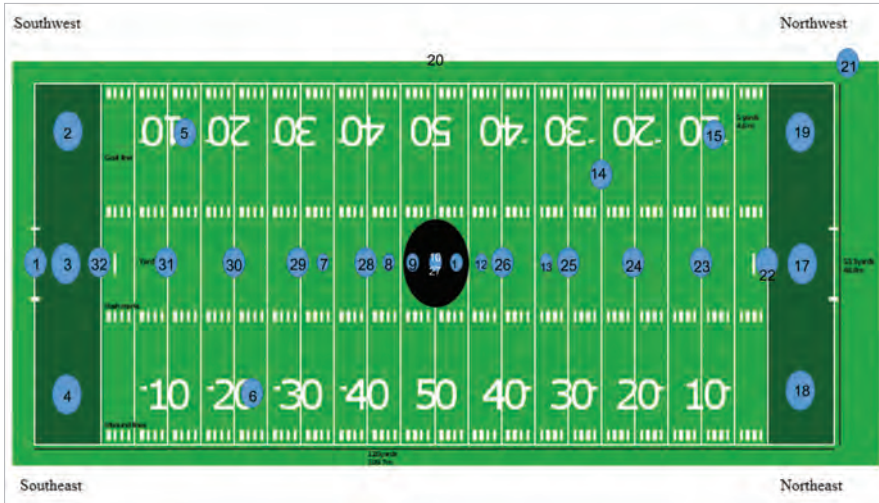
Surface hardness is tested with a Clegg Impact Tester by dropping a weight (2.5

kg hammer) from a fixed height onto the playing surface, an accelerometer in the missile will then give a value of how quickly deceleration took place. The resulting value

Athlete safety should be the number one priority of a turfgrass manager in any capacity.

Over the 2016 football season, field surface hardness was evaluated at Iowa State University and the University of Oklahoma

Whether natural or synthetic turf, field management practices directly affect field hardness



Test locations for field surface hardness and volumetric water content taken before every home football game at the University of Oklahoma and Iowa State University in 2016 (photo courtesy of Chrissie Segars).

is referred to as the Gmax. The Clegg Impact Tester must generate a value of 100 or less to pass NFL guidelines; if the level is found to be over 100, action must be taken to alleviate the surface hardness before the game is played. This could

include performing additional cultural practices and moisture management on natural surfaces and the addition of crumb rubber and proper grooming of a synthetic

surface. The NFL is the highest level of play in American football, so if they are concerned with field maintenance and resulting safety why aren't lower levels of play? This evaluation was conducted at the NCAA Division 1 level of play, which includes a high standard of maintenance similar to the NFL.

Over the 2016 football season, field surface hardness was evaluated at Iowa State University (ISU) and the University of Oklahoma (OU) to survey the impact of management practices on FSH from game to game. Both study sites have sand-based football fields with 'Rush,' 'Midnight,' 'NuGlade,' and 'Everglade' Kentucky bluegrass originally sodded in 2008 at ISU and 'Latitude 36' bermudagrass sodded in 2014 at OU. Thirty-two locations were tested on each field 24 hours before each home game was played (a total of six home games were played on both fields), with the goal of accounting for differences in



TDR probe for volumetric water content measurement (photo courtesy of FieldScout).



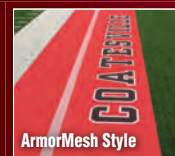
Clegg impact hardness measurement on the Oklahoma football field (photo courtesy of Jeff Salmond).

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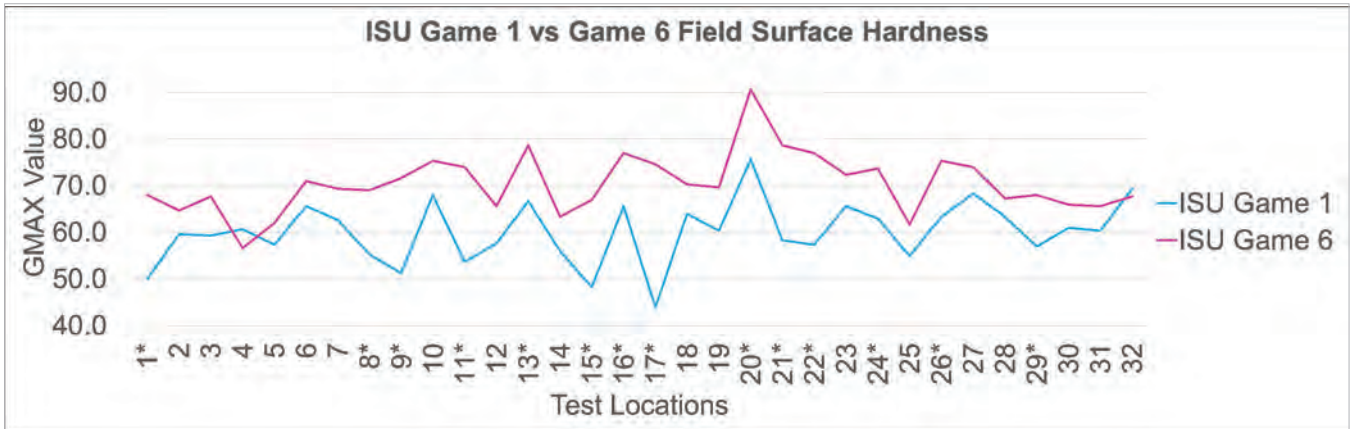
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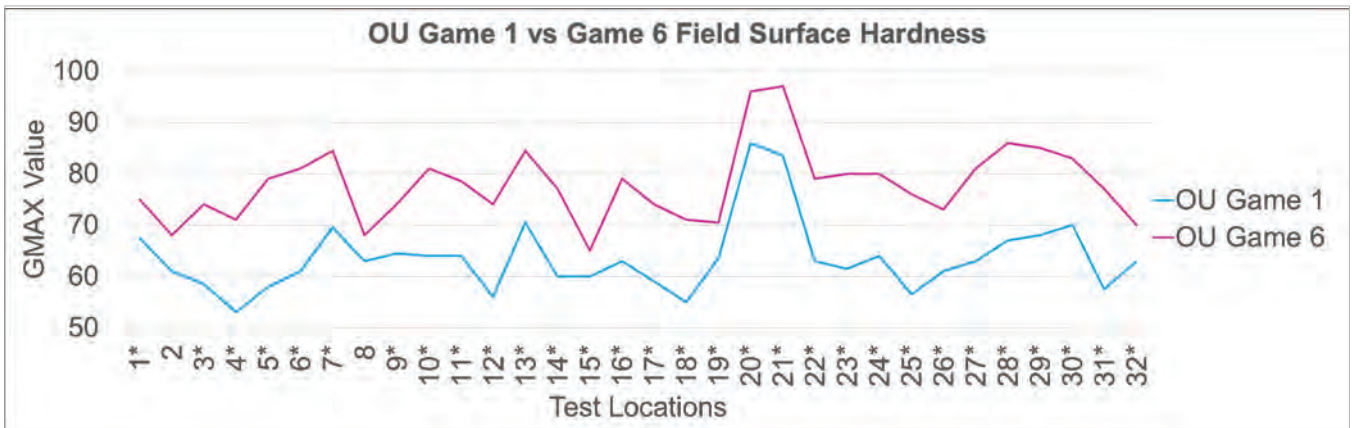
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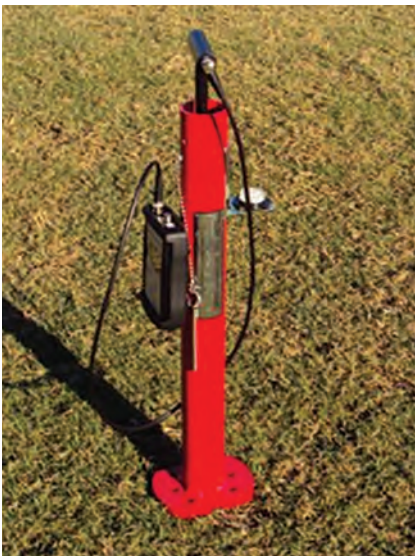
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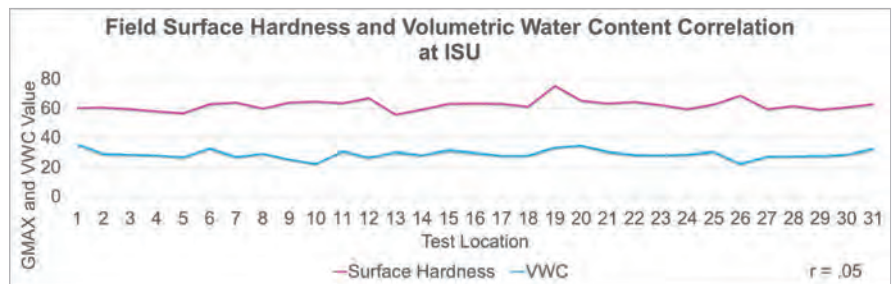
Field surface hardness of 32 test locations (each location is the average of 3 drops per location) tested 24 hours before Game 1 and Game 6 at Iowa State University in 2016. *Significant hardness increase at $p=0.05$



Field surface hardness of 32 test locations (each location is the average of 3 drops per location) tested 24 hours before Game 1 and Game 6 at the University of Oklahoma in 2016. *Significant hardness increase at $p=0.05$



2.5 kg Clegg impact tester for field surface hardness measurement (photo courtesy of Jeff Salmond).



Iowa State University six home-game average of surface hardness and volumetric water content correlation in 2016.

wear across the field and management as was found by Rogers and Waddington, 1990. Another goal was to investigate if painted areas on the field had higher surface hardness values than non-painted areas. These locations were derived from the NFL testing protocol, the locations outlined in the ASTM 1936 Standard,

and other locations being added for additional test points. Both FSH and a Field Scout TDR Probe for volumetric water content (VWC) were sampled with 3 subsamples at every location.

After data was collected, a statistical analysis was run in order to separate locations and to correlate FSH and VWC.

**WHETHER NATURAL OR SYNTHETIC TURF,
FIELD MANAGEMENT PRACTICES DIRECTLY
AFFECT FIELD HARDNESS AND, IN TURN,
RISK OF HEAD INJURY.**

Each study site analyzed separately due to significant differences between locations. At no point during the study did any test location at either University have a surface hardness value above 100. At each study site, FSH did increase over the season from Game 1 to Game 6 (Figure 6 & 7). Locations 13, 20, and 21 proved to be significantly harder than other test locations on most testing dates during this study (data not shown). These points were all locations of heavy foot traffic, which would result in higher compaction. Field surface hardness and VWC did not have a strong correlation at either location; this is most likely due to few differences between VWC throughout the evaluation period (Figure 8, data not shown for OU). More data is needed to determine if athletic field logos and repeated painting will increase the surface hardness of athletic fields. Water management, having a sand-based rootzone, along with cultural practices are important aspects of field surface hardness. Both the University of Oklahoma and Iowa State University performed solid tine aerification after each home game, which helps relieve surface compaction.

