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ALSO INSIDE

- » Should you date someone you work with?
- » 10 things you should know for safe synthetic fields
- » Using data to improve field safety, playability
- » Controlling false-green kyllinga in cool-season turf
- » Organic matter management on sand-based fields



See
pg 42

SAFE?

A close-up photograph 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 catcher's black glove is visible on the left, holding a baseball. The scene is set on a dirt field with a blurred green background.

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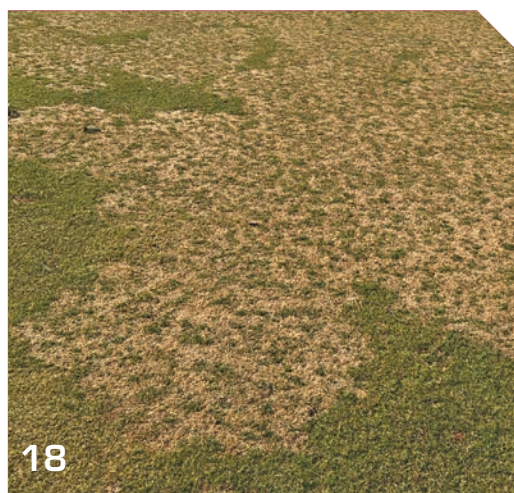


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DEPARTMENTS

- 6 *From the Sidelines*
- 7 *STMA President's Message*
- 17 *John Mascaro's Photo Quiz*
- 46 *STMA in Action*
- 48 *Marketplace*
- 49 *STMA Chapter Contacts*
- 50 *Q&A*



FEATURES

OPENING WHISTLE

- 8 *Should you date someone you work with?*

ON THE FIELD

- 10 *The 10 things synthetic turf owners should know to maintain safe fields*
- 14 *Using data to improve field safety, playability and turf health*
- 18 *Controlling false-green killing in cool-season turf*
- 22 *Organic matter management on sand-based fields*

THE SPORTSTURF INTERVIEW

- 26 *Paul Zwaska, Beacon Athletics*

OFF THE FIELD

- 28 *Ohio State's global internship program a 2-way bridge*
- 30 *Interning with Super Bowl champ Eagles*
- 32 *The rise of the 'Turf Guy'*
- 34 *Honoring Dr. Henry W. Indyk, turf industry icon*

TOOLS

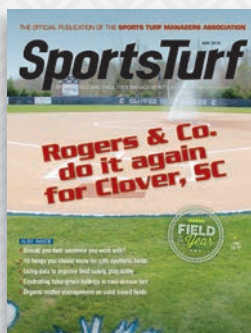
- 38 *To play or not to play: safety comes first*
- 40 *Diamondbacks install Platinum TE seashore paspalum*

2017 FIELD OF THE YEAR

- 42 *Schools/Parks Softball: Blue Eagle Softball Complex, Clover School District, Clover, SC*

ON THE COVER

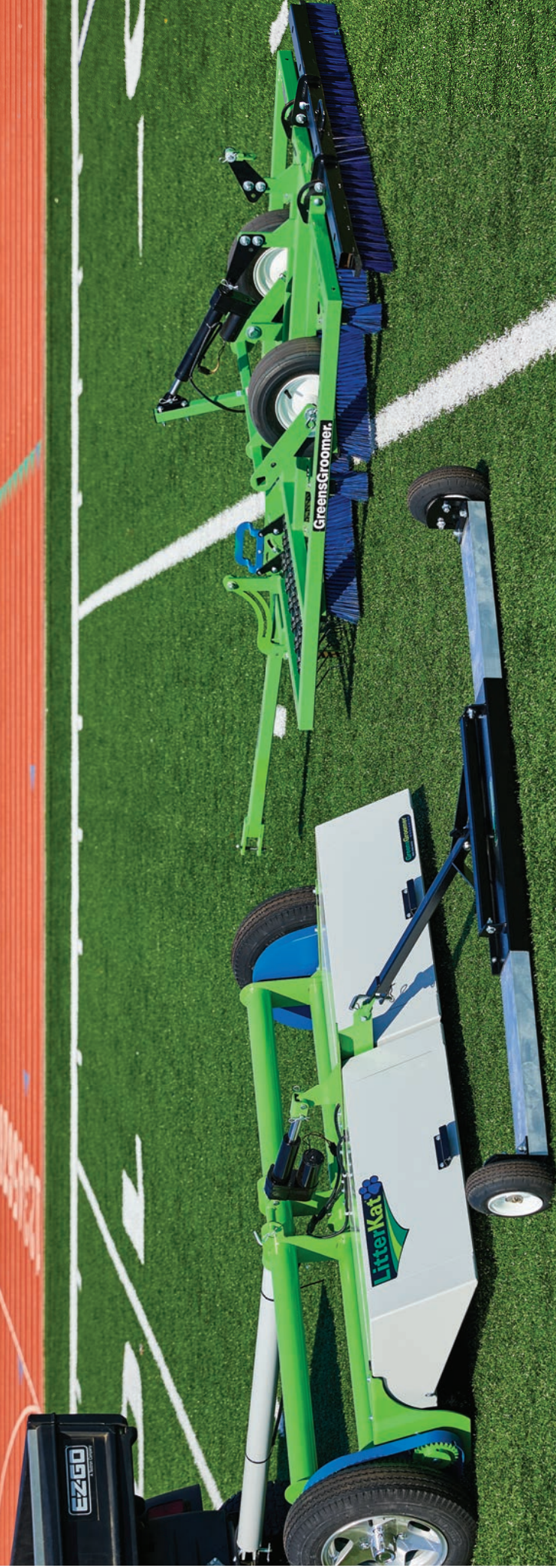
pg 42



On the cover: Four-time winner of STMA's Field of the Year Award Will Rogers of Clover, SC says, "The beauty of having an old field is the character that time brings, but with that comes the challenges of upkeep. We feel that we are always striving to maintain the character while at the same time adding to its story each year."

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FROM THE SIDELINES

Mother Nature, GOAT



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

THE TERM “GOAT” as in “Greatest Of All Time” has been around for years, which is how long this winter seemed to last, at least in my neck of the woods. I’ve heard as well how rough Old Man Winter was for many regions of the USA, and MLB might have set a record for snowed out games in April.

Turf managers know it better than anyone – you can’t beat Mother Nature. No amount of planning, preparation or prayer will get you ahead of the old gal. At least many of you have a legitimate excuse if your fields weren’t quite up to standards for spring sports. No player or spectator who endured the long winter should expect miracles!

Student Challenge winners put funds to use

The STMA Student Challenge is presented in partnership with the SAFE Foundation, Founding Partner Hunter Industries and supporting sponsor Ewing Irrigation. Each year students from 2-year and 4-year colleges and universities across the country compete in an exam that challenges knowledge in the sports turf industry. The winning teams receive cash awards of \$5,000. The prize money benefits the institution’s turf program and creates opportunities for students pursuing a career in sports turf management.

Mt. San Antonio College was the 2-year division winner in 2017. They have used the funds to begin construction on a permanent equipment storage facility. The facility is approximately 1,500 square feet and is enclosed with block walls. Concrete has already been poured for part of the floor. Drainage, more concrete, and a roll-up door for large equipment access were also installed this semester. It is a huge project, requiring over 30 cubic yards of concrete and a substantial amount of money for other construction materials. Mt. SAC is using construction classes for installation, which gives students another opportunity to learn. This project is important because every sports facility has a shop, and this gives students an idea of how to build and organize an equipment facility.

Penn State was the 2017 4-year division winner. Students had the opportunity to improve the State College Little League fields. Although it was not possible to completely replace the infield mixes on each field, three fields were edged and resurfaced, then leveled. The funds provided by winning the Student Challenge were used for the infield mix and laser leveling. Matt Neri, sports turf manager with the Class A short-season State College Spikes, assisted the students.

Project Evergreen’s new Board

Dan Carrothers of FMC Corp. continues to serve as president through 2018 when president-elect Joe Shooner of Focal Point Communications will be succeed him. Other officers are Bill Vogel of Spring Valley, Michael Maravich of Sipcam Agro, and Mike Dauer of Real Green Systems. Project EverGreen is a national non-profit committed to bringing people together to make a difference in how yards, parks and communities creating a greener, healthier, cooler Earth by supporting the creation and revitalization of managed green spaces that result in healthier, happier people. Additional Project EverGreen initiatives include GreenCare for Troops, SnowCare for Troops and Healthy Turf. Healthy Kids. */ST/*

// May 2018

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The Official Publication Of
The Sports Turf Managers Association

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& Specialty Information, Or Preference Over
Similar Products Not Mentioned.

SportsTurf (ISSN 1061-687X) (USPS 000-292)
(Reg. U.S. Pat. & T.M. Off.) is published monthly
by EPG Media & Specialty Information at 75 Pike
Street, Port Jervis, NY 12271. POSTMASTER:
Send address changes to Sportsturf, PO Box 2123,
Skokie, IL 60076-7823. For subscription information
and requests, call Subscription Services at (845)
856-2229. Subscription rates: 1 year, \$40 US &
Poss.; 2 years, \$65 US & Poss.; 1 year, \$65 Canada/
Foreign Surface, 1 year, \$130 Airmail. All
subscriptions are payable in advance in US funds.
Send payments to Sportsturf, PO Box 2123, Skokie,
IL 60076-7823. Phone: (847) 763-9565. Fax: (847)
763-9569. Single copies or back issues, \$8 each
US/Canada; \$12 Foreign. Periodicals postage paid
at Port Jervis, NY and additional mailing offices.
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PRESIDENT'S MESSAGE

Time well spent



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

HOW DID MAY get here so quickly? Time is flying by, and we are in full swing with our STMA Committee work.

I can't say THANK YOU enough to all of you who volunteer on the many STMA committees. Without your hard work and dedication the STMA would not be able to stay at the level of productivity that we enjoy today. From checking all the content on the website, to going through Field of the Year submissions, to updating CSFM and Environmental Certification components, the amount of work handled by our tireless committee folks is absolutely astounding.

Committee work is the most important means by which STMA will achieve the four goals in its new Strategic plan for 2018 - 2020:

1. Grow membership. We have set a very aggressive target of growing our membership by 4% annually. Many committees will be involved to accomplish this goal, not just the Membership Committee.

2. Enhance education services. The primary focus for this goal is to use innovation and new technologies to provide the most relevant and timely continuing education to our members. Our Conference Education, Information Outreach, Technical Standards and Technology Committees will contribute to achieve this goal.

3. Promote professionalism. This goal encompasses our branding and public relations strategies, helping our members leverage their certifications, awards and expertise to garner more respect for their work. This also involves helping our chapters to be successful.

4. Diversify and grow revenue. A primary role of the Board of Directors is fiduciary; they provide solid oversight of the association's fiscal policies. The Board is very sensitive to our revenue streams and wants to make certain that STMA is not reliant on just one or two programs for its income so that the association is sustainable for the long-term.

Your Board of Directors began its strategic planning process in mid-2017. We engaged a facilitator who works with businesses and non-profits to develop visionary plans that will move organizations forward. We then spent the next 6 months refining the plan, rolled it out in January, and are 5 months into its first year. As I've noted, committees will be playing a very large role in achieving these goals over the next 3 years.

IF YOU WERE UNABLE to volunteer for committee service yet might be interested in helping on a task group, please let headquarters know. They will be keeping a list in case I need to appoint a task group to focus on a specific issue this year.

Thank you for volunteering some of your hard-earned personal time with the STMA, and the many other organizations that you participate in. We are making the world a better place, one hour at a time.

I'll leave you with this: "Volunteers do not necessarily have the time; they just have the heart." - Elizabeth Andrew **/ST/**

WORKPLACE DATING: YES OR NO?

By Philip Perry

Dating between supervisors and subordinates is a fact of life in many workplaces. What seems like a harmless relationship on the surface, however, can lead to disaster.

Bad things can happen when a workplace romance comes to an end. "If a manager breaks off a relationship, the subordinate may start to view it as non-consensual from the beginning," says James J. McDonald, Jr., managing partner at the Irvine, CA office of Fisher & Phillips. "And if a subordinate breaks it off, any later enforcement of an organization's usual rules and standards may be interpreted as a form of retaliation."

Either situation can spark a sexual harassment lawsuit. To lessen the danger, attorneys advise employers to draw up clearly defined fraternization policies. "Organizations are free to establish any policies they want regarding workplace dating," says Bob Gregg, co-chair of the employment practice law group at Boardman and Clark LLC, Madison, WI. "Some employers state that no one may date any co-worker, or any supervised employee. Others allow consensual relations, but require the

parties to notify management, which can then assess any conflicts of interest."

While blanket prohibitions obviate immediate dangers, they can also lead to secret romances with unreported conflicts of interest. And still more serious ramifications may occur later if the relationship turns nonconsensual and a state of undetected long-term sexual harassment finally comes to the surface.

"I personally do not like the 'no one will establish a relationship with anyone here' policy," says Gregg. "It's hard to enforce and people think it's draconian."

So what's a better idea? Gregg sometimes suggests a policy like this: "No one will use the workplace to make romantic advances, or to be overtly demonstrative. If you have a relationship with someone you supervise, or otherwise might have some impact on your work, we need to know promptly."

To eliminate conflict of interest or favoritism, some individuals involved in romantic relationships may need to be transferred. That can be difficult at smaller organization with a limited number of unrelated departments. "Smaller organizations have more issues resulting from romantic involvements," says Gregg.

Attorney McDonald sometimes recommends that employers go still further by requiring that involved parties sign a document formally agreeing to the following terms: 1) They acknowledge the relationship is consensual. 2) They agree to avoid a conflict of interest or the appearance of one. 3) They agree to not carry on the relationship in the workplace. 4) They acknowledge that the company has a policy against sexual harassment. 5) They understand the company procedures for reporting incidents of sexual harassment. 6) They agree to report any change in the relationship to a non-consensual status. "I have never had anyone sign one of those agreements and then turn around and try to sue," says McDonald.

No matter what policy your organization adopts, individuals in supervisory positions may want to think twice about engaging in workplace romances with subordinates. "I can think of no faster way to end a manager's career than to engage in a dating relationship with a subordinate that ends badly," says McDonald. "A lot of managers have felt they could handle it, when in fact they couldn't."

Philip Perry is a freelance writer based out of New York City.



The crew wanted to do a little something special for our first home SEC series so we decided to break out the script "Aggies." -Nick McKenna, assistant athletic field maintenance manager, Texas A&M



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The 10 things synthetic turf owners should know to maintain safe fields

// By JIM CORNELIUS, CSFM

1 The most important thing is that these fields are not maintenance-FREE! Maintenance will need to be done daily, weekly, monthly, annually, all depending on when and how much the turf is used. Daily maintenance can be as simple as a quick visual to make sure that nothing is out of the ordinary and that the field is clear of debris that may cause harm to a user. Weekly and/or monthly maintenance may include grooming/brushing, infill needs in high use areas, and closer inspection of inlays and lines that may be problematic and any repairs. Annual maintenance should include all of the above as well as Gmax testing, infill cleaning or deep cleaning, de-compaction of the infill, and a complete field inspection with a infill depth chart covering the entire surface, adding to or replenishing the infill as needed.

2 Understand the warranty and maintenance requirements from the turf manufacturer. Once the owner accepts the field the manufacturer or representative should provide a maintenance manual with instructions. This should include how often grooming/brushing needs to be done, maintaining proper infill depths, how to handle high traffic areas, dealing with loose inlays or seam splits (should be covered under warranty), cleaning the turf, snow plowing (if applicable) and general maintenance of the turf on a daily, weekly, monthly basis.