Whether natural or synthetic turf, field management practices directly affect field hardness and, in turn, risk of head injury (Serentis, 2014). A properly maintained playing surface can help reduce head and general player injury risk. Research should continue to be done in relation to FSH and VWC on all types of playing surfaces with different soil types, usage rates, and different management practices. Previous work by Rogers and Waddington, 1990, reported differences with management levels, soil types, and turf cover. Even high profile fields have increasing FSH numbers throughout the season when tested right before a game, therefore more testing is needed across all levels of play. More research is needed to determine at what surface hardness is most likely to result in a head-injury, and if that can be detected using the Clegg Impact Tester. This was strictly an evaluation and not a controlled study. The overall goal of this evaluation was to show a greater need for surface testing across all levels of play in not only football, but all other sports involving a natural or synthetic turf field. **IST/**

Chrissie Segars, PhD, is assistant professor of plant and soil science, University of Tennessee at Martin, Adam Thoms, PhD, is assistant professor and Extension turfgrass specialist at Iowa State; Tim VanLoo, CSFM, is Manager of Athletics Turf/Grounds at Iowa State; and Jeff Salmond, CSFM, is director of athletic fields at the University of Oklahoma.

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Best Management Practices on Bluemuda athletic fields

// By BRIAN WINKA, CSFM

Bluemuda is the concept of growing warm and cool season grasses together long term and year-round in the transition zone. In this article I will be discussing mixtures of bermudagrass and Kentucky bluegrass; the concept has become possible and popular due to improved Kentucky bluegrasses. These new bluegrasses have shown tremendous improvements in germination and establishment within the past decade.

Furthermore, these new bluegrasses have increased heat tolerance and disease resistance, which also make them attractive for Bluemuda turf. This concept is being used on athletic fields and fairways all across the transition zone.

Managing a mixed field can be a challenge but the reward is worth it. Early research by Dr. Gregg Munshaw at the University of Kentucky has shown improved traffic tolerance and recovery in the Bluemuda plots vs. bermudagrass-only plots. Another benefit is the color enhancement on the field. This is an advantage as improved aesthetics can go a long way to promoting safe fields, while also enhancing your reputation. By having the bluegrass with the bermuda year-round, the color is a much darker green compared to bermudagrass alone.

There is a cost savings advantage to this concept as well. By inter-seeding the bluegrass, you eliminate the need to overseed the entire playing surface every fall. The other cost savings is that there is no transition, so there is no need for a chemical application to remove the cool season turf from the bermudagrass.

A good Bluemuda athletic field management program produces an attractive and wear-resistant surface. The results from proper field construction, turfgrass selection, properly timed cultural and agronomic practices will be a superior playing surface.



All photos feature HGT Kentucky bluegrass from Barenbrug.

Maintaining an acceptable and safe playing surfaces requires properly timed cultural practices; by following these suggestions, your Bluemuda field can withstand extensive use.

MOWING. Regular mowing at the right height with properly maintained equipment cannot be over-emphasized. For the Bluemuda a mowing height of 3/4 to 1 inch is preferred with 1½ being the maximum mowing height for a quality playing surface. A consistent mowing height throughout the growing seasons will produce the best playing surfaces.

The turf should be mowed often enough so that no more than 1/3 of the leaf surface is removed at a mowing. Generally, this means the field should be cut three times a week during the summer. Higher mowing heights may not need as frequent mowing but will result in lower quality and weaker turf.

If mowing frequency is properly adjusted, clippings may be returned without harming the turf. If excessive clumping of clippings occurs, they should be dispersed or removed. Reel mowers provide the best cut for Bluemuda but with either a reel or rotary mower, the blades must be kept sharp and

Bluemuda is Kentucky bluegrass bred for transition zone

Dr. Gregg Munshaw's trials at the University of Kentucky showed improved traffic tolerance & recovery

Author Brian Winka, CSFM, managed Bluemuda turf when it was first introduced

properly adjusted. If clipping and mowing frequency is an issue, a monthly application of a growth regulator can be helpful for keeping the canopy height in check.

FERTILIZATION. Applying fertilizer at the right time is as important as using the right fertilizer. Fertilization should be determined from a soil test analysis. Bluemuda fields should be fertilized when the turf is actively growing throughout the season to promote an even growth pattern.

Bluemuda fields should be fertilized in a manner that does not allow one species of turf to dominate the other. Slow release nitrogen sources and organic fertilizers are preferred for a base. If you need to give the field a quicker shot of N early in the spring, I recommend a product such as ATS 22-0-4 w/Armament, a 50% polymer sulfur coated urea (PSCU). Foliar applications on a 3-4-week basis also have been proven to provide excellent results.

IRRIGATION. It is very difficult to maintain an athletic field without irrigation.

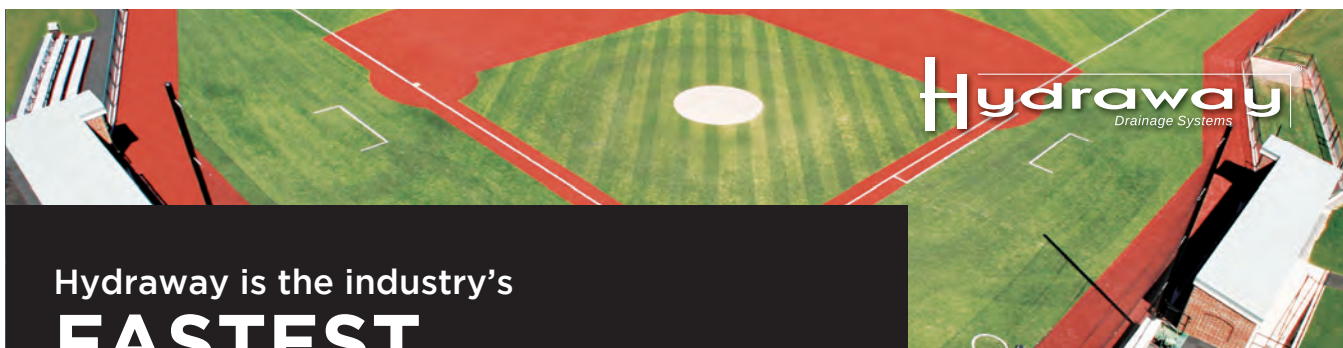
Irrigation should be scheduled to supplement rainfall and frequency and duration depends on environmental factors and limitations of the irrigation system. If possible use a soil moisture tool to determine the timing and amount of irrigation needed.

The ideal irrigation interval will depend on the environmental conditions but should occur just before wilt. During wilt, most grasses have a darker or a dull bluish green color and the leaf blades begin to fold or roll when the grass is under water stress. Irrigation should begin when these signs are first observed.

The best time of day to irrigate the turf is before sunrise because there is typically less



wind and lower temperatures, which means less water loss to evaporation. Further, early morning irrigation washes the guttation water from the leaf and can reduce disease pressure. Running your irrigation at night is more efficient than during the day, but the activities on the field will determine when you are able to water. Irrigating 24



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to 48 hours before major field use will help reduce soil compaction.

CULTIVATION. Cultivation generally includes aeration, fraze & vertical mowing, and topdressing. The activities on the field produces a compacted surface layer in the top 2 to 3 inches of the soil on both native and sand based fields. This results in reduced pore space, reduced internal air and water movement, and gradual thinning and weakening of the turf.

There are many acceptable aeration techniques and pieces of equipment. Frequency of aeration generally depends on soil texture and frequency of field use. Fine texture soils, fields with heavy use and fields used when wet will require more aeration.

Bluemuda fields can be aerified anytime during the year that the turf is actively growing and not under extreme stress. The first aerification should be done in the spring just before fertilization. If field use is heavy or the soil is compacted, aerifying should be conducted monthly during the growing season, if not more.

Slicing with solid blades 1/4 to 1/2 inch wide cultivates the soil with minimum surface disruption and can be effective in relieving soil compaction. Solid tine aerification is another option to relieve compaction with little to no disruption of the playing surface. Solid tines and slicing blades are effective even when the soil is a little drier.

TOPDRESSING. Topdressing is the addition of a thin layer of soil on the turf surface. Parts of the field that are used continuously tend to become depressed from the heavy use. Topdressing with a 1/8-inch layer (10.4 cu. ft. or 0.4 cu. yds. per 1000 sq. ft.) can level and smooth these areas. In addition to smoothing the surface, topdressing also reduces thatch. Light, frequent topdressings to build up lower areas are preferred over less frequent, heavier topdressings. The topdressing soil should be of similar texture to the soil on site and can be worked into the turf with a drag mat.

ESTABLISHMENT. Bluemuda fields can be established in a number of ways but the most important factor is to ensure good seed to soil contact. The time of year is also a factor when considering

getting the two grasses growing together and how you want to introduce the bluegrass into the bermudagrass. Remember that the establishment of a Bluemuda field will take longer than a traditional ryegrass overseeding, do not expect the same results. This is a long-term solution and it is an inter-seeding, not an overseeding.

In late-spring or early summer, fraze mowing the bermudagrass is one option for establishing a Bluemuda field. Often times there is a thatch layer on an existing bermudagrass field that you must get through to have successful germination. Frazing will eliminate any thatch build up, and will also open the canopy to allow more sunlight on the soil surface for improved seed germination. Seeding can start as soon as the field is cleaned off.

The best methods for incorporating seed are to use a slit seeder or a dimple seeder. Slit and dimple seeders create a slice or hole in the soil that the seed falls directly into and ensures good seed-to-soil contact. To improve establishment, slit or dimple seed in at least two directions perpendicular to each other.

Plant 3 to 4 pounds of bluegrass seed per 1,000 square feet. Plant the seed shallow, less than 1/4 inch for best results. Soil temperature must be over 60F for bluegrass seed to germinate and establish. Light, frequent irrigation applications for the first 2 to 3 weeks are essential for best results.

If fraze mowing is not an option, or you are seeding in the fall, core aeration, vertical mowing or spiking to open up the seedbed has been very successful. Aerating or spiking in two directions, and then broadcasting the bluegrass grass seed uniformly has worked well, with the seedlings establishing in the openings and spreading from there to blend with the existing bermudagrass.

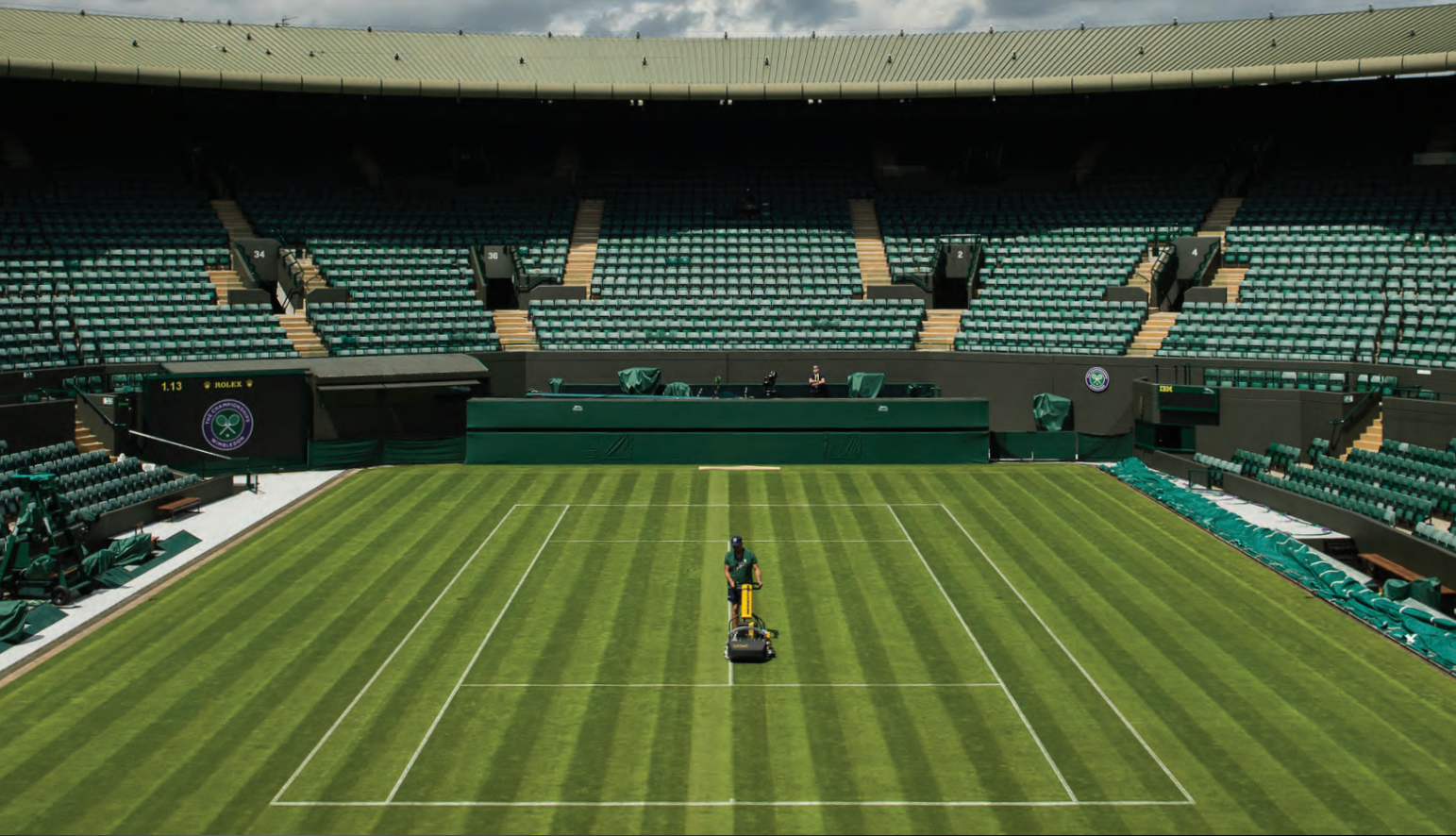


Broadcasting seed onto an area without incorporating the seed into holes and slits or topdressing will not be as effective.

For a fall establishment, some turf managers have had success with applications of growth regulators on the bermudagrass to slow the growth, and improve establishment of the bluegrass. Apply the growth regulator to the bermudagrass 1-2 weeks before seeding the bluegrass. It is important to seed early enough in fall to allow seedlings to mature to the point where they can withstand the stresses of winter. September 1 is a good target date to start a fall inter-seeding in the transition zone.

Bluemuda has been successful in improving athletic fields across the transition zone. By following these practices the program can be successful at your site as well. **/ST/**

Brian Winka, CSFM, is sports turf specialist for Advanced Turf Solutions, a green industry distributor serving 10 states from Wisconsin to Pennsylvania. Tweet Brian @bwinka.



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MEET NEIL STUBLEY, HEAD OF COURTS AND HORTICULTURE AT WIMBLEDON

SportsTurf: What are you responsible for at the club?

STUBLEY: My responsibilities are for all tennis and croquet playing surfaces, plus all landscaping on our 42-acre site. Additionally I oversee all turf trials that are carried out by STRI (a global sports turf consultant). I also give technical advice and support to other grass courts venues both here in the UK and overseas.

SE: How many turf people work at the club?

STUBLEY: I have a team of 16 that includes a Head Groundman,

who is supported by three Senior Groundsmen, two irrigation engineers and two mechanics. From April through October we have an additional 12 summer staff.

SE: What turfgrass varieties are used for the playing surfaces? Anything special for Centre Court?

STUBLEY: We use 100% Perennial ryegrass on all courts, and all courts are sown with the same three ryegrass cultivars. [We note that the famously reserved culture at Wimbledon is sharing all details!]

SE: What is the rootzone? Has it changed significantly over time?

STUBLEY: Our current rootzone is 58% sand, 19% silt and 23% clay; this mixture has been unchanged since 1992.

SE: What is the drainage system?

STUBLEY: We have 75 mm lateral drains with a 1:120 fall into a 100 mm main drain. The lateral drains have a 9-meter spacing.

SE: In terms of maintenance, are there any newer practices that you do now, or has a tried-and-true regimen been kept over the years?

STUBLEY: We do have a tried and tested regime but each year we look to fine tune our processes. Currently we fraise mow off the tops and re-seed each year, so we have new surfaces each season. In 2017 we trialed for the first time steam sterilizing a court to clean the profile. So far it seems to have been a success with very clean surfaces.

SE: Any challenges this spring preparing the grass for 2018 tournament?





Neil Stubley, All England Lawn Tennis and Croquet Club – Wimbledon

STUBLEY: The usual weather challenges; this year has been a wet spring and trying to germinate seed has been a challenge but we are in a good place a month out from The Championships.

SE: After play ends each day of the tournament, do you work on the wear spots at service lines? If so what do you do?

STUBLEY: After play each day we vacuum the courts, irrigate and put the covers on. In the morning the courts are mown and marked out ready for play. There isn't any time during the 2 weeks to do much repair work as the courts are in play from 11am - 9.30pm each day. That is why it is important to get the grass strong and healthy before the start so it can withstand the beating from players' foot wear. The courts inevitably wear under this pressure and that is part of the process during The Championships; the players have to adapt to the courts as they go through the tournament.

SE: How high is the pressure of maintaining perhaps the most famous patch of grass in the world?

STUBLEY: The pressure is what we put on ourselves, we try to produce the perfect surface for the players whatever the weather, hot, cold, wet or dry. We have to be consistent across all 38 grass courts. We now have a global reach of more than a billion people for The Championships so not getting it right isn't an option. /ST/

EDITOR'S NOTE: Thanks to Pamela Sherratt of Ohio State for connecting us with Neil Stubley, MBPR, Head of Courts and Horticulture at the All England Lawn Tennis and Croquet Club – Wimbledon. We exchanged emails in early June, ahead of this year's tournament.

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JON DEWITT, CSFM, UNIVERSITY OF ALABAMA

This month in “The SportsTurf Interview,” we meet Jon DeWitt, CSFM, director of sports grounds for the University of Alabama. Since this is our Football issue, why not go straight to the top of the college football mountain in Tuscaloosa? Before joining the Crimson Tide, Jon was at Georgia Tech in Atlanta, and previously had worked as the director of grounds at a private school there.

SportsTurf: How long have you been in Tuscaloosa?

DEWITT: Two and a half years.

ST: What have been the biggest changes you’ve experienced since the move, professionally and personally?

DEWITT: Getting moved, buying a house and all that. It was a giant hassle; combined with my twin daughters having graduated in the spring the year we moved (‘16, I came to Bama in January), that meant lots of trips back and forth. It is lots of fun driving from Tuscaloosa late on a Friday after a week of work to paint bedrooms and get a house ready to sell. I had to get a lawn service during that time because I wasn’t able to do it, which is funny.

ST: What attracted you to a career in sports turf management?

DEWITT: I guess just a perfectly manicured patch of grass has always been what drew me to the industry. I am not particularly interested in sports; I like getting ready for the event and cleaning up afterwards, but not the event itself for the most part.

Basically I put up with all the heartache of sports turf [maintenance] for the few times a year you get when the sun is perfect, temperature is comfortable and the grass is really glowing. If you are addicted to that feel then you will suffer through almost anything chasing it.

ST: What are your biggest challenges in providing excellent playing surfaces? And how do you approach those challenges?

DEWITT: It’s been different things over the years, but currently it is hands down, staff; from talking to colleagues in the industry,

this seems to be becoming a bigger issue every year. I admit to being frustrated and I am open to suggestions. I do recommend reading leadership books or looking into any courses HR offers.

ST: What changes if any are you considering or implementing for the winning field in 2018?

DEWITT: I am always tweaking the program, but at this point still learning the routine and flow of Bama; finding windows in which we can aerate or verticut or do some other cultural activity. We’re trying to get out in front of things, anticipate camps and other activities, as well as develop relationships with folks to give me heads up and details for events so we can be more proactive and less reactive.

The goal is to ultimately save time, which allows for more work on the grass. Logistics plays a massive role in turf management here.

My biggest addition of late has been outsourcing aerations with the Air2G2 because it is not disruptive to play and helps with compaction so well.

ST: What’s the greatest pleasure you derive from your job? What’s the biggest headache?

DEWITT: [It is a pleasure] keeping up with friends I have made over the years in this industry. As far as the biggest headache, I can’t think of any specific thing and if I did you couldn’t print it anyway.

ST: What’s the best piece of turf management advice you have ever received?

DEWITT: It wasn’t turf advice specifically but it was certainly great advice: be flexible. Be flexible with weather, team



Proud dad of twin girls is Jon DeWitt, CSFM; that’s Evie on the left and Ellie on the right.

schedule changes, unexpected outside events, construction in your stadium, blocking access to fields, interrupting water supply, equipment failure, staff being out, and be flexible with NCAA rule changes that impact football recruiting windows.

ST: How has social media impacted your work?

DEWITT: I hardly use social media personally or professionally so I don’t think it has impacted me too much, for which I am extremely thankful. I do wish folks would be more honest about our jobs in sportsturf. Naturally we all love the beauty shots, but how about sharing the catastrophic irrigation break or hydro line that blew. I’d like to see more of the underbelly and harsh reality of what we do.

ST: What are your passions and interests outside of work?

DEWITT: Music is my hobby outside of work. I enjoy concerts, although I often feel really bad about the guys maintaining venues with a lawn area – sorry guys! And I spend time on church activities, small groups, conferences, helping with facilities, etc. /ST/

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LET'S HEAR IT FOR STMA CHAPTER OFFICERS!