3 Understanding the Gmax of the field and how often should it be done. Most warranties spell out what the acceptable level or maximum Gmax value should be through the life of the warranty. Gmax testing should be done annually at minimum (the NFL does it weekly) and it should be done by a *neutral* certified

tester whose testing equipment is calibrated. The tester should be working for the field owner and not the turf manufacturer or installer.

4 Understanding that synthetic turf is much like natural turf in that if users consistently are on a particular area (goal crease, one end of field, same lines for warm up, same entrance gate or path, etc.), these areas will show higher signs of wear than other areas and will eventually wear out prematurely. Educating the users of this is invaluable when it comes to creating longevity of the turf.

5 Maintain infill depth. Each manufacturer has recommended infill depths and is typically minimum depths for the performance of the turf. Since the number one enemy of synthetic turf is the sunlight to the fibers, it is important to maintain as high a level of infill (without creating performance issues) typically within a 1/2 to 3/4 inch of the tip of the fiber. We see field owners who are left with some infill material after construction and still have the material in storage when the field gets replaced. If infill is not added within the first 2 years the fibers begin to lay over, will not stand up for maximum performance, and so the degradation of the fibers is accelerated. When using a sand/rubber infill it is very unusual to have to add sand as it



Worn out area in goal crease.

tends to settle to the bottom allowing the crumb rubber to be displaced more easily. Organic infill material migrates more than sand/rubber or all rubber and the maintenance requirements are much higher.

6 Understand the maintenance equipment that was purchased/included/acquired with the field. Depending on the type of equipment you



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Grass, hay, turf fibers and infill removed from a field.

own it is important to understand what its purpose is, how to set it up for maximum results, what is the piece of equipment expected to do to the turf or the fibers, how often should it be used, and most importantly, how long should it take to complete the task (how fast should you go). Change the direction of grooming/brushing each time to provide maximum performance of the turf; grooming/brushing in the same direction will promote the fibers to lay over in the direction of travel and can eventually hasten the degradation of the fibers. Also, by grooming/brushing in different directions the infill will become more evenly distributed. Grooming/brushing should be scheduled by hours of use of the turf.

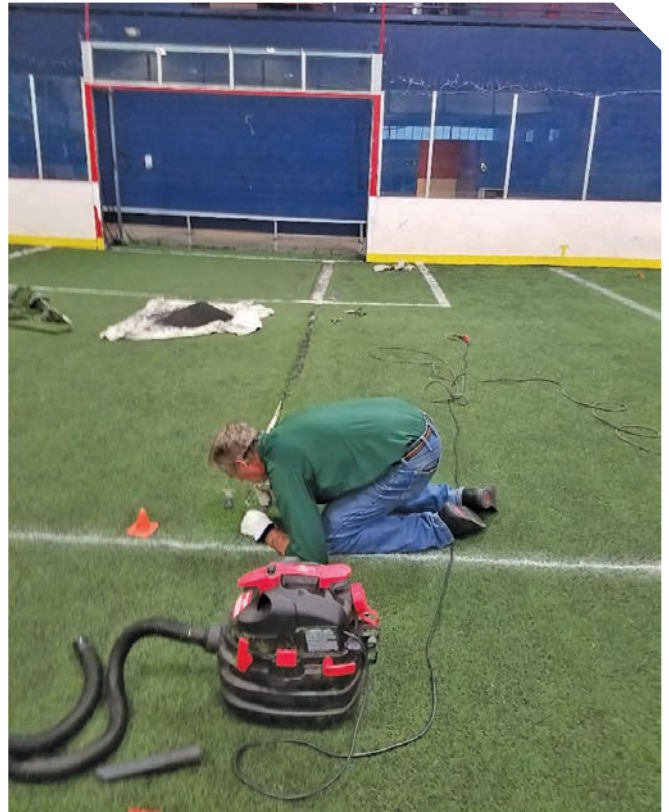
7 Cleaning the turf. One thing to remember about synthetic turf is that you usually don't have microbes within the profile like natural turf, so anything that falls on the field remains with minimal breakdown. Dust, dirt, pollen, body skin cells, human hair, bird droppings, leaves, branches, metal objects, etc., can be found unless it is removed. Having the field



Sinkhole around a goal stabilizer.



Turf meet grass.



Our rarely photographed author, repairing a seam at indoor facility.

professionally cleaned or obtaining the proper equipment to do this is imperative to the life expectancy.

Purchasing a good magnet to use on the turf is highly recommended. These magnets can be mounted on the grooming/brushing equipment, cleaning equipment or used as a standalone.

Think of it like this: Synthetic turf is carpet and you, the owner, grooms and brushes and removes surface debris similar to when indoor carpet is vacuumed. The infill cleaning needs to be like bringing in Stanley Steamer – or another professional cleaner who has the equipment to clean more than just the surface.

8 Weeds and pests within the turf can exist and need to be treated early. Most weeds/grasses are there because organic material available that they can thrive in. Removing the weeds when young is fairly easy but the organic material needs to be addressed as well. Pests can range from beetles, bees, moles, etc., and should be treated as early as possible.

9 Use paints approved by the turf manufacturer; follow the paint manufacturer's recommendations on thinning and rates as well as equipment. At some point it will be necessary to allow the paint to breakdown or be removed to prevent it from causing a buildup on the fibers and within the infill. Paint buildup typically has a higher Gmax value than the surrounding turf areas and would not be a warranty issue. There are many paint companies who claim to have paint that works on synthetic turf and may be cheaper (cheaper is not always good) make sure you are using paint by an approved manufacturer.

10 Prepare for replacement. Although this may not seem to fit our "keep the field safe" theme, it definitely is that indeed. Synthetic turf slowly degrades and rarely is it overnight but it is the one thing many turf owners don't plan for. Once it reaches the end of its life the field needs to be replaced. If the warranty has expired and the Gmax is over the limits or recommended maxi-

mum values (ASTM currently is 200g) are too high, or the fibers no longer hold the infill in place causing players to slip and slide, or seams and inlays are experiencing glue wear out and failure causing trip hazards, these are all safety issues, and there are others as well.

I recommend to customers that when the turf is in the last year of the warranty they should begin to budget a replacement. Now this doesn't mean that turf only last as long as the warranty but it makes the process of replacement a reality. With proper maintenance and care we have seen turf fields exceed the warranty life; in some cases they have doubled the life expectancy and still provide a safe playing surface as intended. Ironically my former employer, a public school district, replaced their turf fields at 15½ years old not because they were unsafe but because they didn't like the color from the fading fibers and the aesthetics. **/ST/**

Jim Cornelius, CSFM, is services manager for TurfAssist, Exton, PA, www.turfassistpro.com

Using data to improve field safety, playability and turf health

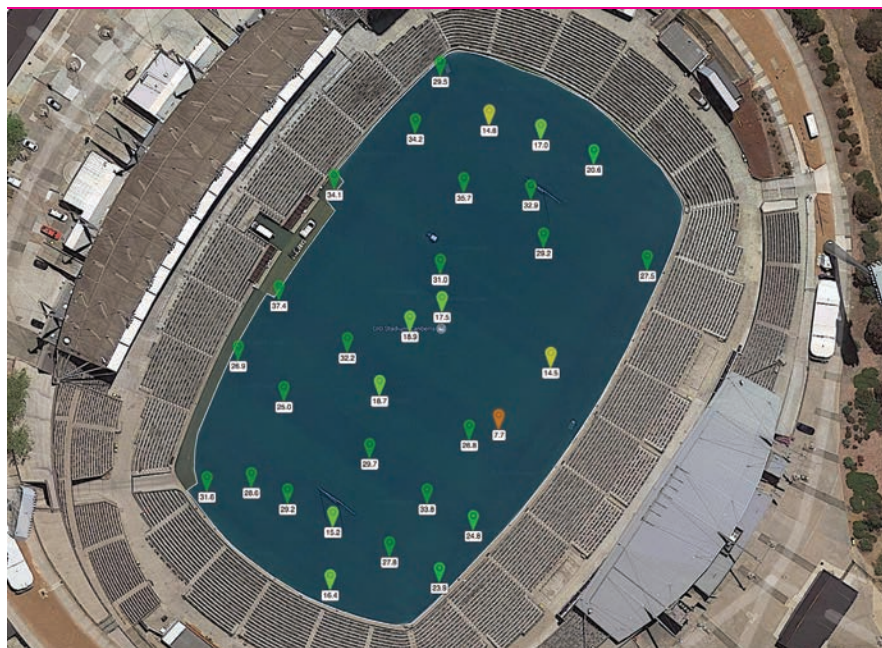
// By LOYD BOWMAN

Editor's note: Loyd Bowman is turf national accounts manager for Spectrum Technologies. Loyd studied turfgrass management at Michigan State and was the first-ever Toro Super Bowl Sports Turfgrass Training Program winner. He began his career as a high school groundskeeper and has been actively involved in the industry for nearly 20 years.

How do you balance the conflicting needs of several user groups (players, greens committees, athletic directors, coaches, band leaders, graduation planners, etc.) and the cultural needs of the playing field? Often it forces compromises like irrigating not by what the turf needs, but to fit small windows of opportunity between events. All the benefactors want perfect turf for their activities, and none of them fully recognize that their individual and collective expectations are often in conflict with turf health, and therefore, their own goals.

For many years, dry and hard was the goal for game day, and little attention was paid to athlete safety. Those days are gone because the scrutiny on safety is much more intense today. Player safety has gained an ever-growing spotlight, and liability concerns are driving even professional sports to change the way their games are being played.

What complicates this situation is that there are many different interpretations of what a "safe field" really is and what it takes to achieve that expectation. Some think softer fields must be safer, but that approach overlooks the potential for soft tissue injuries. Safety and playability is a complex balance of what is good for the player and the fundamental needs of healthy turf. What often gets missed by user groups and administrators is that turf health is a key component of providing



Overhead satellite image showing where data readings were taken; boxes indicate VWC% (moisture). Images from SpecConnect cloud management platform and show actual readings taken with a TDR350.

safe conditions. It is paramount that the health needs of the turf not be set aside in favor of safety or field availability, because neither can be effectively achieved without strong root systems and healthy turfgrass plants.

Being in low/no budget environments further amplifies the importance of every decision that a turf manager must make. Multi-use fields and increasing scrutiny on player safety add to the challenges you face. Managers need all the help they can get to produce healthy and safe playing fields within limited time and budget constraints.

Successfully managing athletic fields these days requires an understanding of three critical factors that each influence one another, and bring individual and

collective impacts on safety, playability, recovery and resource management. Similarly, they all influence and are influenced by irrigation practices.

3 legs of a stool

Soil moisture, surface firmness and soil compaction can be visualized as the legs of a stool. With all three legs in place, the stool stands firm with limited effort and is at its strongest. Remove one or more of the legs and it is far more difficult to keep the stool upright, and its capacity is diminished significantly.

Water is one of the most scrutinized turfgrass inputs. Especially in areas prone to drought, the pressure to justify every drop applied is intense and growing. At the same time, it is essential to providing

the conditions desired by field users because only healthy turf can achieve their expectations. Believe it or not, the tension between these is a good thing, driving us to more responsible use of water and even making turf healthier in the long run through better-informed management of the true needs of the plants. With the right information, justification of irrigation and water savings are both possible.

Portable soil moisture meter technology makes it easy to add ongoing measurement and management of soil moisture levels as part of your routine operations. Many turf managers have been using TDR meters daily for years, to dial in moisture levels and create optimal playing conditions. They can tell you what their ideal moisture content is at any given point in the year, when and precisely where they need to water and for how long.

Soil moisture meters allow them to determine easy to communicate wilt points for their turf, ideal game day moisture content by sport or event, and better balance the needs of turf and user for mutual benefit. It is possible to determine both, exactly how much you must irrigate to maintain turf health, and how much you can irrigate without negatively impacting performance of the field at the next event.

Knowing and managing to ideal game day moisture targets provides recordable, objective data backup when you are questioned about management decisions.

Surface firmness

Playability is a moving target for a myriad of reasons. Multi-use fields present unique and often conflicting priorities about what makes the field playable for each specific need. Determining and managing gameday moisture levels is an excellent start, but more is needed to maintain player safety objectives, achieve desired playing conditions for each sport, and meet the demands of each user group. Understanding surface compaction (hardness) and setting quantifiable thresholds is vital. Defining surface measurement values that meet the specific needs of each event makes it easier to understand and provide those conditions, as well as gauge and communicate progress. Data provides unbiased feedback to help you determine the best mix of cultural and irrigation strategies

for fine tuning your programs to create safer and better playing surfaces.

Surface firmness meters provide objective measurements that quantify what conditions are preferred, creating a platform for constructive discussion about what is acceptable in challenging conditions, and facilitating agreement on the resources required to make all it happen. Establishing, agreeing on and managing playing surfaces based on quantifiable data gives you a

“WATER IS ONE OF THE MOST SCRUTINIZED TURFGRASS INPUTS. ESPECIALLY IN AREAS PRONE TO DROUGHT, THE PRESSURE TO JUSTIFY EVERY DROP APPLIED IS INTENSE AND GROWING.”

– Loyd Bowman

significant advantage over trying to achieve loosely defined, subjective expectations.

Most sports turf managers believe surface testing is priced well out of their range, but viable options are available and affordable enough for almost any organization to have on hand for routine monitoring of their conditions. A common concern with reasonably priced instruments is that they use different units of measurement than the frequently touted test implements, but the value is not in the units displayed.

Any measurement is a giant leap forward from doing nothing and likely puts you ahead of most peers. Regardless of what meter is used, the numbers themselves are irrelevant anyway. What matters is how a given reading translates to the performance of your fields, and that you can consistently monitor playability realities. Communication and understanding of conditions becomes much easier once a common scale is established.

Liability is another key concern. Frequent testing and ongoing recordkeeping of inputs to address field conditioning demonstrates diligence and commitment to safety. Not measuring could easily prove far more expensive than an investment in tools that allow you to continually validate performance of your facilities. Further, an incomplete approach to testing can provide false security, which leads us to the third leg of the stool.

Soil compaction

Surface hardness measurement alone is truly insufficient in determining actual safety of an athletic field. Soil compaction throughout the rootzone must also be considered, understood, monitored, and managed to ensure safe playing conditions and encourage a healthy growing environment. Think about carpeting installed over concrete, even though padding softens the surface there is still a very real impact hazard because of what lies just beneath. This danger increases dramatically with the layering of several common but usually unperceived factors such as, frequency of impact in a given sport, size and speed of the players, and cumulative effects of busy field schedules.

The physical properties of soil are dynamic, and often misunderstood. It doesn't take a soil scientist to see that dried soil hardens and saturated soil is soft (mud), but there is much more to consider. The mere presence of moisture can dramatically skew how soil compaction is perceived, and we can easily do the wrong thing for a right reason. Irrigating will soften dry soil, but the application of water does not mitigate compaction. In fact, applying traffic to wetted soil will make compaction worse.

Perched water tables are of specific concern to sports turf managers. Underlying compaction and soil characteristics can prevent drainage from the surface layers until they become fully saturated. This can be an inherited condition, or something unknowingly contributed to by consistent cultivation at the same depths without ever addressing the deeper profile. Whatever the cause, the result is very undesirable outcomes like shallow turf plant rooting, poor foot traction, diminished shear

strength and compromised wear tolerance. What's more, an artificially soft surface layer can give false 'acceptable' surface hardness measurements that don't equate to safe conditions.

Measuring compaction levels in the deeper soil profile with a digital meter allows you to monitor what is going on beneath the surface and improve timing and effectiveness of aeration practices. Knowing how the entire soil profile is performing helps you make informed, site-specific, cultural management decisions to improve field safety and turfgrass health conditions. A digital value is far superior to an analog dial or color scale because numeric values allow tracking of subtle changes over time and help you gauge the urgency required for action. Consider investing in a meter with an ultrasonic depth sensor and internal data logger; there is one currently available that records at every inch up to a depth of 18 inches into the profile.

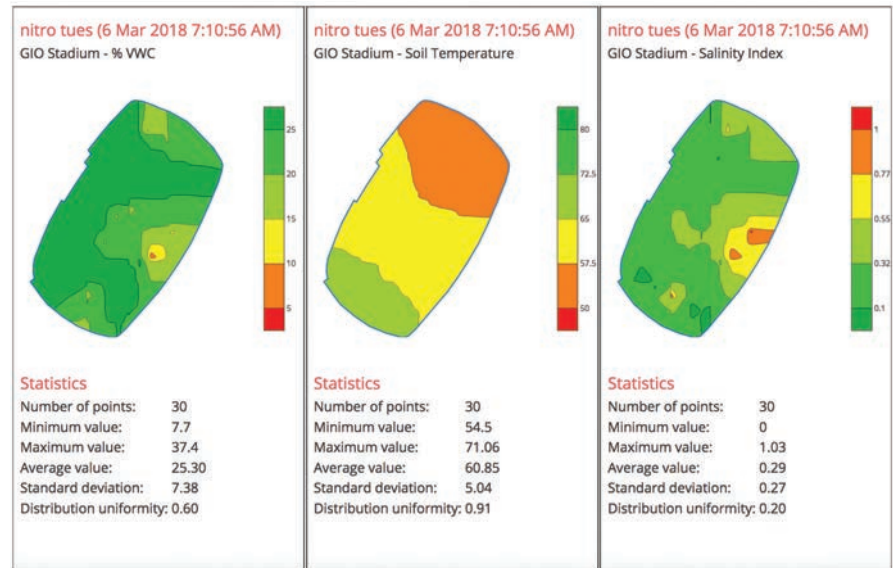
Technology is always evolving, and today portable meters are available for measuring the three legs of our stool. Even better, some even offer GPS location, satellite mapping and cloud-based data management options. For best results seek a platform that allows management of all three factors in the same dashboard with visual analysis tools.

Communication with administrators and user groups can be far more effective with visual support that they can better understand. Imagine the power of having your evaluation data GPS plotted on a satellite image of your facilities.

Reducing liability

Liability concerns must be addressed when developing programs to deliver on these goals. Concerns about risk exposure have rapidly changed the way organizations think about their athletic facilities. Fear of legal action cuts through organizational structures like nothing else and compels them to seek out ways to reduce risk. In many cases this has resulted in an intensified pressure and scrutiny on field management staff, but unfortunately supplemental resource allocations have not increased to adequately address these pressures and concerns.

It should make perfect sense to your chain of command to lower liability



Three color-coded gradient maps that interpolate three different data types for each reading.

exposure by investing in field measurement instruments to test, track and validate an organizational commitment to maintaining safe facilities. For a few thousand dollars you can be ready when the lawyers call, with concrete facts about the conditions of your field when an incident occurred. Data is like kryptonite to frivolous lawsuits.

Meters track safety conditions and provide significant, practical and agronomic value. You can leverage the liability concerns that are easily recognized by administrators to secure funding for tools that might never be approved for turf health alone. In turn you can better address field management factors less recognizable to others, for the mutual benefit of all parties. By giving them what they want, you can also provide what they need.

Budget support

Availability of resources has not grown with the same intensity as scrutiny. It's difficult to explain the delicate balance between turf health needs, athletic field playability and player safety concerns to those not actively engaged in performing the work. Easily overlooked is that the physical properties of a field change with weather and wear throughout the course of a season. This reality significantly influences how much effort is required to provide desired conditions. It simply takes more resources

(labor, materials, equipment, etc.) at certain times to produce the same result, and often there are environmental and other circumstances beyond the turf manager's control that can make it impossible to achieve the ideal.

An added value to the use of field measurement instruments is their ability as third-party evaluators in determining and sharing quantified realities about the needs of your fields. Data is your friend, even when it reveals information you don't like. Quantifying even difficult results provides a compelling opportunity to make adjustments that improve conditions and can help you communicate need to gain buy in on your operational requirements. Finally, there is a way to prove the need for labor to address field conditions, equipment to ensure ongoing success, tarps/covers to help manage moisture, contract services, and other resources that were previously out of reach.

An increasing number of people are demanding "safe" conditions with no context for what it takes to achieve that goal. Getting access to resources to meet expectations is a real challenge. The good news is there are some very good, time tested data measurement options available in the market today that will give you what you need without charging exorbitant prices. Find what works for you and put it into practice soon. **/ST/**



JOHN MASCARO'S PHOTO QUIZ

JOHN MASCARO IS PRESIDENT OF TURF-TEC INTERNATIONAL

////////

ANSWER ON PAGE 33

CAN YOU IDENTIFY THIS SPORTS TURF PROBLEM?

PROBLEM:

Two brown spots on area where home team enters stadium

TURFGRASS AREA:

High school stadium field

LOCATION:

Lansford, Pennsylvania

GRASS VARIETY:

Ryegrass/bluegrass mix



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Controlling false-green kyllinga in cool-season turf

// By MATTHEW T. ELMORE, PHD, AARON J. PATTON, PHD, BRADLEY S. PARK, AND JAMES A. MURPHY, PHD

False-green kyllinga (*Kyllinga gracillima*) is a warm-season (C₄) perennial sedge (Cyperaceae) species that has become increasingly problematic in cool-season turfgrass. It has been reported as far north as Connecticut and south to the Carolinas (Figure 1). Green kyllinga (*Kyllinga brevifolia*) is another perennial sedge species that is nearly identical to false-green kyllinga but is found only in the Southern and Southwestern US.

False-green kyllinga is a rhizomatous mat-forming weed that resembles turfgrass except that it has a lighter green color (Figure 2). False-green kyllinga is especially competitive under low mowing heights common to athletic fields. It can often thrive undetected by the sports turf manager, particularly during periods of active growth as it forms a dense turf-like mat. False-green kyllinga is in the same plant family (sedges or Cyperaceae) as yellow nutsedge (*Cyperus esculentus*); both species have a triangular stem and three-ranked leaf arrangement. Yellow nutsedge is typically interspersed within the turfgrass canopy and has rapid vertical growth, making it very



Figure 2: A dense stand of false-green kyllinga (inset) looks very similar to turfgrass except for a lighter green color. An athletic field with a severe infestation of false-green kyllinga.

noticeable just a few days after mowing. *Kyllinga* is more noticeable in late August when it produces flowers (seedheads) that resemble small burs (Figure 3) into the fall as growth slows and it goes off color (Figure 4). It becomes extremely noticeable during winter dormancy, which begins after the first frost (Figure 5).

As a warm-season perennial, false-green kyllinga emerges from rhizomes in late spring/early summer as the soil warms and grows rapidly throughout the summer months. The dense kyllinga mat expands as the rhizomes grow outwards.

This section will discuss chemical, physical, and cultural considerations for false-green kyllinga control.

Physical removal

False-green kyllinga does not contain underground tubers like yellow nutsedge so physical removal using a sod cutter or fraze mowing is an effective option. It is important to make sure that you cut or fraze deep enough to remove the rhizomes. False-green kyllinga rhizomes are typically closer to the soil surface than those of bermudagrass, so removal is more practical. The advantage of physical removal is that seeding or sodding can be completed immediately after removal with no herbicide residual concerns. However, this strategy is expensive and can result in the field being unavailable during the renovation.

Selective herbicide options

False-green kyllinga is a perennial that emerges from rhizomes, therefore, pre-emergence herbicides used to control annual weeds are not effective. While pre-emergence herbicides can control

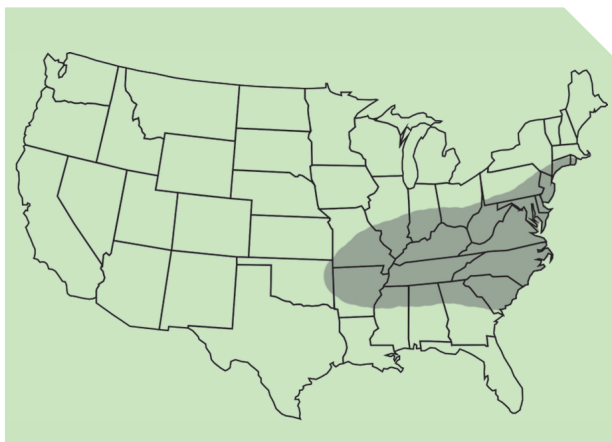


Figure 1. False-green kyllinga distribution in the United States.



Figure 3. A dense mat of false-green kyllinga with seedheads. Close-up of false-green kyllinga seedhead (inset).

kyllinga seed, the duration and timing of seedling emergence is not known.

There are several post-emergence herbicide options for false-green kyllinga. Herbicide applications should be made soon after kyllinga shoots fully emerge in late spring. This timing is essential to allow herbicide absorption by leaf tissue and limit the total number of follow-up applications. Make the first application in late May to mid-June. After re-growth is observed and sufficient shoot tissue is present for herbicide absorption make the second application. This is typically 3-6 weeks after the initial application.

Herbicides used for false-green kyllinga control/suppression will also provide yellow nutsedge control. However, many products registered for yellow nutsedge control will only suppress false-green kyllinga.

Herbicide options listed below are safe for use on most cool-season turfgrass species. Plan herbicide programs in advance of seeding to ensure that the herbicide will not reduce establishment. Refer to each product label for more information on use around seeding or sodding; most herbicides listed below can be used beyond 4 weeks of an application. Always refer to the label information on turfgrass safety and as the final authority for herbicide use. Additional options are available for use in warm-season turfgrass but are not discussed.

Imazosulfuron. Mode of action: ALS inhibitor (WSSA Group 2); trade name: Celero (8-14 oz/A). Celero is relatively new to the turfgrass market. Rutgers and Purdue research trials demonstrated that it provides

excellent false-green kyllinga control. Two applications of Celero at 8 or 14 oz/A provided >95% control 12 weeks later in our trials. Single applications of Celero at either 8 or 14 oz/A provided were more effective than single applications of halosulfuron-methyl (Sedgehammer, ProSedge2) at 1.33 oz/A. Control may not be evident for up to 2 weeks after application. Apply with a non-ionic surfactant.

Halosulfuron-methyl. Mode of action: ALS inhibitor (WSSA Group 2); trade names: Sedgehammer (0.66 - 1.33 oz/A), Sedgehammer+, ProSedge 2, Manage (no longer sold), others. Rutgers and Purdue research trials demonstrated that two applications of halosulfuron-methyl at 1.33 oz/A provides good false-green kyllinga control in some locations but not others. Multiple applications at the high label rate (1.33 oz/A) will be required for long-term kyllinga control. Results may not be evident for up to 2 weeks after application. This

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Figure 4: False-green kyllinga patches display a purple color compared to the green cool-season turfgrass in early fall.



Figure 5: Dormant false-green kyllinga patches in the winter surrounded by perennial ryegrass.

herbicide should be applied with a suitable surfactant as indicated by the label except for the Sedghammer+ formulation that already contains a non-ionic surfactant.

Sulfentrazone. Mode of action: PPO inhibitor (WSSA Group 14); trade names: Dismiss (4-8 fl oz/A); Echelon (proflaminate + sulfentrazone; 8-24 fl oz/A); Solitare WSL (quinclorac + sulfentrazone; 5.4-10.7 qts/A).

Note: Many combination products contain sulfentrazone but often at rates too low for kyllinga suppression.

Sulfentrazone is a resistance management alternative to ALS-inhibiting herbicides. Sequential applications will provide some kyllinga suppression; do not exceed 12 fl oz/A of Dismiss per year. Sequential applications of halosulfuron-methyl or single applications of imazosulfuron provided greater kyllinga control than sequential applications of sulfentrazone in Rutgers and Purdue research trials. Nutsedge or kyllingas treated with sulfentrazone will typically display injury symptoms within 48 hours after application. Good spray coverage is important for suppression with sulfentrazone.

Dismiss can cause transient injury to cool-season turfgrass, particularly tall fescue in mid-summer.

Pyrimisulfan. Mode of action: ALS inhibitor (WSSA Group 2); trade name: Vexis.

Sequential applications of pyrimisulfan had efficacy against false-green kyllinga in preliminary Rutgers research trials. Pyrimisulfan was submitted for EPA registration but is not commercially available as of this writing. It will be

released as a granular formulation. It may be a resistance management option as it can control weeds that are resistant to other ALS-inhibitor herbicides.

Programs for control

Herbicide rotation is important to prevent herbicide resistance. Using herbicides with the same mode of action for several consecutive years can select for herbicide resistant weeds. While herbicide resistant kyllinga has not been reported, nutsedge resistant to the class of herbicides known as ALS-inhibitors has been found. Using herbicides currently available, a two-year program for resistance management could utilize imazosulfuron or halosulfuron along with cultural practices to improve turfgrass density in year 1 and spot treatment of escapes with sulfentrazone in year 2.

Much like nutsedge, kyllinga has competitive advantage over desirable turfgrass in areas with chronically high soil moisture. Especially in cases of severe infestation, consider modifying the irrigation regimen and/or drainage in conjunction with control programs. Seeding or sodding desirable turfgrass to fill voids of dead kyllinga should also be considered in conjunction with herbicide or physical removal programs.

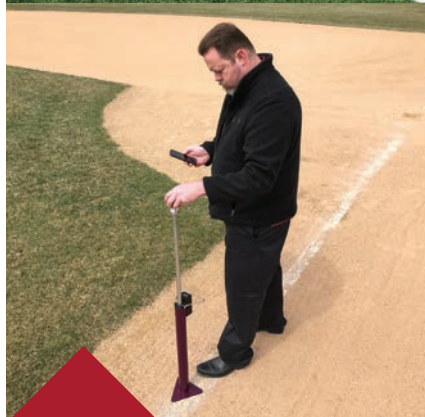
Current research has evaluated the efficacy of herbicides applied in early June after kyllinga emergence. Where infestations are severe and kyllinga composes a significant amount of the turf sward, June might not be an ideal time for control in cool-season turfgrass due to the extensive loss of cover headed into summer. We are currently evaluating the efficacy of applications made in mid-September when it would be ideal to reestablish cool-season turfgrass into a dense mat of dead false-green kyllinga, but we do not have results as of this writing. **IST/**

Matthew Elmore, PhD, is an Assistant Extension Specialist in Weed Science at Rutgers University; Aaron Patton, PhD, is a Professor and Turfgrass Extension Specialist at Purdue University; Bradley Park, MS, is a Sports Turf Research and Education Coordinator at Rutgers; and James Murphy, PhD, is an Extension Specialist in Turfgrass Management at Rutgers.