The Sports Turf Managers Association affiliated its first chapter more than 25 years ago, and now has 34 chapters throughout the US that represent more than 6,000 sports industry professionals. STMA believes that all agronomy is local, and its affiliated chapters serve a key role in delivering regional information. Chapters hold many educational events including field days, workshops at which they address relevant, topical issues. Every chapter has its officers and it is these dedicated volunteers that make the chapters go.

For years there was a chapter officer training session (known as "COTS") at the annual STMA Conference, which is now more of a networking event. We asked some veteran chapter officers about their experiences:

Bruce Suddeth currently serves as the secretary for the South Carolina STMA chapter, and he has been an officer since the chapter's inception in 2004. "The SCSTMA chapter early on wanted to know how more seasoned chapters ran their operations in regard to the business end, for example, to have or have not an executive director? Who would that person be? Who, what, and when newsletters would be relevant and what content would go in them? How do you get passionate volunteers for chapter officers and committees? All these questions were discussed and we've go through revisions in how we do things," Suddeth said. "It's always great to communicate with other chapters and apply what they have learned. Every state and chapter area is different and a lot depends on the chapter officers, board, and committees."

Suddeth said the SC chapter has continued to be strong in serving on national committees, which in turn helps the chapter excel. "We've also worked closely with the NC chapter with joint meetings and our Southeast Regional Sports Turf Conference.



Many of the lessons we apply have come directly from the NC/SC STMA chapter members being involved at the STMA national level."

Ben Polimer is president-elect of the New England STMA chapter. "The most important thing I have learned is that networking with other chapter officers is really important to see how other chapters are running their organizations. It turns out we all have similar accomplishments and struggles," he said.

"I feel the most important thing I learned as a new chapter officer was how to conduct a meeting (communicating) and what was involved in running a chapter," Mike Tarantino, CSFM, and president of the Southern California chapter, said. "Everything else was a benefit like hosting events, retaining membership, and recruiting members. Every chapter does things a little different, however, we are all looking for a successful outcome. Listening

to other officers express how they retain members, recruit members, and the types of events that they held were beneficial to me and in many cases served as a model of how to operate the SoCal chapter."

Don Savard, CSFM, CGM, has been involved with the Sports Field Managers of New Jersey chapter for many years. "My becoming a Chapter officer was the result of showing up for and helping out at Chapter events. I began to interact with our Chapter's Board of Directors, its members and commercial vendor sponsors. Together we worked on planning and producing successful Chapter events. I joined STMA. There I met new people and learned new things. The late Dr. Henry Indyk was our Chapter advisor and he encouraged me to become a CSFM in 2005. Soon, I was presenting at conferences and writing articles for publication. As my knowledge and skills developed, the quality of my

sports fields improved. Just like an athlete moving up and playing at a higher level, I began to grow professionally in ways I never imagined. Most of all, I have learned the importance of doing the little things well," Savard said.

Nick McKenna, CSFM, is treasurer of the Texas STMA. "I think the biggest thing that I've gathered from these events is that you're not alone as a state chapter or as a chapter officer. There are numerous chapters and many of them are encountering the same successes and failures that we are. The great thing about STMA is that it not only helps to provide you with information and resources, but it also helps to create and build a network of your peers that you can utilize for ideas and assistance."

Affect on careers

Troy Crawford is president of the Texas STMA. "In the short time that I have been involved I have had the opportunity

"IT LETS ADMINISTRATION KNOW THAT YOU TAKE YOUR CAREER SERIOUSLY IF YOU GO THE EXTRA STEP TO BE AN OFFICER IN AN ORGANIZATION."

— Bernard Luongo, president of SFMANJ

to meet several new people in the industry. Having the opportunity to talk with these professionals and helping them with questions that they have has been quite rewarding," Crawford said.

"I enjoy sharing some of my knowledge with them and trying to glean some new knowledge from them."

"I have met so many great people in New England being involved with NESTMA," said Polimer. "I have been involved in NESTMA since 2006 and will be serving as President starting in August for a 2-year term. I don't think I would ever be in my position with the Town of Weston without my participation in NESTMA. I have great relationships with commercial partners and fellow sports turf managers."

Suddeth said, "USC Upstate has been extremely supportive to me serving as a SCSTMA officer. They have allowed me to do chapter business during work hours for several years. It helps bring more exposure and notoriety to USC Upstate through the STMA and SCSTMA. Being a chapter officer allows one to know all the inner business dealings with the chapter and I've made some fantastic

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contacts not only at the state level but the national level. I feel fortunate to have those contacts that can help our chapter reach the next level.”

McKenna said, “I think for me, serving as a chapter officer has benefited my career in a couple of ways. First off, it has helped connect me to other leaders in our industry (both locally and nationally) and help me to further build a network of my peers that I can use at anytime. We are all encountering a lot of the same issues, so it is very useful to be able to share and exchange our challenges and solutions with one another.

“The second way that being a chapter officer has helped my career is that it helped to prepare me to serve others. Whether that is through my job at Texas A&M, the Texas STMA chapter, my local community or STMA at the national level, it has made me a better serving leader to others,” McKenna said.

“My career changed at the district from starting as the Grounds Supervisor to becoming the Director of Facilities,” Tarantino said. “My early involvement with COTS provided me with knowledge of how to work with BOD members, run a meeting at the work place and prepared me for dealing with Superintendent Cabinet meetings, public meetings, and school board meetings. Basically, dealing with conflict, leadership, and defusing conflict. All with clear communication.”

Chapter challenges

Savard said, “Chapters are made up of diverse people who have their own reasons for being members. As such, some become active members, others, not so much. Among the challenges I have faced was how to encourage the Chapter leadership to be cohesive, engaged and energized. We seem to compete with our past successes, but how do we stay relevant today? Another challenge is how to create and deliver value to both the membership and commercial vendor sponsors in a sustainable way.”

“Some challenges for us and what I have heard talking to chapters officers around the country: managing to have events throughout New England to serve

“OUR COMMERCIAL MEMBERS ARE OUT THERE EVERY DAY ON THE ROAD PROMOTING THE SCSTMA AND THAT IS WHAT IT TAKES TO REACH SPORTS TURF MANAGERS AND GET THEM INVOLVED WITH SUCH A GREAT ORGANIZATION,”

– Bruce Suddeth

our large geographical membership, trying to get members interested in committees and chapter board service and showing value in retaining your membership to chapters,” Polimer said.

Suddeth said, “There are many challenges and all of us chapter officers could probably write a book on them. Being a chapter officer takes dedication and commitment and with sports field managers demands it becomes difficult to obtain committed officers year in and year out. The SC chapter has been fortunate in having a great group of volunteers year after year to help guide the organization in what it is today.

“I will have to say that our sponsors and commercial membership is key in

making our organization as strong as it is,” he said. “Our commercial members are out there every day on the road promoting the SCSTMA and that is what it takes to reach sports turf managers and get them involved with such a great organization,” Suddeth said.

Crawford said, “I think the major challenge here in Texas is just sheer size. We are a big state so trying to reach all of the different Regions and professionals is difficult. Our executive administrator does an amazing job coordinating and communicating with our board and chapter members, so that is extremely helpful! Another challenge is trying to show the young professionals that there is value in attending our field days. They are able to find a lot of information they are looking for through social media so they have a hard time seeing the value in being a local chapter member.”

Tarantino said, “I believe that the biggest challenges in any management role are: listening/make sure you heard what the person said/repeat; understanding/no ideas are crazy; communicating; action/no action/communicate; and follow through/communicate. This list could go on indefinitely, but these are my go to points when a decision needs to be made at any committee level meetings. To me it all starts with those five points.”

“I think each individual chapter has its own unique set of challenges although a lot of them overlap from region to region. Some of the biggest ones that I hear are recruitment and retention of members, organization/hosting events and field days, fundraising, and just overall association management. One of the biggest challenges that we face in Texas is just the sheer size and geography of our state and trying to maximize our membership numbers along with the locations and agenda for chapter events. We’re trying to grow our membership as much as possible and provide meaningful events for sports turf managers across all of Texas and that can be difficult when you consider the size of our state and all the different climates and demographic groups that we are trying to reach,” McKenna said. **/ST/**

FORM A CHAPTER

If you think you are ready to begin forming an STMA Chapter, or if you would like to discuss the possibilities of doing so, please call Kim Heck, the Chapter contact at STMA Headquarters (800-323-3875) for the basic background information to start you in the right direction.



JOHN MASCARO'S PHOTO QUIZ

JOHN MASCARO IS PRESIDENT OF TURF-TEC INTERNATIONAL



ANSWERS FROM PAGE 17



This unirrigated school field is mostly used for recess and some youth soccer and is comprised of a mix of Tall Fescue, Kentucky Bluegrass and Ryegrass. The green area of turf that was the first place to green up in the springtime was the oval where an ice rink was installed from December 1st to March 1st. The rink is a temporary type with removable boards, a liner and ground supports. The recreation staff sets it up each year and also manages it. The rink had been at other locations in the town but this newly constructed school had this area which had fairly flat ground so it was set up at this school. Once they set the rink up, they flood it with water and let mother nature do her thing. Once frozen solid, it is open to all residents of the town. The green turf was the result of the insulation value of the rink that once removed, allowed the turf green up faster.



This coming winter, the town is considering putting it on a softball field with lights so they can have night skating.

Photo submitted by Ben Polimer, Fields & Grounds Coordinator, Town of Weston in Weston, Massachusetts.

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. 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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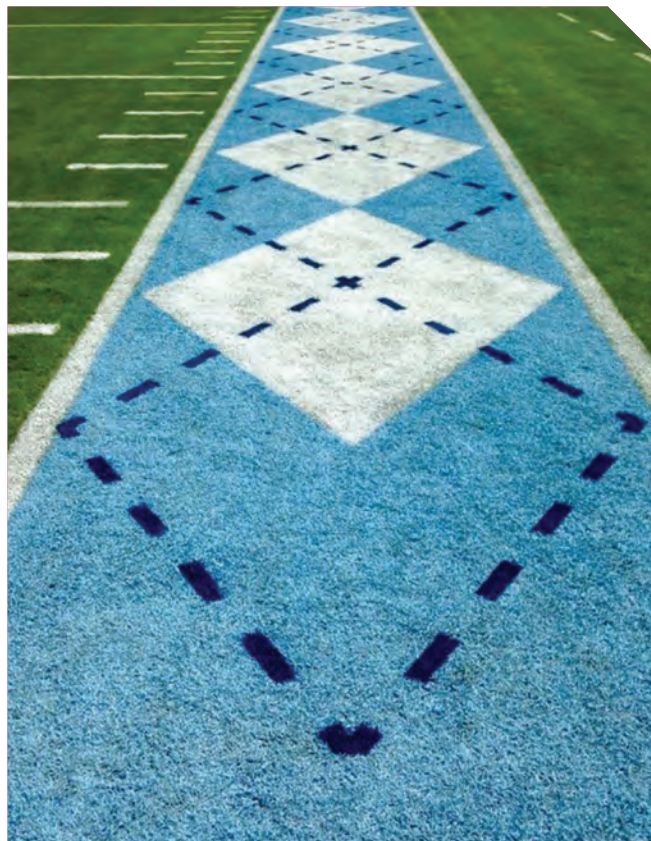
Painting the turf in Chapel Hill

Editor's note: After Stephen Crockett, CSFM, of Union City, TN was so complimentary of the paint jobs he'd seen at the University of North Carolina during his STMA Conference presentation last January, I followed up with Casey Carrick, director of athletic grounds and turf management in Chapel Hill.