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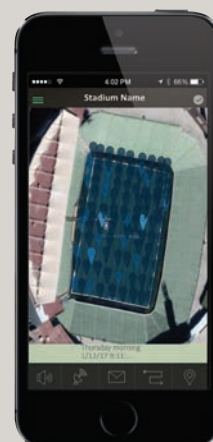
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Organic matter management on sand-based fields

Extract and replace vs. injection

// By JEFF BROADBELT AND ED MCCOY, PHD

If you are in a situation where you need to reduce your organic matter percentage on sand based sports fields, what is a good program to implement? Conventional wisdom tells you to core aerate, remove the plugs, topdress heavily with sand and brush it in to fill the holes. Intuitively, extraction and replacement is more effective than sand injection alone using either high-pressure water injection or solid tine and backfilling with sand. But how significant is the difference? In fact, there are people out there that imply you cannot effectively manage organic matter without extracting a portion of the rootzone.

In this article we examine the math behind both extraction and replacement or sand injection alone. Understanding the effect each method has from a direct mathematical standpoint will help you create a suitable plan of action that has the least cost and disruption to play.

Suppose you have fields that are testing out to be 4.57% organic matter (OM) within the top 3 inches of your soil profile. Your goal may be to reduce it close to 3.25% as quickly as possible and maintain it somewhere at or below that threshold in the future. You set the time period that you would like to achieve this at 1.5 growing seasons. During that time period you estimate that you may gain another .43% OM so you set the start point for reduction at 5.00%. How many times do you need to core aerate with what size tines? Of course the larger the tines diameter and the tighter the spacing, the fewer the number of applications will be needed.



In the case of injection, the same logic applies where the tighter the spacing, the fewer applications you will need to perform the task. This logic is related to the “area of disruption” often spoke about and where the USGA and others have recommended that the total of any given growing season fall under the guidelines of 10-20% surface disruption for organic matter control.

For this exercise we will assume that all core holes can be successfully filled with topdressing. Excess sand topdressing left in the turf canopy is assumed zero and subsequently not factored in. Although this does not occur in practice we adopted

this simplification to directly compare core extraction and filling with sand to injection.

An additional component of these calculations is determining the bulk density of the soil mix. The equation used for this calculation comes from the Estimated Bulk Density Calculation from USDA-NRCS, which employs data of the component sand (1.56 g cm⁻³) and organic matter (0.22 g cm⁻³) bulk density values. This equation, $BD = 100 / ((\% OM / OM\ BD) + ((100 - \% OM) / SAND\ BD))$ computes to an existing BD of 1.196 g cm⁻³ after the assumed growth is factored in.

EDITOR'S NOTE: Jeff Broadbelt is vice president of operations, DryJect Inc.; Ed McCoy, PhD, is associate professor of soil physics at The Ohio State University in Columbus.

Following core extraction and refilling with sand, the average organic matter content across the field is calculated by using a soil mixing equation adapted from Taylor and Blake. In this equation for core extraction and refilling the mass of organic matter remaining after extraction is divided by the mass of added sand plus the mass of the remaining rootzone. Thus extraction of organic matter and presuming that the added sand contains essentially zero organic matter serves to reduce the average organic matter within the soil profile itself.

For sand injection, the mixing equation is a bit different because no organic matter is removed by coring, so here the mass of the existing organic matter prior to application is divided by the mass of the added sand plus the mass of the existing rootzone. Presuming the added sand also contains essentially zero organic matter, injection by itself serves to reduce the average organic matter within the soil profile, in this case by dilution. To re-set the total soil weight back to the 0-3 inch zone we then use the new bulk density multiplied by the total volume of the 0-3" zone.

The present situation tracks the organic matter changes within the surface 3 inches of a field and 2 by 2 inch spacing on both the coring tines or the sand injector. The calculations are also for 0.5 in diameter tines or equivalently 0.5-inch diameter injection holes. The calculation procedure is, however, adaptable for different depths, spacing and hole diameters.

The results for these calculations following eight consecutive applications of either core extraction and refilling with sand or sand injection demonstrate an essentially equivalent degree of organic matter reduction within the green where core reduced the OM to 3.04% and injection to 3.11% (Fig. 1).

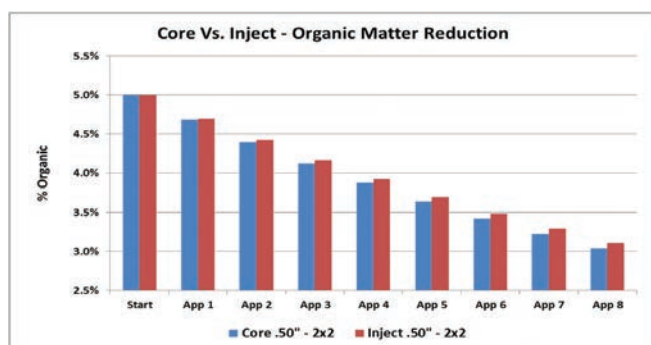


Figure 1

Using conditional probability when coring and refilling allows for a "shortcut" to arrive at the net change in soil weight and percent OM when a total number of applications are entered. Conditional probability factors in the amount of new amendment extracted from the previously filled core holes. In other words the percent of hitting virgin field space diminishes each time. The equation is $1 - ((1 - \text{area of disruption}) \times (1 - \text{area of disruption}))$ to the power of (# of applications - 1) or $1 - ((1 - 4.91) \times (1 - 4.91))^{(8 - 1)} = 33.15\%$. The product of 33.15% is then multiplied by the original OM weight of the soil profile to arrive at the weight extracted. It will be replaced with sand that is 7.091 times heavier



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		Conditional Probability: % Of green hit				
Application #	8					
	Sand	OM	Total	BD	Sand	OM
Start	17,730	933.2	18,663	1.1958	95.00%	5.00%
Weight change	2,193	(309.31)				
New weights	19,923	624	20,547	1.3165	96.96%	3.04%

Table 1

then OM (SAND BD 1.56/OM BD.22). This new sand weight is added to the original sand weight and the new OM weight to arrive at total soil weight. The new OM weight is then divided by total soil weight to arrive at the new percent OM (Table 1).

Sand injection will of course result in elevating the field over time. Coring and then filling the holes will add to elevation also but not near as much. It does this because it would be impossible to get 100% of the sand brushed into the aeration holes. Somewhere in the neighborhood of 30 to 40% more sand topdressing needs to be applied in addition to what the math works out for the aeration holes alone. In general, the greater the area of disruption, the higher the percentage will make it to the holes. Careful consideration has to be given to not over saturate the surface area between the core holes when attempting to fill them as this may contribute to sand layering.

Of course, using coring and injection together is a viable option. A scenario that may be sensible when on a short timeline to reduce organic matter percentage dramatically is to start off with a very aggressive core aeration and backfilling. This way you get the benefits of extraction

without the harvesting of newly amended sections of the field. Coring after multiple injections is just like coring after coring and backfilling. Its effectiveness diminishes because of the extraction of new material already in place. Using .50 inch tines at 1.5 x 1.5 inch spacing is a lot of work but gets you down to 4.45% organic quickly, which is close enough to pick away at it with less disruptive to play injection methods. It will take quite a bit of sand to backfill these holes but if you can endure the pain it is a great jump start. The total tons needed to fill JUST the holes for 100,000 square

feet will be 106. You will need to order approximately 30-40% more to account for sand left in the turf canopy and waste in general. Following up with multiple injections at 1.5 x 1.5 inch spacing with an average hole size of .328 will slowly get you to your target zone. After eight injections the OM has dropped to 3.10%. Each injection will use 45.72 tons of sand based on 100,000 square feet (Fig. 2).

Once you have gotten the percent organic matter down to where you want it, the next goal is to maintain that percentage uniformly in the upcoming years. You have already done the hard part. It should not be too difficult to manage going forward. Percent organic matter build up over a given amount of time could span a broad range. It is dependent on the type of turf you are maintaining, fertility inputs, climate, etc. Regular testing will help to determine if you are on target with your maintenance regime.

There has been quite a lot of discussion on the amount of sand required to be applied during any growing season to prevent organic matter build up. Again there are many variables that could influence this. Research and surveys have put the range as low as 18 or as high as 50 cubic feet per 1,000 sq. ft. For the most part it does not matter how you get it there but common sense would have you using the several known methods in combination while making sure it stays in the target zone. At this point the target zone could be 0 to 2.5" in depth.

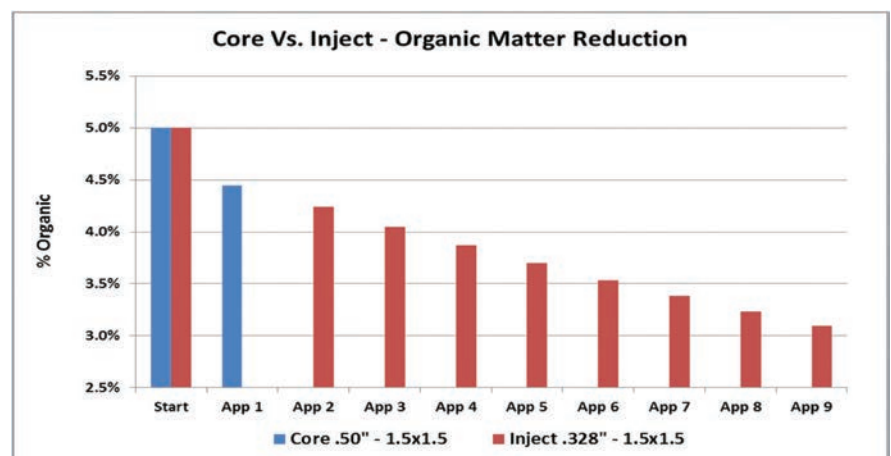


Figure 2

Maintain Organic %			OM % Start	3.10%
			1 Yr growth	0.30%
Core & Replace:			Total target	3.40%
	width	length		
Spacing	3	2	Tine size:	0.500
Target Depth	2.5			
Injection:				
	width	length		
Spacing	1.5	2	Hole size:	0.328
Target Depth	2.5			
Area of disruption			Sand Cubic Ft / 1,000	
Core		3.27%	Core	6.82 *
Injection		2.82%	Injection	5.87
		6.09%	Topdress	12.00
				24.69
Organic % reduction			Topdress	
			^Apps	Cubic/m
Core		-0.13%	16	0.75
Injection		-0.12%		
Topdressing		-0.15%	^3 App equivalent when filling core holes when left in canopy. 13 Stand alone apps.	
		-0.40%	Total Tons sand based on:	
			100,000 sq.feet	120.20
New OM %		3.00%	* Amount needed to fill holes only	

Table 2



ONCE YOU HAVE GOTTEN THE PERCENT ORGANIC MATTER DOWN TO WHERE YOU WANT IT, THE NEXT GOAL IS TO MAINTAIN THAT PERCENTAGE UNIFORMLY IN THE UPCOMING YEARS. YOU HAVE ALREADY DONE THE HARD PART. IT SHOULD NOT BE TOO DIFFICULT TO MANAGE GOING FORWARD.

Once organic matter is under control the best thing you can do is make sure you have a reasonable topdressing program that uses light infrequent applications to thoroughly cover 100% of the surface area. This method covers the surface area organic build up. To make sure organic build up stays diluted underneath the canopy and in the most active rootzone area, some form of aeration and incorporation method should be used. It could be a combination of several methods such as coring and replacing, injection, deep verticutting and replacing or solid tine and backfilling. Each has its own attributes. The positive thing is that since you are starting at a good point, the total area of disruption does not have to

be as dramatic as when your goal was to drop organic percentage. Consider leaning toward methods that have tighter spacing but with smaller holes or verticut lines to ensure a more homogeneous coverage. Keep in mind that core holes smaller than 1/2" are very difficult to backfill with sand in sports turf.

Table 2 demonstrates a maintenance regime after the Organic Matter percentage has been dropped to a healthy level. It is based on the assumption that there is an average of a .30% increase in organic matter percent per year for the entire 2.5-inch zone. It is acknowledged that the OM growth is greatest near the surface and progressively less with depth. This assumption can and will fluctuate in different climatic regions

and will change with differing maintenance inputs and turf varieties.

Assuming that you are able to replace all extracted material properly, coring and replacement will slightly exceed straight injection from a mathematical standpoint in reducing organic matter percentage by weight. Relying on straight coring alone would be very labor intensive and definitely disrupt field use play quite a bit during your short corrective time period. Because of the injection method's low impact on playability, you may want to seriously consider incorporating this method into your program. Could you even try to use injection all by itself? The math should help you decide. **/ST/**

PAUL ZWASKA

This month in “The *SportsTurf* Interview,” we meet Paul Zwaska, director of education & strategic initiatives for Beacon Athletics, Middleton, WI. Paul has had a 30-year love affair with dirt and lots of grass stains on his pants to prove it. He learned the ropes at the University of Wisconsin and made his name while head groundskeeper for the Baltimore Orioles. Now he’s the guy at Beacon Athletics who makes life easier for groundskeepers across the country by helping them with the right tools to get the job done and with instruction and tips to get your field looking beautiful. His number one tool is free and called “Groundskeeper University,” a video series that lays out the fundamentals of baseball field maintenance.



Paul Zwaska working as head groundskeeper for the Baltimore Orioles back in the day.

SportsTurf: Do you ever miss being a groundskeeper?

ZWASKA: I never really stopped being one! It’s in my blood. After I left the Orioles at the end of May 2000 and moved back home to Madison, WI to work at Beacon, I stopped managing a ballfield for about two summers. Then my son started playing Little League in the summer of 2002 and the league somehow knew who I was and instantly approached me for help with their facility. And the rest, as they say, is history. I have donated thousands of hours over the past 16 years helping them upgrade their facility, their financials, their long-range planning, teaching groundskeeping to young teenage and 20-somethings and much more. I can honestly say, I have gotten so much more satisfaction in my life doing that the past 16 years than I did working in Major League Baseball for 15 ½ years. Why? Because the parents and kids never expected the great improvements to the facility and the fields. It blew them away, and the kids learned what a good ballfield is. They would often come back from playing in a tournament and tell ME what was wrong with other fields. In MLB, it was expected to have a first-rate field. It’s very rewarding to see the looks on parents’ and players’ faces when they see for the first time how we manage that facility. So many kids have gone beyond our league to play high school and college ball and have later come back to tell me that they never played on better fields than ours, which in a

way is a sad comment on the conditions of fields that this country’s children and young adults are playing on.

ST: What are your main responsibilities? And what does a regular working week, if there is such a thing for you, entail?

ZWASKA: One of the great things about working for a smaller private company versus a big corporate setting is that you often have your hands in a lot of departments. So, not only am I working chiefly in education, I also work on product development, product evaluation, sales, marketing, and production and warehouse operations, as well as other areas. It all depends on where they need my talents the most on any particular day. There is some repetitive work, but usually I’m doing something different on most days. I’ve been at Beacon for 18 years now, and I’ve done many different jobs for the company. I guess I’d say I’m a well-rounded employee.

ST: Any advice for turf managers who are considering a move into the vendor segment of the industry?

ZWASKA: Well, first of all, you get a good chunk of your life back with weekends and holidays commonly off. So, the family life is way better. But let me tell you where I have struggled ever since leaving my work on the field. As a groundskeeper, I would go in in the morning, look at the field and the schedule, and then knew what had to be done that day. My crew and I would

get right on it and just do some good hard labor and really produce, so that by the end of the day you could stand back and look onto what you did and say, “Look at all we accomplished today and how beautiful it is.” Well, I found that on the sales side of things, I wasn’t getting that daily fix of being able to look at all of my accomplishments at the end of the day and go home feeling good about what I did that day. In sales, and related things like marketing and whatnot, things usually take longer to accomplish, projects can take days or even weeks. I can’t tell you how many times in my early days at Beacon where I would be leaving for the day thinking “what did I do to earn my paycheck for this company today?” I still struggle with that today, but much less frequently. It was a totally different mindset for me.

ST: You have a passion for educating turf managers, through the Groundskeeper University video series and the Field Maintenance Forums, for example. What elements of turf maintenance have you found most people need help with?

ZWASKA: I am passionate about teaching because I remember when I was coming up in the turf industry in the late 70s and early to mid-80s, I was hungry for any information on maintaining ballfields and there really was nowhere to turn to get that information. So I have always wanted to make sure that I made myself as available as possible to pass on my knowledge of field maintenance to

anyone who wants it or needs it. When it comes to ballfield maintenance, infield soils, and their make-up and maintenance, is still by far where most groundskeepers struggle and/or make mistakes. For decades it was believed that maintaining infield soils was an art, but we have proved that it isn't. There is a lot of science that goes into infield soils, both in the blending and the maintenance of them. Back in the 90s, nobody tested their infield soils. That's when I began educating groundskeepers to use testing to help diagnose problem infield soils. Many now do, but still, most groundskeepers don't yet understand soils enough to know when they are making critical mistakes in the soils they choose to blend or amend their infields with and the consequences that may follow. It's my personal mission to help more groundskeepers fully understand infield soils, their makeup, and how to fix them and how to use the amendments and topdressings that should be used in concert with those soils.

ST: What are the biggest differences in sports turf management today compared to when you were working for the Orioles?

ZWASKA: Well, first and foremost would be the demands on the Major League groundskeepers today, which are far and above what they were when I was in MLB. I worry about the demands of the job on them today. It is so much more than what I dealt with. It is quite a bit of strain on them mentally and physically, and for their families and personal lives. This is a very tough profession, in season.

Otherwise, I am blown away today in the changes in technology in everything groundskeepers use, from the turf construction and maintenance equipment, to the grass varieties, fertilizers, and chemicals. I am truly jealous of the men and women managing fields today with all the fabulous tools and technology they have at their fingertips to do their job. What I could have been able to do with that, back during my time! The sports turf managers today build and maintain such phenomenal playing surfaces now. I applaud them all.

ST: How do you think the profession and industry will change in the next 10 years?

ZWASKA: New technology will continue to help sports turf managers do their job



Zwaska, center, is now director of education & strategic initiatives for Beacon Athletics.

better and faster. Of course, the downside to that may be even more overscheduling of facilities. Education will continue to spread amongst active sports field managers, which will further raise the bar of professionalism. However, the dwindling number of colleges and universities that offer degrees in sports turf management in the past 10 years has slowed the flow of fresh young talent entering the industry. All sports turf managers MUST seek out youth that are searching for a future and let them know that this is an exciting and fun profession to consider. Many youth and young adults who grow up playing sports are often looking for a way to stay involved in sports, and managing sports fields is the perfect opportunity. Be a mentor.

ST: How has your career benefitted from being an STMA member?

ZWASKA: The networking and friendships are probably the biggest benefits. There are so many great people in our industry that you'll never meet unless you belong to an organization like the STMA. As a young up-and-coming sports field manager, you will learn more about your profession and your passion in a week at the STMA conference than you will learn

in a semester of school, thanks to all of the real-world experiences that are shared in the education sessions and the socialization during the conference. There are so many great groundskeepers with successes and challenges to share with you. I continue to learn at every conference every year.

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

ZWASKA: I recently purchased a 24-and-a-half-acre property way out in the country (40 minutes from Beacon) where I just enjoy the peace and tranquility. Since I was very young, my parents always said that I should have been born on a farm because I loved physical labor so much. Now I spend my time away from work taking care of my property, tending to the woods that were planted by the previous owner to grow for lumber purposes and wildlife refuge. There is plenty of work to do, and that satisfies my mental health, as I like to stay busy and see the fruits of my labor. But I also find the time to decompress while enjoying the sights and sounds of the large amount of wildlife that inhabit the area. I'd have to say it is the happiest I have ever been, living out there. It's where I was meant to be. **/ST/**

Ohio State's global internship program a 2-way bridge

Michael O'Keeffe is program manager for The Ohio State University's Global Intern Program. O'Keeffe graduated from Warrenstown College in Ireland and participated in the same program he now runs in 1986-87; he has worked for The Ohio Program (TOP) full time since 1990. TOP is an international exchange program at Ohio State specializing in internships for horticulture, agriculture, and turfgrass majors.

According to their website (www.top.osu.edu), "Our goal is to promote the general interest of international exchange in the field of agriculture and horticulture. We work with hundreds of companies in the USA to provide the best possible placements.

Our inbound program offers J1 visa internships in the USA in Horticulture, Agriculture and Turfgrass. Our outbound program offers internships for Americans in many overseas countries. These internships may take place in horticulture, agriculture and similar fields."

We exchanged emails recently with O'Keeffe after Pamela Sherratt from the Buckeyes' turf program set us up:

SportsTurf: *Did you, like Pamela Sherratt, come to Columbus from the UK and stay for good?*

O'KEEFE: I actually came as a trainee on the very program I manage now. My background was in commercial vegetable production, having worked in Holland previously. I finished up near Wilmington, OH on a large farm, growing 400 acres of tomatoes. Part of the program meant that I attended Ohio State, and while here, I met with the intern manager regularly, and started helping out during the slow season on the Veg operation.

ST: *What is The Ohio Program's mission and what role do you play as manager?*

O'KEEFE: An International Exchange Program of The Ohio State University specializes in internships for horticulture, agriculture and turfgrass. We strive to provide the best opportunities for on-the-job training and internships for specially selected foreign and American agricultural and horticultural students.

As manager I work with all divisions of agriculture and horticulture. We have specialists who handle placements in these



Michael O'Keeffe, program manager for The Ohio Program.

areas, but I take care of golf courses and sportsturf interests myself. If you want to intern at Wimbledon or St. Andrews you come to me. I know one or two people at both venues!

Mike Chrisman started the program in 1979 and he is still involved as he came back to work after he retired. He set out originally bringing agricultural interns to America and sending OSU ag students overseas. Once I came in to work in the office in 1988 I started to focus more on horticultural students as I had more connections in that area in Europe. Our program is probably 50% horticulture, 50% ag now as a result, but we are always changing with the world trends and needs. Sportsturf and golf course operations dovetail right into the model of the program. We want to send students to the best placements for the best experience. We have the connections and the knowhow to make it happen.

ST: *What do students need to accomplish to be considered for these international internships?*

O'KEEFE: American students need to be full time students or only one semester after graduating to fulfill most visa requirements overseas. Foreign applicants must have a 3rd level/post-high school education in the relevant field, sportsturf or greenskeeping, and have some relevant, practical experience in the field.

ST: *What are some of the most coveted internships, on both sides of the pond?*

O'KEEFE: Naturally in sportsturf the most coveted are at Wimbledon, or any English Premier League football club and over

here, Pebble Beach, Pine Valley or any PGA Tour event/major is highly sought after.

ST: Are students having more difficulty now getting visas?

O'KEEFE: Globally, the world has become more difficult to travel. Our job working directly with the State Department is to make it easier to get that visa. We want to prevent that stigma that it's difficult to enter the States. We help the trainees and interns every step of the way to get that coveted visa. We want the best and the brightest to come to America as that is

good for America down the road. Our past trainees become leaders in the profession around the world. They would all credit their time here in the States as helping them get where they are today.

O'Keeffe cited just two of many examples of program participants, Brett Tanner, head groundskeeper with the Cincinnati Reds, who O'Keeffe said would credit his time at Arsenal Training Grounds in England as helping him advance in his career, and so would John Torres, who spent time as a student at Arsenal as well and is now the head groundsman for the Philly Union in downtown Philadelphia. **/ST/**

WHY DO IT?

If you are serious about a career, you have to have international experience in the globalized market of today. Good employers require professional experience from job applicants. If you have not gained much practical experience during college, a quality internship may be your best option.

Living abroad independently for a long period of time indicates to potential employers that you are mature, self-sufficient, curious, and able to cope with stress. This indicates you are looking for challenges. This also indicates you are willing to leave your comfort zone and do something extraordinary.

Living abroad will dramatically boost your confidence, maturity, global awareness and general "readiness for life." Here at TOP we see these changes every day when meeting new participants during our orientation session and later seeing them once again months later during on-site visit. Dramatic changes take place that are easy to see.

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Interning with Super Bowl champ Philadelphia Eagles

// By CASEY SKY NOON

Rutgers 2-year turf management certificate student Conor Geisel interned in the summer of 2017 with eventual Super Bowl champion Philadelphia Eagles.

Winners of the LII Super Bowl, the Philadelphia Eagles played hot while their grounds crew kept their home playing field warm. To be exact, the turf managers kept the soil at precisely 59 degrees warm throughout the summer and winter months using 28 miles of underground heating pipes. This intricate turf-warming system is divided into six zones and creates an optimal root temperature that keeps the grass growing through the end of the NFL post-season. The science behind keeping Lincoln Financial Field at peak playability goes well beyond regulating temperatures. The greens team also monitors a SubAir system that can suck moisture out of the ground, so that excess water does not linger in the soil. Mowing heights and fertilizing schedules are also precisely calculated and controlled. We spoke to Conor Geisel, who interned on the grounds crew for the Philadelphia Eagles this past season and will graduated from The Rutgers Professional Golf Turf Management School's Two-Year Certificate Program in March 2018. After he arrived on the Rutgers campus, Conor dove right in, leveraging the Rutgers turf community to grow his professional network. Conor started by asking Steve McDonald, instructor of our class on turf weeds, for help making connections in the sports world. Founder of Turfgrass Disease Solutions, LLC, McDonald has over 15 years of experience consulting. He put Conor in touch with Tony Leonard, the Eagles' director of grounds. The Rutgers turf student submitted a resume, interviewed, and secured a coveted internship with the Eagles' franchise. "Networking is key," Conor said. "You

never know who you may meet in a day who can help you further your career. Even if it is just getting an internship, you never know where it may lead."

Conor worked on the greens teams at the Philadelphia Eagles in the 2017/2018 season during his time off between his two 10-week academic sessions at the Rutgers turf management school. Turfgrass management is soil fertility, irrigation, aeration, diseases, weeds, and insect pests whether you maintain a golf course, municipal park, or baseball field. Nevertheless, working on an NFL football field certainly has its own unique attributes.

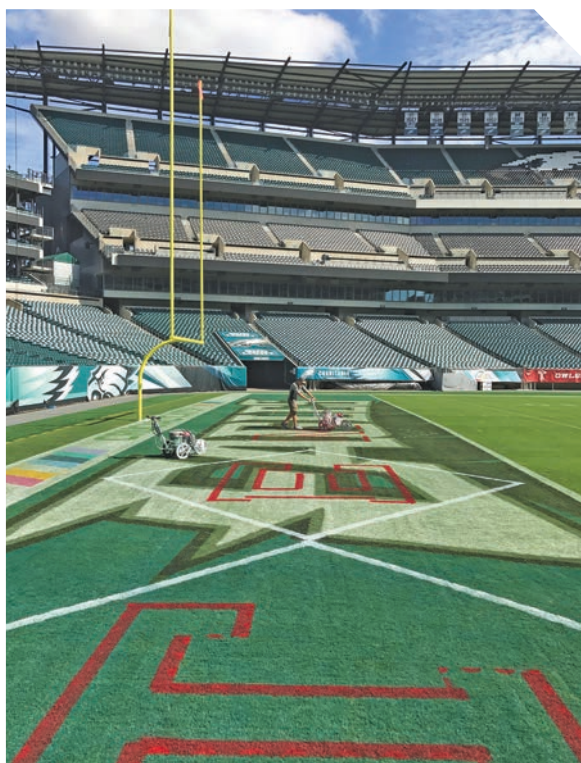
As an intern, Conor helped care for the team's practice facility (275,000 sq. ft.) as well as the stadium field itself (75,000 sq. ft.). Interestingly, the Eagles use both warm and cool season grasses to blanket the playing field. Conor explained that the Philly facility uses bermudagrass in the warmer months because it plays better and grows fast. For the November, December, and January games, the grounds crew ripped up the entire field and did a number-to-number, goal-line-to-goal-line re-sod with Kentucky bluegrass. If your NFL boss isn't happy with how the turf is holding up, they may tell you to re-sod. Instead of topdressing or trying to address the issue in another way, they pay a premium to start fresh. To put it simply, Conor said,



Conor Geisel with the Super Bowl trophy.

"Budget is no issue for the NFL." In fact, the entire stadium is typically re-sodded at least three times a year. Another major difference is painting. Because the stadium is also used for Temple University college football games, the field is painted and repainted each week. After the completion of each Owls game, Conor and his coworkers ripped up the end zones and laid new sod down as a "fresh canvas" for the Philadelphia Eagles logo.

"We rolled out huge stencils," Conor explained, "to paint both end zones, the sidelines, the numbers, the hash marks, and the four-color Eagles logo in the middle of the field." Once the Eagles finished playing, the grounds crew would paint the cherry



BESIDES THE CLOSE PROXIMITY TO THE LIKES OF NICK FOLES, MALCOLM JENKINS, AND ZACH ERTZ, ONE OF THE PERKS OF WORKING FOR THE PHILADELPHIA EAGLES GROUNDS CREW WAS BEING ON THE FIELD DURING EACH GAME. PART OF CONOR'S JOB RESPONSIBILITY WAS TO PULL THE SAFETY NETS BEHIND THE UPRIGHTS WHEN EITHER TEAM LINED UP TO KICK A FIELD GOAL.

red and white Temple patterns right over the Eagles' midnight green. Conor estimates that painting and repainting the field takes about 400 gallons of color every week. As exciting as it is to be around Super Bowl champions, the work takes precedence. Sharing the same cafeteria and working in the same buildings, Conor was often near the famous athletes. "We are all at work, so it's not like I'm going to ask for an autograph," he said. "The majority of my conversations with players were asking them to stay off the wet paint," he said. But some of his brushes were exciting. For example, once at a charity event, wide receiver Torrey Smith mistook

Conor for quarterback Carson Wentz. "I have actually gotten that a few times," he said. Besides the close proximity to the likes of Nick Foles, Malcolm Jenkins, and Zach Ertz, one of the perks of working for the Philadelphia Eagles grounds crew was being on the field during each game. Part of Conor's job responsibility was to pull the safety nets behind the uprights when either team lined up to kick a field goal. The team even sent him to the Super Bowl. Indeed, he had the pleasure of watching the Philadelphia Eagles defeat the New England Patriots in person at US Bank Stadium in Minneapolis. While there, he took advantage of the opportunity to hold (and kiss!) the Vince Lombardi Trophy. "I always wanted to work with turf," he said. Conor grew up in a sports family. His father coached and both he and his

brother played football. He has fond memories of going to training camp as a kid. "There is just something about the smell of grass getting cut early in the morning," he said. At a young age, Conor appreciated the look of manicured sport turf and knew that he wanted to forge his a career in the turf industry. After graduating from Lycoming College in Williamsport, PA with a degree in business, Conor got his feet wet in the turf industry working at Manasquan River Golf Club in Brielle, NJ. He enrolled in Rutgers' 2-year program, citing its reputation, convenience, and cost. Clearly it worked out for him. First, connecting with instructor Steve McDonald was the key that helped him attain his epic football internship. Conor recently secured an Assistant Superintendent position at Medford Village Country Club in Medford, NJ. */ST/*

Casey Sky Noon is with the The Rutgers Professional Golf Turf Management School casey.sky.noon@rutgers.edu.

The rise of the 'Turf Guy'

Are turf managers finally getting the recognition they deserve?