Casey said, "For a home game we paint the white on Thursday and any colors on Friday; the closer we paint to game day the brighter the paint is during the game. Weather often dictates when we can paint and we sometimes move it up in the week, if we have to we can paint the whole field on Friday. It took a while to figure out how to do the argyle border, but we have some very talented carpenters on our staff who made stencils for us to use. It's always the last thing to be painted. The normal paint scheme we do the most is the Carolina Blue outlined in white, with a blue border."

SportsTurf: How do you decide what to paint? Where do the ideas come from?

CARRICK: The ideas usually come from a combination of people on our crew and our marketing department. We sit down with marketing once the schedule comes out and decide which games we can do



Casey Carrick details how the UNC crew gets it done

Early coordination with marketing makes planning easier

Have a practice painting area for testing



different themes, such as military appreciation, a white out or black out, etc. We explain why we can or can't do something and figure out a plan for the season. Once we have a plan, someone runs it by our athletic director and football coach to make sure they're OK with it.

ST: *How much time do you need between the idea and actual implementation?*

CARRICK: While we usually know what we will be painting each game before the season starts, we only need to know a week or so in advance. As long as we're just switching colors around and not adding new logos, we can have any color of paint delivered in a week.

ST: *Who does the initial designs?*

CARRICK: The designs on the field are the same for each game. We have CAROLINA in one end zone, TAR HEELS in the other, and then the midfield NC logo and the ACC logo. We have stencils we layout before the first game, but after that we keep everything outlined throughout the season.

ST: *Is there one staffer who is the best painter, and is all the painting done free hand?*

CARRICK: We have 10-12 employees on staff that all help paint for a game. Each employee is capable of painting any of our

logos or lines, but we do have guys that specialize in certain things. We have one guy who always paints the lines and outlines the logos, and a few guys who always fill in the logos. Other guys on staff help pull string, move number stencils, keep paint machines full of paint, and anything else that may be needed. We pull string for any straight lines, and use stencils for the numbers, hashes, and argyle. Any filling in of the logos is done free hand.

ST: *Does any certain kind of paint work best for these projects?*

CARRICK: We use Pioneer Game Day airless paint for everything. It's specially made for painting natural grass athletic fields. We use about 150-200 gallons each game depending on what the design is. We've worked with Pioneer to find the exact shade of Carolina Blue that looks best on the grass. We've also run into some unique situations where we need a special color, or quick drying paint and they've made it for us.

ST: *Have you ever tried something that didn't work, and why?*

CARRICK: There are some paint schemes we like better than others. When we're doing something new or something we aren't sure of, we paint it on our practice field first just to see how it looks. We've tried a few designs that we never used for a game, so it's nice to test them out first. /ST/

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Synthetic turf heat solutions

Synthetic turf fields are hot. Synthetic turf provides improved drainage and wear resistance to extend the amount of time fields are available for play, but there are some tradeoffs. The two biggest issues that are being addressed by the industry are force reduction and heat.

Synthetic turf intends to imitate a well-maintained natural grass field. The core design it uses to accomplish this, green polyethylene fibers and black rubber, also contributes to its temperature shortcomings.

The temperature on these fields can rise as high as 175 degrees. The good news is technology advancements and research are leading to better turf systems and solutions that can help improve the temperature issue.

What science tells us

Natural grass blades transpire which means they release water vapor that

THE SUN HAS A FAR GREATER IMPACT ON FIELD TEMPERATURE THAN AIR TEMPERATURE OR WATER. A PERIOD OF CLOUDY SKIES OR EVEN A BRIEF RAINSTORM CAN BRING THE TEMPERATURE DOWN SIGNIFICANTLY, BUT MINUTES LATER WITH MORE SOLAR EXPOSURE, A FIELD WITH TRADITIONAL INFILL RETURNS TO ITS PREVIOUS HIGH.

has an evaporative cooling effect. Green synthetic fibers, on the other hand, absorb UV heat and transfer it to the black crumb rubber. The rubber acts as a heat sink, trapping the heat and increasing the temperature of the field.

The sun has a far greater impact on field temperature than air temperature or water. A period of cloudy skies or even a brief rainstorm can bring the temperature down significantly, but minutes later with more solar exposure, a field with traditional infill returns to its previous high.

Cost of reducing heat

The synthetic turf industry has made a mad dash to invent, discover, or technique its way to cooler fields. Long fiber turf systems developed in the early 90's, were designed around cheap and freely available recycled rubber. The delicate issue is that crumb rubber

EDITOR'S NOTE: This article first appeared in *Friday Night Football* magazine. It was provided to us courtesy of Sports Turf Company, Inc., Whitesburg, GA.



serves an important role providing force reduction in turf systems and does so at a very inexpensive cost compared to alternatives.

Be mindful of additional costs for irrigation, grooming and reapplication. If an owner pays \$500,000 for a synthetic turf field and spends another \$200,000 maintaining the cooling layer over time, was it really a \$500,000 field or a \$700,000 field? Remember that most warranties do not cover the cooling additive or guarantee field temperature reduction.

What's hot: topdressing

The new fad in synthetic turf is to top dress the field with a layer of organic material or alternative infill over crumb rubber that does not absorb as much heat.

Now that "cooling technology" has become one of the most talked about criteria for selecting a new synthetic field vendor, some manufacturers recite the pros and omit the cons.

Topdressing works, but the benefit only lasts 1-2 years. Cleat interaction with the infill quickly blends the cooling layer with black rubber beneath, removing the barrier

IN EVALUATING FIELD COOLING OPTIONS, DON'T BASE YOUR DECISION ON THE PRICE ON DAY ONE. THE COST OF OWNERSHIP OVER THE LIFETIME OF THE FIELD, BALANCED WITH THE REAL BENEFIT OF THE SET OF SOLUTIONS YOU ARE PURCHASING, SHOULD DRIVE THAT DECISION.

to UV sunlight. Some topdressing solutions use "hydrophylic chemical reactions" that require significant and costly irrigation, or use extruded cork, which floats and migrates requiring significant and costly grooming maintenance.

There are such things as cooling solutions that last the lifetime of the field. There are fibers available that are extruded with an additive that reflects UV, reported to cool fields by about 10%. Technology is pushing new infill choices that can provide as much as a 40 degree cooler field surface.

Adding a shock pad beneath the synthetic turf system provides better force reduction than crumb rubber and opens the door to infills such as hypoallergenic natural walnut and Zeolite, a mineral also used in water filtration equipment. These systems also produce additional evaporative cooling from the occasional rainstorm, although they do not require irrigation.

In evaluating field cooling options, don't base your decision on the price on day one. The cost of ownership over the lifetime of the field, balanced with the real benefit of the set of solutions you are purchasing, should drive that decision.

Our advice is to engage an expert that constructs these fields, not the manufacturer. Make sure your chosen construction company has experience building synthetic fields; search for a local Certified Field Builder (CFB). *IST/*



Eco TempLine Mantis 2.0

INTRODUCING THE MANTIS 2.0

In 2006, Eco TempLine created the first Mantis machine designed for efficient removal and vacuum extraction of synthetic turf paints. After 12 years of market experience and 2 years of additional design and development, Eco TempLine introduces the Mantis 2.0. This upgraded machine does one thing and does it well, now with more speed, more power, and more control at the operator's fingertips. The Mantis performs hydraulic scrubbing and vacuum extraction, with minimal infill displacement, taking most of the work out of what is typically a very labor-intensive process. The Mantis 2.0 makes the process a one-man job. Eco TempLine was the market's first brand of removable synthetic turf paint and their products are developed with the environment in mind.

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system comes with a mixing blade that is designed to work with the motor to mix the paint effortlessly. Paint is quickly and thoroughly mixed and is ready to be used in 5 minutes! .5 hp motor runs on standard 120v outlet; bucket holder and QD valve included, total height of unit including motor and tote is 8'.

PIONEER ATHLETICS TO MARKET TINYLINEMARKER ROBOT

Pioneer Athletics and Tiny Mobile Robots have announced that they will be working



Pioneer Athletics and Tiny Mobile Robots TinyLineMarker

in tandem to distribute the TinyLineMarker GPS-enabled line-marking robot to United States sporting facilities. TinyLineMarker affords sports turf managers the opportunity to check off other tasks from their overloaded to-do lists while lines are being painted. Advanced RTK GPS ensures centimeter precision and fast, reliable, and repeatable markings. The lightweight aluminum-framed unit with 12" high-traction tires can manage uneven playing fields, work in complete darkness if needed, and has a rechargeable battery that lasts at least 5 hours. The unit includes a tablet pre-installed with an extremely user-friendly app that utilizes satellite maps for fast field layouts. The app also controls the sprayer cleaning process!



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TruMark field stencils

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Show off your team pride using field stencils! TruMark works in a collaborative manner to bring your team's logo, team name or mascot to life on the field. This includes guidance when converting a printable logo to a paintable one, offering professional mock-ups and a quick turnaround for quotes and production. We will make the right recommendation on style of stencil and plastic used to ensure that you have the most accurate and longest lasting stencil. There are standard options for items such as end zone letters, number sets and hash marks, or

we can help design custom options to make your field one of a kind.

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There's no "one size fits all" adhesive for every type of installation. What might be outstanding for one can be disastrous for another. For instance, when a synthetic turf football field is installed the adhesive must be easy to apply under variable weather conditions. Then, it must deliver outstanding long-term exterior durability in all types of climates and excellent



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water resistance. Not just any adhesive can provide all that, but NORDOT adhesives can. For 45 years, Synthetic Surfaces Inc. has been developing a wide variety of NORDOT one-part, solvent-based, high grab, easy-to-use specialty adhesives for synthetic turf football fields and other recreational surfaces. NORDOT adhesives have a time-tested proven record of successful installations worldwide.