Editor's note: Turface Athletics contributed this article.

Last year brought somewhat of a revolution for the turf industry as the outside world started to acknowledge and appreciate the grueling and significant role field maintenance professionals play in the world of professional sports. A television ad from Papa John's featuring Denver Bronco's Turf Manager, Chris Hathaway, with Peyton Manning, prompted the growing interest in the job; but it all came to a head when Erik Harlow, Field Coordinator at Lucas Oil Stadium, stepped onto the field during the Big Ten Title game to repair a split in the synthetic turf in an end zone.

When the world turned to social media to celebrate these turf professionals, it seemed that turf managers were finally getting the recognition they deserved. But what exactly lead to the rise in popularity of the turf guy? Does the world have a real understanding of what a field manager does? And what can we do to raise awareness of the contribution turf managers make to industry? We connected with Erik Harlow, who gave us an inside look at the challenges he faces every single day, and how he managed the chaos after the Big Ten Title game.

Whether they've worked their way up the ranks or sought formal education, turf professionals are often sport lovers who are passionate about their work and happy to go unnoticed behind the scenes. In fact, many believe that going unnoticed and flying under the radar is a sign of a job well done...but even the least engaged fan has to wonder about the monstrous effort that goes into readying a field for game day.

"There's a lack of knowledge as to exactly what we do and the number of hours it takes. To be a turf manager you have to have the perfect combination of a lot of different skills," comments Harlow. "It's labor intensive, you have to manage equipment, and then there's the intellectual aspect, the science behind turfgrass



Richard Taylor, Dianna Morris, and Erik Harlow at Lucas Oil Stadium. Photo by Heidi Mallin.

management. It really is more than being on the field."

When the social media chaos hit following Erik's high-profile turf repair, and he received inquiries and comments about how to get into the career, he recognized the importance of publicizing what goes into the job itself. Erik adds, "Many are fascinated by the high-profile nature of the work, but they don't have any access to it; how are they supposed to learn what goes into a career in turf management?"

To give the world a deeper understanding of the work of a turf professional, some in the industry are turning to social media to raise awareness and offer an inside look. We see it all the time in the golf course industry and slowly turf professionals are starting to join the bandwagon with day-in-the-life videos, a trend in part due to Chris Hathaway's continued dedication to showcasing his work. So, what can the industry as a whole do to support these initiatives?

Harlow suggests a more hands-on approach to building awareness: "Videos are great, and we should be doing more of them as industry professionals, but we should also provide opportunities for the younger generation to familiarize themselves with the industry early on. Whether that's hosting

field days or supporting programs that get high school kids to visit during a non-game day to see what goes on behind the scenes and see what we do first-hand."

From working the field and managing equipment to scheduling crews, working with vendors and clients, all while trying to keep morale up during long hours and late nights, turf managers often have to wear many hats. And while the occasional ad spot and viral video have made an impact on the industry, it's time to really shine the spotlight on what it takes to be a successful field manager.

Many facilities have internal accolades to celebrate the work of employees, but it's important that the industry takes the time to celebrate our colleagues' successes. Moreover, we know that getting the buy-in and praise from our high-profile counterparts (e.g. Payton Manning thanking Chris for his hard work in the Papa John's commercial) can go a long way in celebrating the work, dedication and focus that goes into turf management.

As we eagerly anticipate the next big hit for the 'turf guy', the industry should come together to create opportunities that educate the world about the work of the 'turf guy' and what it really takes to manage a field. **/ST/**



JOHN MASCARO'S PHOTO QUIZ

JOHN MASCARO IS PRESIDENT OF TURF-TEC INTERNATIONAL



ANSWERS FROM PAGE 17

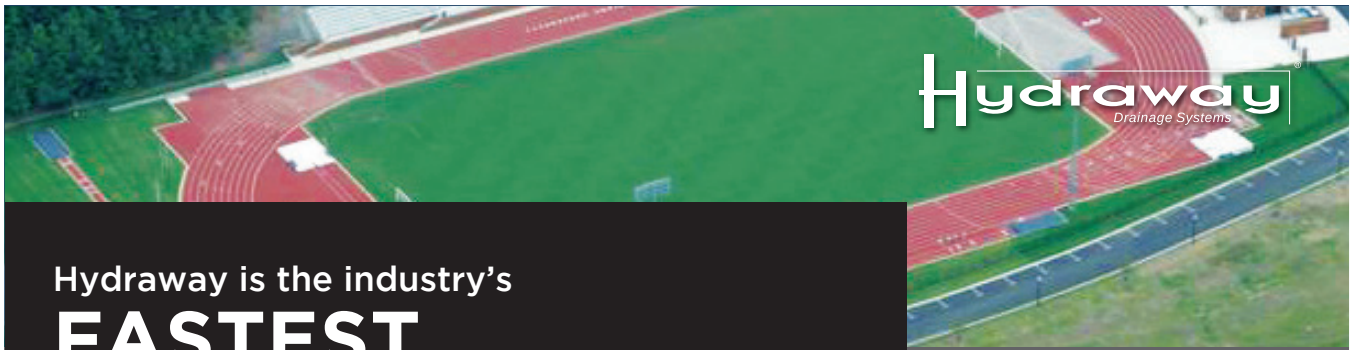


These two brown spots on this high school stadium field are located on an area where the home team enters the stadium before each game. What happened was the football booster club set up a tunnel in the end zone for the players to run on to the field at the beginning of the game. For the added "smoke" effect, they use CO2 fire extinguishers to make fog coming out of the tunnel. On this occasion, after the players ran through the fog the booster parents holding the extinguishers decided to empty the remaining CO2 on the ground, which froze the grass. The following day, when the buildings & grounds supervisor for the field saw the brown spots, he immediately knew what it was as the boosters always set up the tunnel in the same area for each home game. He informed the parents after he found the damage what happened, and they said they would not do that anymore. The damaged area was raked out and reseeded.



Photo submitted by George (Smokey) Krajnak Jr., Buildings & Grounds Supervisor for Panther Valley School District in Lansford, PA.

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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Honoring Dr. Henry W. Indyk, turf industry icon

// By SUZ TRUSTY

As one of those privileged to know and work with Dr. Indyk in numerous ways over the years, I can share that this honor would have brought his signature affirmation, “Fantastic!” and touched his heart. The man who could not tolerate the word “dirt” used instead of “soil,” or less than 100% dedication and enthusiasm for any endeavor, loved encouraging students most of all. Hopefully, this article, gleaned from multiple sources, will provide insight on the importance of continuing his legacy.

Dr. Indyk was featured in an article titled “The Turfcon Team,” that appeared in the December 1993 issue of *SportsTurf* magazine. The article, by Bob Tracinski, provided the following background on Dr. Indyk:

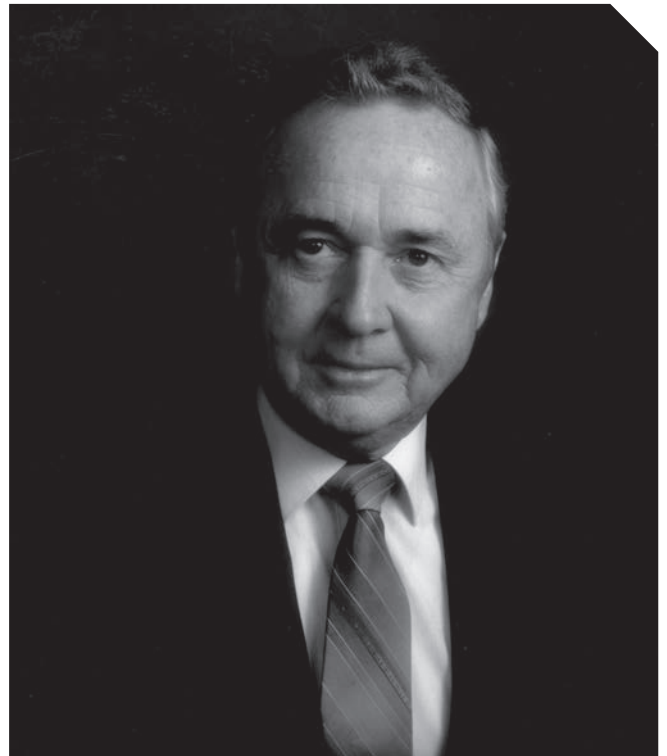
“As a boy walking barefoot on the differing grounds of his family’s farm, Henry W. Indyk wondered why some soils felt soft and soothing, while others felt hard and grating; why on the same day some were hot, and some were cold. His curiosity led him to a bachelor’s degree in plant science, with a major in soils, at Rutgers College of Agriculture in 1950 and master’s and PhD degrees in agronomy with emphasis on soils from The Pennsylvania State University.

“Dr. Indyk then advanced into a five-year stint in agronomic research in the University of Delaware’s Department of Agronomy. From there he returned to Rutgers University, spending one year as an extension specialist in pasture management. He later moved into the turfgrass field, succeeding Dr. Richard Skogley, the university’s first extension specialist in turf. At that point, there was only one person in turf research at Rutgers.

“Indyk’s responsibilities for nearly 31 years as extension specialist reached to all areas of turfgrass management: home lawns, industrial, commercial, schools, public grounds, golf and sports. Throughout this time, he delved into the study and deeper understanding of soils, the growing medium of any crop—always intrigued by ‘what made them tick.’

“Initially, the top turf programs in the United States belonged to Rutgers University, the University of Rhode Island, Penn State, and Cornell. Although these schools and their turfgrass specialists were pioneering a young field, there was little general interest in turfgrasses.

At that time, Dr. Indyk was just beginning to realize how important his soils background would become in the field. As his work progressed, it became apparent to him that one of the biggest limitations in turfgrass development and maintenance was a lack of understanding about soils.”



Dr. Henry W. Indyk, Rutgers University, was named ASPA’s first Honorary Member in 1973. Dr. Indyk served as ASPA Executive Director from 1969 to 1973.

Tracinski also reported, “With the wide-ranging scope of an extension specialist position, it’s essential to maximize time to best meet the needs of all served.”

One avenue Dr. Indyk used to accomplish that was developing working relationships with members of the turfgrass industry.

Additional details on Dr. Indyk’s career were reported in “The Henry W. Indyk Legacy,” written by the late New Jersey Turfgrass Association (NJTA) Executive Director Dick Caton, and Rutgers faculty members Dr. James Murphy and Dr. Bruce Clarke, following Dr. Indyk’s death. The article originally appeared in the NJTA publication, *Clippings*, in the Fall 2005 edition.

EDITOR’S NOTE: Thanks to Turfgrass Producers International for permission to reprint this article by Suz Trusty, co-editor of *Turf News*. It appeared in their Nov/Dec 2017 issue in conjunction with the closing date for applications for The Lawn Institute’s Dr. Henry W. Indyk Scholarship, established following Dr. Indyk’s passing in 2005.

ALL PHOTOS COURTESY OF THE TURFGRASS PRODUCERS INTERNATIONAL ARCHIVES.

Dr. Indyk's early involvement with the turfgrass sod production industry is reported in that article, "In the "early days," he made significant contributions to the Cultivated Sod Association of New Jersey which he helped form in 1962 and served as its secretary for more than 30 years. He also worked with Wiley Miner in the development of sod-harvesting apparatus and served as Executive Secretary of the American Sod Producers Association (now Turfgrass Producers International) for 5 years."

As the American Sod Producers Association (ASPA) archives report, Dr. Indyk's first official role was as "interim association executive." Later, it is noted, "Dr. Indyk served as Executive Director from 1969 to 1973."

Indyk had helped ASPA grow to the point where, in 1973, it was able to hire Bob Garey as Executive Director, with his firm, Garey Management Organization, Inc. (Garmo) providing the full range of association services from their headquarters in Hastings, NE.

As part of thanking Dr. Indyk for his service over those years, he was honored as ASPA's first Honorary Member, also in 1973. Dr. Indyk's love of the industry and his continued support, were reflected in many ways, including his 30-year role as secretary of the Cultivated Sod Association of New Jersey.

As the *Clippings* article reports: "Five decades of professional experience in turfgrass management earned Dr. Henry W. Indyk worldwide recognition. His contributions toward the cause of better turf during the more than 30 years as an Extension Specialist in Turfgrass Management at Rutgers University, and the 15 years after his retirement from Rutgers in 1990 are legendary. He worked to promote excellence in turfgrass science and his efforts resulted in an elevated image of the turfgrass industry."

He was instrumental in the formation of the New Jersey Turfgrass Association and was the driving force behind the development of the annual New Jersey Turfgrass Expo (educational and trade show exposition) in 1974. His vision of the Expo promoting a partnership between turfgrass science and the turfgrass industry so that both entities would thrive and develop a heightened level of communication continues to this day. The education program was designed to also provide State of New Jersey DEP certified education credits for pesticide applicators, license holders, and other practitioners.

Dr. Indyk served on committees and boards of organizations representing turfgrass interests including the New Jersey Turfgrass Association, Cultivated Sod Association, American Sod Producers Association, Sports Field Managers Association of New Jersey, Sports Turf Managers Association (national), Golf Course Superintendents Association of New Jersey (served as Executive Director for 13 years), Irrigation Association (both New Jersey and national), Bergen County Landscape Contractors Association, Plant Food Educational Society of New Jersey, New Jersey Parks and Recreation Association, Associated Landscape Contractors, and Cemetery Association of New Jersey."

The SportsTurf article also mentions Dr. Indyk's work on the national level with the Landscape Industry Advisory Council and the Musser Turfgrass Association. He was instrumental in the development of the Certified Sports Field Manager program for the STMA.

In addition, Tracinski reported in the *SportsTurf* article, "Indyk also worked to bridge the gap between practical and research-oriented

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programs at Rutgers. First, he encouraged an outstanding student to concentrate on the turfgrass area. Then he persuaded the administration to create a new research position in which Dr. Reed Funk has made a tremendous impact on the turfgrass industry.”

The *Clippings* article notes he was honored with several prestigious awards, and lists: The Irrigation Association (national) Man of the Year Award in 1978, the New Jersey Turfgrass Hall of Fame Award in 1985, the Golf Course Superintendents Association of New Jersey Distinguished Award in 1989, and the (national) Sports Turf Manager Association’s Harry Gill Award, STMA’s highest honor, was presented to him in 1994.

As the *Clippings* article reports, “Dr. Indyk published in many journals and books and lectured internationally on the topic of turfgrass management. He provided leadership in Rutgers Cooperative Extension activities related to all facets of the turfgrass industry including: in-service training of county agents; writing of Extension publications; dissemination of turfgrass information through lectures, newspapers, radio, TV, and live demonstrations; organizing and conducting conferences and field days; and advisory assistance on turfgrass problems.”

Dr. Indyk also gave a “Soils 101” presentation that was so comprehensive, yet easy to understand, that it was repeated on several Conference programs by attendee-request, and always delivered to a packed house.

And *Clippings* further reports, “Dr. Indyk was a strong advocate for the certification of seeded turfgrass varieties, and initiated a sod certification program in New Jersey, the first of its kind in the United States.

He was integral in developing the concept of modular and movable turfgrass playing surfaces. Notably, he served as a consultant in the re-construction of the Los Angeles Coliseum playing field for the 1984 Olympics.”

Natural turfgrass advocate

Dr. Indyk’s role as a natural turfgrass advocate took many forms. He participated in a question and answer interview with Joyce Jones that appeared in *The New York Times* on April 25, 1993, titled, “New Jersey Q & A: Dr. Henry Indyk; Want Healthy Grass? Look to the Soil”. A few segments from that article follow.