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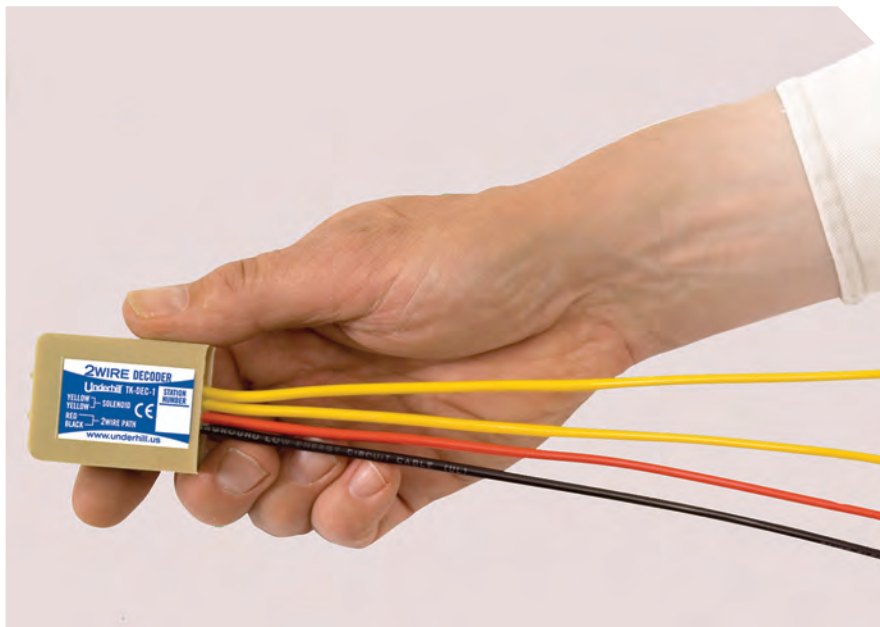
Professional turf managers and athletic organizations rely on Titan line strippers for dependable, precision performance. Built for hard work and long life, Titan's PowLiner series offers gear driven and hydraulic sprayers with outputs ranging from .33 to 2.50 gpm. They are capable of striping 106 to 800 linear feet per minute. Models include the 3500, 6955, and 850. To increase speed and productivity, a Titan LazyLiner ride-on driver can be added to the hydraulic PowLiner models. Titan's PowLiner Series is backed by the best and longest warranty in the industry and supported by a national network of authorized sales and service distributors. With half a century of getting the job done right, Titan is the name to trust.

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Synthetic Surfaces Inc. NORDOT adhesives



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operates two decoders at same time. Quick pushbutton set up and visual test for correct station number program.

INFRARED SENSOR AND ROD SPACER ACCESSORIES FOR THE FIELDSCOUT TDR

Spectrum Technologies, Inc., has begun shipping the Infrared Temperature Sensor and Rod Spacer, new accessories for the FieldScout TDR. The new sensor validates when to employ preventative cooling strategies to lower turf canopy temperatures. It easily attaches to your TDR350 or TDR150 and instantly gives

you these critical temperature readings for better turf, irrigation, salinity, and disease management. View, store and map all the data points in real time by using the meter in conjunction with the FieldScout mobile app and the improved SpecConnect FieldScout Pro. The Rod Spacer, along with the latest firmware, allows for accurate soil moisture measurements at 0.5" or 1" depths when used in conjunction with a standard set of 1.5" rods. Rod Spacers are a user-friendly and versatile, designed to attach and detach from any Spectrum TDR meter including 350/150 or 300/100 models.



Spectrum Technologies, Inc. Infrared Temperature Sensor and Rod Spacer

LARGE FIELD IRRIGATION FROM INTELIRAIN

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BOSS Snowplow introduces the new EXACT PATH™, a drop spreader with an innovative design that precisely drops deicing material while protecting grass and landscaping. Precise application also makes quick work of sidewalk jobs to increase efficiency and profitability for snow and ice contractors. Available in 2.5 cubic feet and 6.0 cubic feet capacities, EXACT PATH™ offers three mounting options to fit UTVs, compact/sidewalk vehicles and tractors. A stainless steel hopper and frame with a polyethylene cover keep materials dry and free-flowing. An exclusive feed gate lever makes it easy to adjust material flow—no tools needed. Top screen with bag splitter easily opens bags and filters deicing material. Enclosed 12v electric motor is

sealed to ensure performance, durability and reliability. Variable Speed Control comes standard on all EXACT PATH spreaders.

FORKS FOR COMPACT TRACTORS

Earth & Turf Products, LLC announces high-quality forks to fit the Category I 3-point hitches of compact tractors. These unique forks give any tractor additional versatility. Their design



Earth & Turf Products, LLC high-quality forks

makes them especially easy to install and to remove, and the tines are attached by lynch pins so they are both completely removable and can pivot upward for space-saving storage. Two design features of these forks make them an exceptionally good value package: the upper link is provided with a hook for use as a sturdy log hitch. A receiver built into the frame makes it easy to install a ball hitch for towing when the forks are removed.

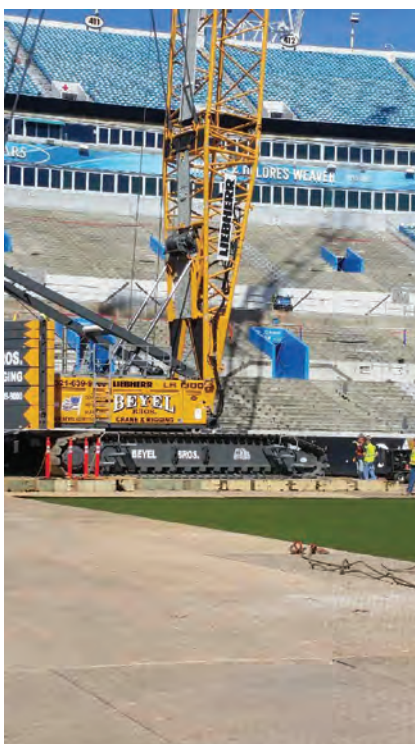
Protecting turf in Jacksonville during stadium renovation

Editor's note: Matrax, Inc., provided this article.

To meet the goal of providing players, fans and visitors with bigger, better and more elaborate amenities has prompted stadiums to launch renovation projects that can stretch over years and cost millions of dollars. Often these projects are undertaken off-season, putting intense pressure on contractors to work within stringent schedules and requiring extra care be taken to minimize damage to the existing surfaces, including hardscapes and the playing field.

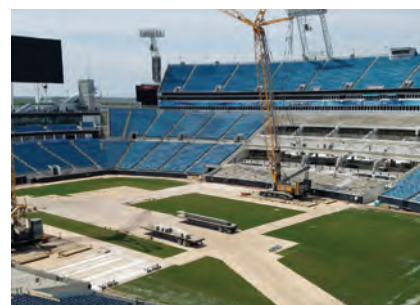
As part of their \$90 million renovation project, EverBank Field, home of the Jacksonville Jaguars, ungraded the US Assure Club seating areas. A significant component of the project consisted of retrofitting the club sections on the east and west side of the stadium. This included the removal and replacement of heavy sections of precast concrete.

In order to complete the work, a Manitowoc 2250 Series 3 heavy lift crawler crane, weighing approximately 350,000 pounds, was needed to lift the sections of concrete onto 48-foot flatbed trucks. The cranes and flatbed trucks had to access specific work areas inside the stadium on the field. The challenge was to cover the field with a material that would provide heavy vehicular access, concentrated loading and protect the shallow irrigation system just below the playing surface. EverBank's Sports Field and Grounds Manager, Mark Clay, along with the general contractor, Brasfield and Gorrie, were collectively tasked with identifying a solution that would satisfy the conditions described. Matrax Inc.,



collaborated with the project team to develop a matting solution and work plan that was reviewed, evaluated and accepted. In a matter of days, Matrax installed more than 50,000 square feet of contiguous work surface over the field using 15 truckloads of Dura-Base composite mats. Each mat measures 8 feet x 14 feet, 4.25 inches thick and weighs 1050 lbs. The system has an overlapping flange system that is pinned together thereby creating a work surface that equally transfers loading that minimizes impact to the field and associated underground systems below.

Composite matting offers a great option for protection from heavy construction equipment, but there are cases where a



heavier duty solution is needed. Ground conditions, underground systems, the equipment being used and the anticipated loads driving onto the field and hardscapes are important factors in determining the most appropriate protection for the project.

Matrax, Inc. is a solution-based design, engineering, manufacturing and distribution company specializing in a range of matting products including composite, timber and steel. www.matraxinc.com. **IST/**



► FIELD

HISTORIC GRANT FIELD | BOBBY DODD STADIUM

GEORGIA TECH

► LOCATION

Atlanta, GA

- **Category of Submission:** College Football
- **Sports Turf Manager:** Chris May
- **Title:** Director of Athletic Grounds
- **Experience:** At 19 I began working for STM, an Atlanta based Field Construction and Maintenance Company. Over the next 2 years I developed a passion for the industry that fuels me to this day. In July of 2005, I took a job as the Assistant Sports Turf Manager at Florida Atlantic University. After 2.5 years at FAU, I accepted the position of Sports Turf Manager at Mercer University in Macon, GA.

I was 23 years old and handed the task of maintaining 11 acres of sports turf with one part-time student worker. During my time at Mercer I began networking with Southeast Sports Turf community, especially Jon DeWitt at Georgia Tech. I wore him out with questions every chance I had, and over the years we developed a friendship.

In spring 2011, I moved back to Atlanta and took a job at The Westminster Schools as the Director of Grounds and Sport Turf. While I loved being back home, I missed college athletics and wanted more professionally. So after

11 months I left Westminster in search of a new direction. A few weeks later Jon DeWitt offered me the position of Assistant Sports Turf/ Baseball Field Manager at Georgia Tech. We accomplished a lot over the 4.5 years worked together. Most notably winning the 2014 STMA College Baseball Field of the Year award. In 2015 Jon left for the University of Alabama and I was promoted to the Director of Athletic Grounds.

- **Full-time staff:** Daniel Prince, Cody Brady, Ron Johnson, and Chad Austin
- **Original construction:** 1913
- **Turfgrass variety:** Latitude36 bermudagrass, perennial ryegrass, and Kentucky bluegrass
- **Overseed:** 2016 program: Seed Research Champion GQ perennial ryegrass (treated with Apron XL) @ 22 lbs/1000; Columbia Seed Clubhouse perennial ryegrass (treated with Apron XL) @ 15 lbs/1000; Seed Research Fielder Kentucky bluegrass @6lbs/1000
2017 program: Seed Research Champion GQ perennial ryegrass (treated with Apron XL) @ 10 lbs/1000
- **Rootzone:** 100% sand

The Field of the Year Awards program is made possible by the support of sponsors Carolina Green Corp., Ewing, Hunter Industries, and World Class Athletic Services.

► **Drainage:** Grant Field is on a 0% grade and has 10-inch sand over 4-in pea gravel, with drain tiles on 20-foot center in gravel layer

Why STMA should consider your field a winner?

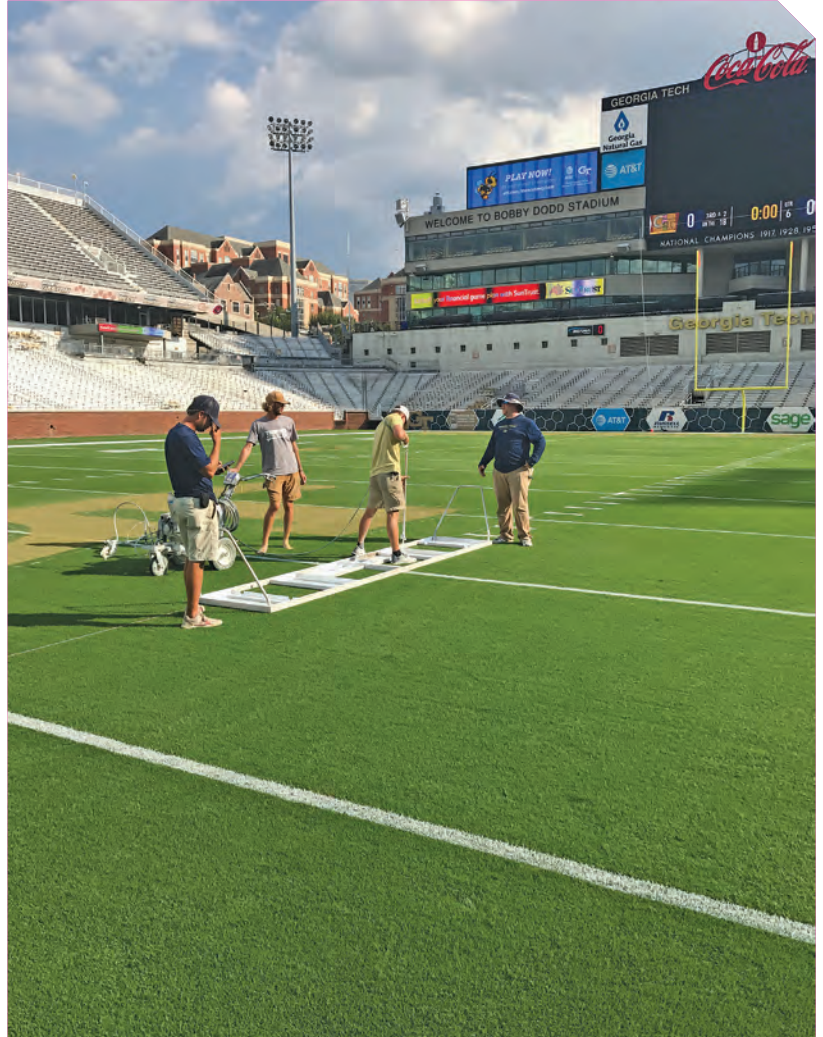
The 2016 Tech football schedule would open with 3 games in 13 days, 4 in 21, and 6 in 8 weeks. This would be a tall task to say the least, then my administration asked if Grant Field was wide enough to host soccer. After spending the entire summer of '16 making the switch from 419 to Latitude36 by way of sprigging we would have to keep our field in game condition the entire year with no time for transition.

My crew and I are no strangers to adapting on the fly, due to our location we host a large amount of high profile events. There are also the expectations for my crew, our baseball field is a two-time STMA FOY winner. We maintain all of our fields at a high level, to give our teams every advantage, and with delays at Mercedes Benz Stadium this would now include Atlanta United.

Hosting the MLS team in March after a grueling football season would mean growing the field back during winter. To aid in our efforts we overseeded Kentucky bluegrass along with perennial ryegrass. With only a week between the last Atlanta United game and football scrimmages, I relied on Eric Holland and his team at Precision Turf. Together we devised a plan to sod Instant Play Latitude36 after flipping the field from soccer to spring football and back to soccer. We still had to figure out how to turn a field into a pitch and fit 70 yards inside 60 yards. The artificial sidelines were removed and 14" of root zone and drainage was installed to match the existing field.

Through the spring we tackled United games alongside the overlapping baseball, softball and football while also hosting the ACC Track & Field Championships. The work load continued through the summer with 5 remaining MLS games. Then August brought even more traffic with football scrimmages, fan days and band practice. The weather wasn't helping either with 14 days of 75/50°F. The arrival of September was welcomed with 90°F days and the addition of another crew member.

We had made it, against the odds, but that's what my crew does and that's why they deserve this award. We are a family of extraordinary, driven individuals. Through all





the 18-hour days and personal sacrifices we kept our eye on the finish line and played 'til the whistle blew.

SportsTurf: *What attracted you to a career in sports turf management?*

MAY: I guess you could say I was born into the world of athletics; my parents met while working for Nike in the early 80s. My father still works in sporting goods to this day. He was always entertaining customers at high profile sporting events and I was fortunate enough to tag along when able. Early on I started paying more attention to the grass and stadium architecture than the actual game.

During my freshman year of college I began working for STM, an Atlanta-based athletic field construction and maintenance company. It was like pouring gas on a flame. There was something about the creative side of it that just spoke to me; art and design were my passion and sports turf gave me an outlet to express that. The hands-on experience I was getting allowed me to learn, and quickly. I have always struggled with ADHD and the classroom was hard for me. While at STM, we did a lot of work at Georgia Tech and I knew immediately that's where I wanted to be. I never looked back, and I never finished school. At 21, I became the assistant sports turf manager at Florida Atlantic University where my boss, Ken Czerniak, put me on the path to where I am today.

ST: *Does a regular working week even exist for you? What do you do that's the most enjoyable?*

MAY: College athletics is not a Mon-Fri, 40 hour/week job; everyone is busy from our crew all the way up to the coaches and administration. It's a fast-paced environment and playing from behind is not an option. Our location in midtown Atlanta doesn't

make this any easier; the logistics can be a bit overwhelming. We don't have a lot of storage or a place to dump debris. Scheduling dumpsters, keeping inventory and equipment organized is a full-time job in its self. I worked 114 days in row while hosting Atlanta United's first three matches and our normal spring sports schedule. It was a grind for the ages and experience of a lifetime.

Georgia Tech is a special place, we have an incredible amount of history and tradition. I grew up 20 miles north of campus; Georgia Tech is my dream job. Mowing before a game, on a fall morning as the sun rises over downtown Atlanta, is about as enjoyable as it gets. I feel it's a privilege to care for Grant Field, which is a year older than Wrigley Field and at 105, the oldest on-campus stadium in college football.

ST: *How do you handle the pressure that comes with being responsible for how a Power 5 Conference field plays, and looks on TV?*

MAY: It can be extremely stressful and I'd be lying if I didn't say I enjoyed it. I believe it keeps you motivated and focused on the big picture. I don't know if you ever learn to block out all the noise. You have to find ways to filter it. We are fully exposed and on display. It's a hard concept for those outside the industry to grasp. Player safety and aesthetics are always at the front of my mind. They usually go hand and hand with each other, rarely is a safe field not visually appealing. The pressure to deliver fails in comparison to managing people and making sure they don't get burned out. My crew are the pistons in this machine, it's my job to make sure the wheels stay straight and keep turning. As a unit we are striving for perfection, a pretty lofty goal, and unattainable. We put that on ourselves, we care at a high level and that creates a lot of challenges. You just have to know your limits and find a positive outlet for them. Having a hobby is a must, it keeps monotony at bay.



ST: *What changes if any are you considering or have implemented for the winning field in 2018?*

MAY: Winterkill really set us back this spring. To aid in our recovery, we chose to fraze mow and sprig the entire field instead of sodding. This allowed us to keep the stability from the thick cut layer without impeding the field's percolation rate. Since Grant Field is graded at 0% the ability to drain at a rapid rate is crucial. As far as agronomics are concerned, we are always looking for ways to improve our product. The focus has been on raising calcium and magnesium along with increasing our aerification frequency. We always want to be 100% by early July, so we can start our PGR program.

The most noticeable change will be Grants Field's paint scheme. We have worked alongside our Ideation team to create a new look to go with our recently unveiled brand refinement. This includes a new Tech Gold, wordmark and streamlining of our iconic interlocking GT logo.

ST: *You know a lot of sports turf managers. What are they saying are the biggest obstacles to overcome for them to be successful today?*

MAY: Weather will always be one the biggest obstacles in our industry and the most frustrating one as well. The extreme cold temps over the winter really set a lot of guys back in the transition zone. Trying to explain winterkill to coaches and administration is

not a fun task. Our industry is based around manipulating a plant to do the impossible, and the weather is crucial. It's hard to lose sight of the fact that we cannot control this. I think it only adds to burn out; the biggest threat our industry faces. Overcoming the increasing amount of events placed on sports turf managers across the industry is nothing new. External events and facility rentals is not going to slow down anytime soon. The financial benefits and exposure are just too good; it costs a lot to compete at the pro and collegiate level. College athletics is in an arms race for facilities and this includes the fields. This is a double-edged sword for turf managers; yes it puts our work in the spotlight but many are struggling to find a work/life balance.

ST: *How has your career benefitted from being a member of STMA?*

MAY: Networking. The relationships and friends I have made through the organization are hands down the biggest benefit to membership. At the end of the day we are not reinventing the wheel, someone out there has either experienced the same situations or knows someone that has. Being able to use those connections as a resource is crucial.

ST: *What's the best piece of turf management advice you have ever received?*

MAY: Keep it simple and control what you can control. /ST/

STMA SOURCEBOOK

Reaching the industry professionals you want to reach!

The OFFICIAL online directory: STMA Sourcebook is an online directory of manufacturers and distributors of equipment and supplies used by professional sports turf maintenance professionals, irrigation contractors, sports turf managers, professional grounds managers, custom chemical applicators, and other green industry professionals.

ARE YOU LISTED?

Go to STMASourcebook.com, search for your company, review, update and own your listing.

Not there? You should be! Get yourself signed up today.

SportsTurf MANAGERS ASSOCIATION

SportsTurf SPORTS FIELD AND FACILITIES MANAGEMENT

STMASourcebook.com

NEW, SIMPLE APPLICATION PROCESS FOR AWARDS & SCHOLARSHIPS

STMA's Field of the Year awards and SAFE's scholarship program just got a boost from technology. STMA has purchased new software, Reviewr, to use for the application and for the judging process for these programs. After this "test" year, SAFE grants, STMA Innovative awards, Founders and Minor League Baseball programs may be added.

Reviewr is customized to STMA and will provide a more engaging and user-friendly experience for program applicants. For example, smart logic is used so that when certain answers are given, non-relevant questions are weeded out, streamlining the process for applicants. The software will easily guide the applicant through the application, making certain all questions/required materials have been answered and submitted. An applicant can also save their information and go back and edit it prior to submittal. An electronic email platform will generate reminder emails to the applicants, as necessary. PDFs, photos

and other documents can quickly be uploaded, as required by the application.

Judges will be able to easily review all data and criteria as they rate the submittals, and there will not be a need for them to send multiple spreadsheets to HQ with their ratings. The final results are automatic; there is no need to manually merge all of the judges' scoring, so the very labor-intensive process of engaging an independent third-party to check that merge is no longer needed. In some years our judging committees have had 18 people.

Previously STMA collected applications through downloadable pdf/word documents, US mail, web forms, and managed the operations through spreadsheets, shared folders and cloud sharing storage and distribution platforms.