New York Times: Home lawns make up three-quarters of all maintained grass sites in New Jersey. How do you answer recent criticism that keeping up a lawn harms the environment?

INDYK: There has been a wave of anti-lawn sentiment. Lawns do require fertilizers and the proper use of pesticides. However, in addition to a lawn being visually more attractive over macadam or concrete, lawns play an antipollution role. They consume carbon dioxide, give off oxygen, cool the atmosphere, deter soil erosion and provide an ideal surface for children to play on.

NYT: What about the cost of grass?

INDYK: Some school boards say they can’t afford it. Where a child plays should be as important as where he learns.



In this photo from ASPA’s 1970 Summer Convention and Field Days, Tobias Grether (left) Cal-Turf, CA, discusses Field Day procedures with Dale Habenicht (center) and Dr. Henry Indyk, executive director.



At the 1983 First International Sod Conference & Field Day in New Jersey, Warren Schuch, Turfgrass Inc., past president of the Cultivated Sod Association of New Jersey (left), presents a plaque to Dr. Henry Indyk, rman of the Local Arrangements Committee.

NYT: What mistakes do you think the average person makes in lawn care?

INDYK: While I strongly support pesticides when they are needed, a common mistake is to apply a pesticide just in case, which is costly, wasteful and can add to the potential problem of contamination. It’s no different from treating myself, saying, “I am going to take this medicine, just in case I’m going to get sick.” A lawn problem may be from an insect or a fungus; the diagnosis is key in deciding the proper material to use.

NYT: What’s your main focus in establishing healthy grass, and how do you insure it stays in good condition?

INDYK: Soil conditions are No. 1. We must provide a soil that can drain quickly and be utilized even in the rain. My main concern is not

the growth on the top but the root system and the environment in the soil, its physical chemistry plus the bonding characteristics. Proper maintenance is vital.

NYT: *What was your role in improving grasses like Kentucky bluegrass and perennial ryegrass?*

INDYK: I was fortunate at Rutgers to work with Dr. C. Reed Funk, a professor of grass breeding and selection. Dr. Funk got into the genetics of it, crossing the bluegrasses to make them disease-resistant. He also made a breakthrough in the strains of ryegrass. The genetic material for the improved Manhattan ryegrass, now used successfully on golf fairways, lawns and parks, came out of Central Park in New York. Also, in my travels if I saw a good bluegrass or bent grass, I would collect and contribute strains for him to propagate.

The Spring 2014 issue of *Clippings* honored Dr. Indyk. In her introduction Executive Director Cece Peabody, wrote, "Many in the industry didn't know Dr. Henry Indyk but this man was a dynamo and a person who made a huge difference to the turfgrass industry." And "He seemed to be the pure essence of 'paying it forward'...doing something today that will help many in the future."

Continuing Dr. Indyk's legacy through encouraging and supporting students in their endeavors is the most fitting way to honor this

founding father, as The Lawn Institute has done since establishing the Dr. Henry W. Indyk Scholarship in 2006.

In 2014, Rutgers University announced that the Rutgers Turfgrass Program had raised \$400,000 for the Henry Indyk (AG '50) Graduate Education Fellowship. According to Dr. Bruce Clarke, director of the Center for Turfgrass Science, this fundraising effort was initiated to provide an ongoing source of funding for grad students in turfgrass. Clarke expressed appreciation "to the NJTA and NJTF for their tremendous support of the [fellowship], to the tune of more than \$150,000 in funding since we started our campaign."

Clippings article closed with this tribute, "The turfgrass industry benefited from his expertise in many other ways. Absolutely no one worked harder to promote excellence in all of his endeavors, and his work resulted in an elevated image of the turfgrass industry, in its various applications, and brought him great personal recognition.

"It is difficult to describe what this one man's work has meant to the "world of natural grass." He had the love, the admiration, and the respect of all who had the honor and privilege of working with him. Five decades of professional experience in turfgrass management earned Dr. Indyk worldwide recognition. He will be missed."

This "Fantastic" man is missed by so many, but lives on in their memories through programs such as TLI's Dr. Henry W. Indyk Scholarship. **/ST/**



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TO PLAY OR NOT TO PLAY: SAFETY COMES FIRST

// By BRAD NELSON

Whether simply trying to play a great game or enjoy the fan experience, severe weather can threaten the safety of players, coaching staffs and spectators. Lightning and high winds are the biggest weather risks for outdoor sports venues, especially during the spring and summer months. On average, 64% of lightning deaths that occur in the US each year happen to those participating in outdoor recreation activities. This is attributed to the fact lightning is extremely difficult to predict without advanced weather technology and can even strike from what seems to be a perfectly blue sky. As we approach lightning season in America, outdoor sports venue managers need to understand how to keep spectators, players and coaches safe.

Sporting events are an exciting experience, as the thrill of the game energizes fans and spectators. However, outdoor venue managers are responsible for the safety of those fans and players, and must know when they need to delay a game or cancel it completely in the event of severe weather conditions.

Today, weather delays are becoming more common due to an increase in extreme weather events and greater awareness around the dangers of lightning and severe weather. Because an average lightning strike is 2 to 3 miles in length and can travel 10 to 25 miles from the storm, it's difficult to estimate exactly when and if a sports venue may be at risk. Venue managers may only have minutes to make critical safety decisions when a thunderstorm rolls in and therefore must already have a plan in place to prevent injuries or even fatalities.

The first step in the planning process is developing a lightning-specific safety plan, which should be customized based on venue, season, crowd size, event type and time needed for evacuation. One of the main factors in creating a successful plan is determining the nearest lightning-safe indoor structures for fans to get to in the event of an evacuation, as well as how many people each structure can hold. If there are not enough lightning-safe structures to accommodate

the crowd size, the next best option is to direct them to fully enclosed vehicles until the storm clears. Open-air vehicles, like golf carts, do not translate the electric current from lightning to ground effectively, and therefore should not be included in planning.

Another integral part of this plan is pre-assigning on-site venue staff with specific roles for evacuation. Staff members will need to learn how to effectively and calmly communicate the urgency of evacuation, without frightening guests, and safely move them to shelter when a storm threatens the sports venue. For example, if thunderstorms are forecasted for the venue, staff must be responsible for informing guests of the potential threat once they arrive, as well as pointing out the nearest safe indoor structure. These structures should be clearly identified with directional signage and instructions throughout the venue. If applicable, the sports venue should send direct messages to guests alerting them of the potential weather threat *before* they arrive on site, and *again* if weather becomes a threat

while at the venue. This will help guests make an informed and conscious decision on whether they want to put themselves at risk before arriving at the venue.

Evacuating a sports venue can take a long time. For example, extremely large venues with large crowds can take up to an hour for complete evacuation. Extreme weather can also negatively impact existing evacuation plans, due to spectator's heightened awareness of the dangerous weather. However, venues can proactively practice lightning safety drills and the evacuation procedure to help determine how long an evacuation will take. When it comes to a real evacuation, these practice drills have proven to be beneficial for efficiency, knowledge of procedures and staff engagement. After the venue has completed an evacuation, it's important to reevaluate the process and determine if it was successful or if improvements need to be made. This will enable venue managers to determine how the weather impacted operations, the effectiveness of the lightning-specific safety plan, and make necessary adjustments moving forward.

Free doesn't equal better

Each pre-assigned staff role is crucial to an effective lightning-specific plan, yet the most important role is the weather monitor. Their sole responsibility should be monitoring the weather near the venue leading up to the days of the event, watching for severe weather watches and warnings, and especially any lightning potential. If inclement weather is forecasted, the weather monitor must immediately notify venue management or officials who are in charge of getting the ball rolling on evacuation procedures. If inclement weather is a possibility during any game or practice, it is best practice to review the lightning-specific safety plan with all staff and determine if changes are needed based on the impending weather conditions.

While free weather apps and local news weather forecasts are available, few provide highly accurate forecasts for specific locations. Nor do they provide actionable alerts when that location is at risk of lightning or severe weather. Most local weather outlets use data from weather stations that are located at the nearest airport to produce their observations and forecasts. Venues can be

located several if not many miles away, leading to forecast inaccuracies. Internet websites that offer free lightning forecasts often miss lightning strikes and don't update frequently enough, sometimes only every 10 or 15 minutes, which provide a dangerous false sense of security. And the "flash-to-bang" method for predicting lightning's risk on a location is both unscientific and unreliable since lightning can strike farther than 10 miles away from the parent storm, and this method will not work for the first lightning strike of a thunderstorm.

To be most effective, the weather monitor should use professional forecasts or meteorologist consultation to understand when a threat is real and evacuation is needed. Professional forecasts use current technologies that combine real-time data with highly accurate computer models and meteorologist experience to provide a detailed, location-specific forecast with storm attributes to effectively inform venue managers. Advanced lightning tracking technology can monitor lightning location and movement in real-time, and alerts can be sent via email or text message as lightning is detected in a pre-determined area. Professional meteorologists can provide detailed information on the current storm situation and their level of confidence in a forecast. This is extremely crucial to understanding and reducing risk, especially when making difficult decisions regarding game delays and public safety. There are many weather providers who offer services that deliver critical real-time alerts, location-specific forecasts, lightning display and thunderstorm information.

There is strong evidence that the climate is changing, as well as the frequency and volatility of extreme weather events. With extreme weather events occurring more frequently and impacting a larger portion of the population, a trend that is expected to continue, the responsibility of ensuring player and public safety at outdoor games will become even more challenging. Ultimately, decisions regarding whether to delay or cancel a game must be made with the best information available at the time. By equipping yourself with advanced forecasting technologies and access to an expert meteorologist, you will be better able to protect players and fans. Safety must always be

at the forefront and of highest importance when lightning strikes or other inclement weather conditions threaten play. **/ST/**

Brad Nelson has 12 years of experience as an On-Site Event Meteorologist with DTN, specializing in lightning, severe weather safety and evacuations for golf courses and other large venues. As part of the PGA Tour on-site team, he produces weather forecasts, provides consultation, and assists with evacuations and delays for tournaments in the US and globally. <https://www.dtn.com/industries/weather/sports-recreation/>

CASE STUDY

With quickly changing weather in Maryland, Loyola University not only needed to know if dangerous weather — particularly lightning — was approaching; they needed to know exactly when it would arrive. The university also needed accurate information about how long the inclement weather would last, in order to give league officials and referees a safe and accurate estimate as to when athletic play could resume.

The existing solution Loyola used offered the basic features mandated by the NCAA, but it didn't provide a "countdown clock" showing when it would be safe to resume athletic play. That's when Loyola University Maryland turned to DTN. The university selected WeatherSentry Mobile to get the real-time weather details needed to keep students, staff, officials and spectators safe.

WeatherSentry gives Loyola University Maryland the robust set of weather data points it needs to know when to evacuate athletes and spectators from the sports venue. WeatherSentry's continual live updates and advance warnings allow university staff to alert everyone to inclement weather situations and keep them up-to-date on the status of weather-related delays. Additionally, various departments and groups at Loyola University Maryland rely upon WeatherSentry's mobile capabilities. For example, athletic trainers receive alerts on their mobile phones during practice, so they can notify coaches when dangerous weather is approaching the field.



AZ DIAMONDBACKS INSTALL PLATINUM TE SEASHORE PASPALUM

The Arizona Diamondbacks installed Platinum T.E., a new variety of natural turfgrass sod at Chase Field in late February. Platinum T.E. can also be found on the fields of the World Series champion Houston Astros, as well as the Atlanta Braves and the Miami Marlins. Platinum was chosen after it was installed in the infield and arch during the All-Star break last season at Chase Field. D-backs heads groundskeeper, Grant Trenbeath, was so impressed with the performance of the grass that he decided to make the change. "The Platinum has a shorter dormancy period than the bermuda so we were able to have it installed without the usual ryegrass overseed. It will be a huge advantage that we won't have to go through the transition period from rye to bermuda during the season for the first time," said Trenbeath.

The new sod was grown and installed by West Coast Turf. WCT's Vice President of Sales and Marketing, John Marman, is quite confident that Trenbeath and the D-backs will be pleased with the change. "There are always new advancements in technology in the industry, and that includes turfgrass. This Platinum will do quite well in the low light conditions Chase Field struggles with in some areas. It also 'stripes' much better than bermuda to create crisp mowing patterns.

"It is an environmentally friendly grass requiring 1/3 of the nitrogen fertility than bermuda, and uses less water," Marman said.

GREENJACKET NOW MASTER DISTRIBUTOR FOR TARPDEVILS

GreenJacket and TarpDevil have formed an agreement where GreenJacket is the Master Distributor of the TarpDevil throughout the United States as well as Sweden, Norway, Finland, Iceland, Russia and Australia within the International market. The first of its kind,



TarpDevil is the industry's new solution to reduce the burden of collecting and deploying covers in the sports turf and equestrian arenas. This tractor mounted, hydraulically controlled cover management system exponentially reduces the labor required to manage tarps in spring and fall. A short video of TarpDevil can be seen at: <http://tarpdevil.com/tarp-devil-product-video-live/>

The TarpDevil will make the work of Rolling and Unrolling covers so much easier; the system is tractor-mounted, hydraulically driven, made in North America, compact, and can work with a tractor you have on hand.



TORO INTRODUCES GROUNDMASTER 1337 PULL- BEHIND ROTARY MOWER

Toro will soon launch the all-new Groundsmaster 1337 pull-behind rotary mower. The machine includes three contour-following cutting decks, each equipped with dual full rollers for after-cut appearance. The 12-foot width of cut, paired with simple height of cut adjustment from 0.5" to 4", offers productivity and versatility. The cutting decks feature the same trusted Groundsmaster spindles with heavy-duty shafts and dual tapered roller bearings. Like the 5900 Series, the 1337 features bidirectional impact absorption technology, which cushions and protects the individual cutting decks against damage from inadvertent contact with obstacles while mowing. The decks also fold up for simple and safe transport. In addition, the unit features transport axles that have an integrated torsion spring, effectively serving as a suspension system to eliminate bumps and jarring for a better operator experience.



GREENLEAF TECHNOLOGIES INTRODUCES TIPGUARD SYSTEM

Spray nozzle supplier Greenleaf Technologies has announced its new TipGuard System, designed to fit the company's AirMix low-pressure air injection nozzles; TipGuard protects vulnerable spray tips from damage caused by contact with the ground, fence posts and other obstructions. "It's not uncommon for spray nozzles to be damaged from contact with fence posts, hard ground, irrigation systems or other obstacles," noted Will Smart, owner of Greenleaf Technologies. "The system protects the nozzle tips, saving applicators the time and money it takes to replace damaged nozzles. Our AirMix nozzles with the TipGuard system are comparable in price to competitors' nozzles without a tip protection system." The TipGuard system is compatible with other nozzles of a similar size, including the TeeJet AIXR and Hypro Guardian Air models. Plus, AirMix nozzles with TipGuards stack neatly.

SUSPENDED PLATFORM INCREASES OPERATOR COMFORT

Exmark has launched a new suspended platform-equipped version of its popular Radius S-Series zero-turn riding mower. The new platform uses three independent coil-over dampers to isolate the cast aluminum operator platform from the mower chassis. With the capability of 3 inches of vertical travel, the suspended platform minimizes the effect of bumps and vibration on the operator. Exmark's trailing arm design minimizes lateral movement of the suspended platform to increase operator stability. The suspended platform is easy to adjust for operator weight and ride quality



preferences, no tools required. The coil-over hydraulic dampers are designed to last the lifetime of the Radius S-Series machine, making the suspended platform virtually maintenance-free. Suspended platform-equipped Radius S-Series models also include a comfortable 20-inch high back operator seat featuring plush foam padding supported by an Elastomeric Vibration Control (EVC) stretch fabric base.