All STMA awards and grants program applications are due to headquarters October 15. Look for the rollout of our new application process this month.

Become a new member now at a discounted, pro-rated dues amount, then attend the Conference FREE!

Join STMA now during its special pro-rated dues time-period and receive a FREE Conference Registration, a \$375 value, to be used at the Phoenix conference in January 2019. The only restriction is that you must truly be a new member of STMA, which is defined as not having been a member since 2000. The student, retired and affiliate categories are not eligible for the free conference benefit; however those categories are eligible for the pro-rated dues discount.

Take advantage of this special offer now, and enjoy all of the benefits of membership through the end of the year; then attend the 2019 national conference and exhibition, January 22-25, 2019 in Phoenix, AZ, at no charge.

If you are a current or previous member and not eligible for this promotion, you can still attend conference virtually for FREE. Refer a new member to STMA, and receive \$100 toward conference, your annual membership dues or certification fees. Refer two people, receive \$200...etc. If you refer four people, your conference is paid for! Just remind those whom you refer

to list your name in the referral box on the printed and electronic membership applications.

Eligible Membership Categories & Costs

- Sports Turf Manager** \$130 . . . \$65
If you are primarily responsible for managing or maintaining a sports field(s)
- Sports Turf Manager Associate** . . \$85 . . . \$65
If you are primarily responsible for managing or maintaining a sports field(s) AND your organization already has an STMA Sports Turf Manager member employed. This Associate has the same benefits and privileges as the Sports Turf Manager; dues are lower because of multiple members
- Academic** \$110 . . . \$65
If you are in teaching, extension or research
- Commercial** \$340 . . . \$170
If you work for a company engaged in a commercial enterprise providing services and/or products to the sports turf profession (consultants, architects, designers, contractors, management companies, distributors and manufacturers, etc.)
- Commercial Associate** \$85 . . . \$65
If you are the 2nd person (or more) from a Commercial company. All Commercial associates must first have a STMA Commercial member at their company before this lower dues category can be selected.

Expanding the territory: Commercial partnerships

Every year, STMA works with its Commercial members and their companies to build partnerships. Some of these turn into blossoming ideas for sponsorships that we use for years, and some we promise to tweak for even better results for the next year. However, we are always ecstatic to combine forces and quantify that relationship with our Commercial members. With waves of new technology breaking down barriers for new digital sponsorships and paying homage to the OGs of STMA's staple programs like the Awards Program and Chapter Network, STMA is highlighting some of their commercial partnerships still available for the 2018 year.

Digital

As the world continues to shift in favor of digital marketing, STMA offers many opportunities for its commercial companies to get in front of our members on various digital platforms.

Electronic Newsletter Sponsor: Our electronic newsletter goes out monthly to our entire membership. Filled with vital information about the association, announcements about upcoming events or deadlines and educational bulletins, our newsletter is something our members don't want to miss. This sponsorship allows the commercial company to get in front of that audience every month, with a hot-linked logo placement on every newsletter.

Website Advertisement Sponsor: With the rollout of STMA's new website, sponsorship opportunities were introduced for prime advertisement spots. As advertisements were not something featured on the old STMA.org, this opportunity is new territory and perfect for our long-time members to try something new! Our main home page slider, as well as an introduction to a new, smaller slider on the lower portion of the home page, will be available for sponsorship opportunities.

Proprietary Survey: Ever wanted to distribute a survey that would tell you more about certain products, brands or the industry as a whole? STMA offers its commercial companies an opportunity to partner with STMA to distribute proprietary surveys to its members. STMA only offers this to a limited quality, as we do love our members, and like to give them a break from surveys every now and then!

Conference App Sponsor: To help our guests navigate through the abundance of information provided to them at the STMA Conference, STMA provides a Conference App to its attendees. This app is a vital tool to stay organized – providing schedules, speaker bios, attendee list, booth maps and more. As a sponsor of the app, the company's hot-linked logo will appear on the main page of the app, as well as recognition in all conference marketing materials leading up to and after the event.

SAFE Events

The Foundation for Safer Athletic Fields for Everyone (SAFE) is the charity of STMA. It was founded in 2000 to fund research,

educational programs and scholarships geared to the sports field profession. These sponsorships directly impact their mission "to enrich communities through championing safe, sustainable sports and recreation fields for all athletes."

Bowling Tournament Sponsor: The annual SAFE Bowling Tournament provides everyone's favorite time to reconnect with old friends, have a couple drinks and, if you're lucky, win some prizes. The bowling alley is decorated in signs recognizing the sponsor, as well as verbal recognition at the event. They will be recognized in all emails and written communication before the event regarding the bowling tournament, and even get a free bowling group – so your company can join in on the fun!

Golf Tournament Co-Title Sponsor: The SAFE Golf Tournament is heading back to its roots of a traditional golf setting, and we are so excited to have it at Grand Canyon University Golf Course! Grab a team of four, because sponsors play for free. Sponsors get a speaking opportunity at the tournament, as well as signage and logo recognition at the event and conference, as well as all marketing regarding the event beforehand.

Core

Vital to our association, our Awards Program and Chapter Network are responsible for recognizing distinguished leaders in our industry, as well as funding vital education to our chapters.

Awards Program Sponsor: STMA offers five awards programs to provide recognition to its members for their good work and contributions to strengthening the sports field management profession. Each program has its own criterion and separate submittal form. Sponsoring the awards gives the commercial company recognition on all application forms, logo placement on the STMA Awards web page, and visual and verbal recognition at the STMA Awards Banquet at the STMA Annual Conference. This sponsorship is open to companies who do not compete with current sponsors of the program.

Chapter Network Sponsor: STMA believes that all agronomy is local, and its affiliated chapters serve a key role in delivering regional information. Chapters hold many educational events including field days, workshops at which they address relevant, topical issues. STMA has 34 chapters throughout the US that represent more than 6,000 sports turf industry professionals. Sponsoring the Chapter Network gives the commercial company a brief speaking opportunity and recognition at the chapter Officers Training Session at the STMA Annual conference, logo recognition on the STMA website and in the Chapter Benefit Kits, and much more. **/ST/**

Have an idea for a sponsorship, but not seeing what you are looking for? Contact us! Kenzie Jay, STMA's Sales and Marketing Manager, is always looking for ways to reinvent the wheel and hear your ideas! If you are interested in sponsoring or have any questions, please contact Kenzie Jay at kjay@stma.org or call STMA HQ at 800-323-3875.



Q&A with DR. GRADY MILLER

**Professor,
North Carolina
State University**

Questions?

Send them to Grady Miller at North Carolina State University, Box 7620, Raleigh, NC 27695-7620, or email grady_miller@ncsu.edu

Or, send your question to Pamela Sherratt at 202 Kottman Hall, 2001 Coffey Road, Columbus, OH 43210 or sherratt.1@osu.edu



Using what you got

Q: TO REPAIR OUR NEWEST FIELD FROM WINTER DAMAGE TO THE BERMUUDA, I AM GOING TO BUY FROM THE SAME SOD SUPPLIER USED WHEN IT WAS BUILT. ALSO, I DON'T KNOW THE CULTIVAR FOR MY OLDER, DAMAGED FIELDS THAT WERE GRASSED BEFORE MY TIME HERE. HOW DO I BEST MATCH THE GRASS? I DON'T HAVE MONEY FOR TOTAL RENOVATIONS, AS I WILL PUT MUCH OF MY REPAIR BUDGET INTO FIXING THE NEWEST FIELD. SUGGESTIONS?

A: Winter and spring conditions resulted in some significant damage in the Carolinas. This year may go down as one of the “wackier” years in terms of winter injury. It seems there were significant areas in South Carolina that sustained more winter damage than some areas of North Carolina. In some cases coastal areas had more damage than inland areas. And perhaps craziest of all, some of the newer bermudagrass cultivars that are known to be more winter hardy than older cultivars sustained more damage than the less winter hardy cultivars (growing in close proximity to each other).

If you are reading this rather than living it, you may be asking yourself how these outcomes were possible. In a textbook example of winterkill, all those outcomes would be reversed. The response can only be understood by looking back at the weather patterns. In November and December 2017 most of the Carolinas had fairly normal temperatures. January then brought some really cold temperatures, with NC setting records for daily highs below freezing and lows in the single digits. These low temperatures for long durations caused problems with less freeze tolerant turfgrasses, especially those previously stressed from traffic, moisture, shade, etc. These conditions would have resulted in a “normal response.”

Then unusually warm temperatures in mid- and late February and early March caused some green-up in some of the more freeze tolerant turfgrasses. These deacclimated grasses were then more susceptible to a strong cold spell (low 20s) that arrived in mid-March. Many of the less freeze tolerant grasses did not green up in February, so they were not deacclimated and did not suffer as much damage from the March cold spell. So that is why some of the warmer regions of the Carolinas and some of the more cold tolerant grasses actually experienced more severe damage.

This brings us to your three issues. First, matching cultivars to existing grass. Second, ways to establish the grass given that situation. Third, what grass should I use?

I do believe that matching grass cultivars on a field will provide the best visual appearance. The grasses will have the same color and texture when growing, plus they will usually go dormant and green up at the same

time. Matching to unknown cultivars is a bit tricky. Genetic testing is one option, but I still do not consider that to be a very practical option.

My advice is to use the current field as the source material if possible. This means either taking plugs out of the existing field and transplanting or using the fields to harvest sprigs and then using that material to plant the problem areas. Using plugs is only practical if the damaged areas are relatively small or if there are some significant non-play areas that can serve as a source of plugs. To harvest sprigs, a commercial sprig harvester or fraze mower would be needed. To some extent this will result in a field renovation and re-establishment process. The turf manager can rake out the large dead areas of turfgrass and just sprig those prepped locations. Once the turfgrass sprigs are grown in, the field should look uniform.

As an alternative, a turfgrass manager can pick a cultivar that they think looks the same as their grass and sprig or sod the damaged area. The results of this guess may work out great, but often the grasses will look or perform differently because of different genetics. One situation where this may work is if the field has a weak common bermudagrass stand. Assuming the turf manager wants to go back with a common bermudagrass, they can heavily verticut the remaining turfgrass and the dead material and then seed an improved, aggressive bermudagrass cultivar into this semi-prepared seedbed. The hope is that the improved bermudagrass will become the dominant grass over the entire surface.

I generally do not recommend seeding bermudagrass into an existing stand of hybrid bermudagrass. Most hybrid bermudagrasses retain enough density when healthy that they do not allow seeded bermudagrass plants to intermingle. So a patchy looking stand of turfgrass is the most common result. My suggestion is to be all seeded or all hybrid within one field.

To me the best grass to use in a renovation is the one you already have, up to when you want to totally change to a new grass. I believe our climatic conditions this year disadvantaged some really great grasses, but that the response to this one year is not a sufficient reason to change grasses – unless you already wanted to change grasses. **/ST/**



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