SOIL TEMP ALERTS FROM SYNGENTA

To help turfgrass managers stay ahead of key weeds and diseases, Syngenta has introduced Soil Temperature Alerts available on GreenCast Online. This allows subscribers to track soil temperatures anywhere in the US, receive personalized alerts on potential pest activity and access 10 years of soil temperature archives. "Soil temperature is a key indicator of conditions favorable for the development of certain pests," said Lane Tredway, PhD, technical services manager at Syngenta. "To build these alerts, we've identified eight key diseases and weeds and the temperatures at which they emerge. This information can help turf managers ensure more timely and effective treatments, when the conditions are favorable for these pests."

Real-time soil temperature alerts can help turf managers monitor pest outbreaks so they can better plan product selections and application timing to ensure their turf performs at its best. Sign up to receive alerts when target soil temperatures reach the pre-determined thresholds in your area for eight different spring or fall pests.

EXMARK 24" STAND-ON AERATOR

Exmark recently introduced its 24-inch Stand-On Aerator. The enhanced design of this new compact stand-on aerator was based on the



company's successful 30-inch Stand-On model to significantly increase the productivity and efficiency of aerating smaller areas. The simple, intuitive and ergonomic controls of the 24-inch Aerator make it an easy machine to operate and maneuver. The increased efficiency of the dual-hydro drive system reduces horsepower requirements, while offering infinite speed control up to 6.8-mph. The Smart Controller also adds a level of intelligence to the 24-inch Aerator, tracking machine hours and providing maintenance reminders, while also providing a clear LCD screen, advanced settings, service resets and electronic depth control. The electronic tine depth control offers easy tool-less adjustment of tine engagement from 0.5-inches to 5.0-inches, in half-inch increments, to allow for consistent core depth across a property. The foot activated hydraulic tine control frees the operator's hands to control the machine. The hydraulic down force is set by the operator to uniquely provide increased stability and operator comfort, while delivering maximum efficiency.

STEINER INTRODUCES NEW FLEX DECK ARTICULATING MOWING ATTACHMENT

Steiner introduced a new Flex Deck articulating mowing attachment, designed specifically for Steiner 440 and new 450 tractors. The commercial attachment features four independent decks, designed to follow the contour of uneven terrain. The new Flex Deck features several significant improvements to meet the production and quality requirements of turf maintenance managers. First, Steiner has re-designed the center deck and belt driveline for fast, easy service, greater performance, and longer belt life. The new arrangement features tool-less access to the belt driveline with the ability to remove and replace the deck belt by simply using the on-board utility bar to remove belt tension. New pulleys and belt drive geometry also contribute to cooler operating



temperatures and longer component life. Additionally, the driveline increases blade torque to cut through heavier loads while maintaining fast blade speed for a quality cut. Anti-scalp features have been enhanced with the addition of anti-scalp discs beneath blade spindles and an additional roller on the discharge deck. Steiner also achieved quieter operation through strategic placement of rubber dampeners that eliminate any metal-to-metal contact.



ASV RELEASES NEW RT-40 POSI-TRACK LOADER

ASV Holdings Inc. has introduced its new RT-40 Posi-Track loader. Featuring a compact size in a class of its own, the RT-40 provides a productive alternative to walk-behind and stand-on mini skid-steer loaders. It includes a turbocharged 37.5-horsepower Kubota diesel engine. Built for power and performance, the 1.8-liter displacement engine produces 84.5 foot-pounds of torque. The Tier 4 Final engine requires no regeneration, exhaust sensors or diesel exhaust fluid. The RT-40 also provides high tractive effort as a result of ASV's Posi-Power system, allowing for exceptional pushing and digging power. The 4,175-pound RT-40 features a rated operating capacity of 931 pounds and a tipping load of 2,660 pounds. The loader is 48.3 inches wide and has an 8.4-foot lift height. It features speed as fast as 7.1 mph to give contractors and homeowners the ability to complete work faster.



► FIELD

BLUE EAGLE SOFTBALL COMPLEX CLOVER SCHOOL DISTRICT

► LOCATION

Clover, SC

- **Category of Submission:** Schools/Parks Softball
- **Sports Turf Manager:** Will Rogers, CSFM
- **Title:** Sports Turf Manager
- **Education:** Sports Turf Management Certification
- **Experience:** 2 years at Clover Recreation Department: Athletic Field Assistant Manager; 5 years at City of York Recreation Department: Sports Turf Manager; 2 years at River Hills Golf Course: Fairway Turf Specialist; 19 years at Clover School District: Sports Turf Manager
- **Full-time staff:** Lee Clinton, Frank Falls, Will Rogers, Andrew Love, Nick Jackson
- **Student intern:** Shea Hall
- **Volunteer:** Brittany Jo Bowman
- **Original construction:** 1986
- **Turfgrass variety:** Common bermudagrass
- **Overseed:** Overseeded yearly with PHD perennial ryegrass blend; overseeded in 3 directions at a rate of 10lbs/1000 sq. ft.; seed germination within a week.
- **Rootzone:** Native soil, sandy loam
- **Drainage:** No system

What challenges did you face this year that you did not in previous years?

This has been a productive, yet challenging, year at Blue Eagle Softball Complex. We will begin with the challenges. We added concrete under our visitors bleachers, and we had discussed the possibility of creating a sidewalk from the new pad to the area behind our press box. This project was not approved; however, the contractor thought that it was approved, so he graded for the new sidewalk. The contractor was told to cover and seed the area. After the contractor covered and seeded the area, the district decided to concrete the sidewalk, and the mess continued for another couple weeks. This area had already been overseeded by the contractor, and we completed a little sod work and added a little perennial rye to dress it up nicely.

Our old hydraulic irrigation system reared its ugly head again this year. A warm February had the coaches calling for their irrigation system to be turned on early. Wouldn't you know, a cold night in March froze the line in the clock causing Zone 1 to run all night. The infield was an ice rink, and the dugouts were like igloos.

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.

The challenges were tough, but this has also been a great year for the complex. For the past 2 years we have attempted to improve the beauty and functionality around the field. We replaced the simple 10-foot foul poles with 30-foot poles with signs on the cages. We overseeded 77,000 square feet around the field for more warm up areas, better areas for spectators to stand to watch the game, and safer areas for smaller children to play during the game.

Clover High School students pitched in this year to improve the dugouts. Engineering students built a new bat rack in the home dugout, and the building construction class built cubbies in the visitor's dugout to match the home set.

Other improvements around the field included new nets for the batting cages, improved fencing in front of dugouts, and replacing of rotten wood on the back of dugouts.

The beauty of having an old field is the character that time brings, but with that comes the challenges of upkeep. We feel that we are always striving to maintain the character while at the same time adding to its story each year.

Why STMA should consider your field a winner?

If you are around the Lady Eagle Softball Program you start to see that excellence is expected. All the details, both big and small, are important. It's a program that the coaches, players, and sports turf crew buy into every day. Every day at Lady Eagle Softball Complex is game day. You have to treat it that way, or you are regressing. When Lady Eagle Softball Complex won the National Field of the Year Award in 2015, it was a great honor. Winning such an honor is both a blessing and a burden.

The question we ask ourselves every time we go to the complex is how do we make it better? How do we make it better for our athletes, the spectators, and the public? How do we make it more of a home field advantage? How do we maintain National Field of the Year level?

The Field of the Year Program is important to us. It pushes us to be better. Even though we didn't win the National Field of the Year in 2016, we were better than in 2015. We are better in 2017 than we were in 2016. We will likely be better in 2018 than in 2017. It's about pushing ourselves to be better each year. Do we feel like we should win every year? Of course, but it goes deeper than that. We know the work we put in at our field. We know that if someone else wins, they are pushing themselves just like us. They are cut from the same cloth we are. We know that if they win, we raised the bar for them. If they win, they are raising the bar for us next year. It's a back and forth that makes us all better, and the overall winner is our athletes. It's the competition that makes our athletes and us better. It's the attention to detail that the Lady Eagles put in daily and the attention to detail that we put in daily for them that makes us better.

We feel that we raised the bar in 2017, and for that, we feel like we deserve to win the Field of the Year. We know that if we do win, others raised the bar for us to achieve this honor. If we don't win, we know that we raised the bar for them. We are already at work, raising the bar for them in 2018, as we know they are for us.



“THE BEAUTY OF HAVING AN OLD FIELD IS THE CHARACTER THAT TIME BRINGS, BUT WITH THAT COMES THE CHALLENGES OF UPKEEP. WE FEEL THAT WE ARE ALWAYS STRIVING TO MAINTAIN THE CHARACTER WHILE AT THE SAME TIME ADDING TO ITS STORY EACH YEAR.”

– Will Rogers





L to R: Frank Falls, Lee Clinton, Nick Jackson, Shea Hall, Will Rogers, Donnie Grice and Andrew Love.

Will Rogers writes, “What an honor it is that Clover Sports Turf has now won a National Field of the Year award 4 years in a row. First and Foremost, I would like to thank my Lord and Savior Jesus Christ for allowing me to be a part of this wonderful crew of successful individuals. The members of this crew are Lee Clinton, Andrew Love, Nick Jackson, Frank Falls, Shea Hall, Hank Wofford and myself, Will Rogers. We certainly wouldn’t have reached this pinnacle of success without the dedicated assistance of the Clover maintenance staff and for that we owe our sincere gratitude. In order for us to collectively develop these top-notch facilities, it is imperative we have their continued teamwork and support.

The National STMA does an outstanding job with the Field of the Year program. Our South Carolina STMA Chapter has always supported and encouraged us in our pursuit of knowledge in the Sports Turf industry. Thanks again to STMA for having this award.

Let’s hear from the crew!

Will spread the questions around to his crew this year; first we hear from Frank Falls:

SportsTurf: *How has the Field of the Year process helped your career?*

FALLS: I feel like we have always done the right things here, but it makes you sharper. You are looking for new things to do, new things to make better, new ways of doing things to improve your facility. Competition is good. It is good for our athletes and for us. I know when we are trying to improve our field for the Field of the Year process we are raising the bar for others, and their hard work is raising the bar for us. In the end, all of our athletes are the real winners with clean, safe, and beautiful fields to play on.

ST: *What has been the biggest change during your career in sports turf?*

FALLS: I would have to say getting involved in STMA has been the biggest change. Before STMA, you kind of felt alone on an island. Now with the conferences, there is always someone you can call to help you with a problem. Whether you are in the NFL, MLB, or here in little Clover, dirt is dirt, grass is grass, rain is rain, and problems are problems. We are all experiencing the same issues daily, and can be a great tool if we use each other.

Falls, a teacher in the Clover district, adds, “Working for the Clover School District, the goal is really the same. You are trying to do what is best for the kids. Whether you are teaching them supply and demand or getting a field ready for a game that night, that student is learning something. Life skills are learned in the classroom and on the field. If kids think you care, they care. Kids are not stupid; if they see you buying in to them in the class or on the field they will buy in.”

Now, here’s Lee Clinton:

ST: *How has being a member of the National STMA and SCSTMA helped you in your career?*

CLINTON: I’ve had the opportunity to attend the SC/NC conference and several national conferences, but more importantly I’ve been able to connect and network with other professionals in the state and the nation, which I wouldn’t have been able to do if I wasn’t a member.

ST: *What do you enjoy most about your job? What would you change?*

CLINTON: I enjoy working outside, and I take a lot of pride in making the fields beautiful and safe for our players. There’s nothing better than having a player, coach, or parent, even from opposing



teams, thank you for what you do and compliment your work. If I could change anything, I would work on sports turf full time. Right now, our sports turf team is part of the general maintenance department, which is a great group to work with, but we do have other maintenance duties and responsibilities from time to time.

ST: *Clover Sports Turf has won a national Field of the Year award 4 years in a row. Please explain what this means to you.*

CLINTON: One word: unbelievable. I could never have imagined being part of a sports turf team that won a national award once, much less 4 years in a row. However, it does add some pressure to up your game for the following year. The expectations get higher, but it's a great feeling to know that other professionals have recognized your fields and hard work.

And Andrew Love:

ST: *What advice would you give to a person that is new to sports turf?*

LOVE: My advice would be don't be afraid to ask questions. If you have a problem or a question chances are there is someone else in the sport turf industry that's had the same problem. Social media is a great source to reach out to your peers. Remember, everyone was new at some point in his or her career. STMA conferences are a great place to connect and meet others. Also don't be afraid to try new things, perhaps a new mowing pattern? Try it first on a practice field to see how it works out before using it on a game field.

Lastly I would tell them don't put off the little things, they can add up and become big problems before you know. Try to do one small thing everyday whether it be as simple as raking a warning track or edging a base path; those little things can help make a good field a great field. Remember every time a game is played or your field memories are being made, so make the field the best you can for every game.

ST: *What is the most frustrating thing about your job?*

LOVE: Weather and scheduling. It's hard for coaches, ADs, principals, parents, and players to understand we can't control



the weather. Yes it might be sunny today but because it might have rained 2 inches yesterday the field is still unplayable. Also those same people want to use the fields as much as possible and don't always understand why they need to move around and not always use the same spot on the field everyday. They don't understand that a few days of overuse damage might take months to repair.

Last but not least, Nick Jackson:

ST: *Compare your time at the golf course to your time working on athletic fields.*

JACKSON: Fertility plans and turf maintenance on turf fields and golf courses are relatively similar with the exception of putting greens. High-traffic areas are a lot more severe on athletic fields than on golf courses! Repairing mounds and batters boxes, and maintaining proper moisture levels on skinned areas has been the most challenging aspect of maintenance for me.

ST: *How has attending the STMA National Conference helped your career?*

JACKSON: Attending the STMA Conference has helped educate me in all areas of maintenance and introduced me to other people in the same profession. Talking to other sports turf managers I often hear about problems that are similar to mine and ways to correct the issues I am dealing with on our fields. **/ST/**

2018 COMMITTEES ARE SET

This year, President Martin streamlined the organization of Committees to achieve better integration of work between committees and add the value of insight from others who are tasked with similar program. This consolidation will also allow Board members to effectively chair a committee and bring ideas to the Board. In previous years with 26 committees it was challenging to have board representation on every committee.

There are five main groups with one or more Board Liaisons and full committees clustered under them. STMA relies on its strong committee volunteers to help the association advance its mission and its strategic goals. Thank you to all of these volunteers!

Note: These members were awaiting committee placement at press time: Tim Howe, Buffalo Grove Park District; Andy Ommen, McLean County PONY Baseball; Ben Baumer, Chicago Cubs; and Matthew Kerns, The Episcopal Academy.

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Colorado Sports Turf Managers Association: www.cstma.org

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

Florida #3 Chapter (Central):
407-518-2347, Dale Croft, dale.croft@ocps.net

Gateway Chapter Sports Turf Managers Association:
www.gatewaystma.org

Georgia Sports Turf Managers Association: www.gstma.org

Greater L.A. Basin Chapter of the Sports Turf Managers Association:
www.stmalabasin.com

Illinois Chapter STMA: www.ILSTMA.org

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

Indiana: Contact Clayton Dame, Claytondame@hotmail.com or Brian Bornino, bornino@purdue.edu or Contact Joey Stevenson, jstevenson@indyindians.com

Iowa Sports Turf Managers Association:
www.iowaturfgrass.org

Kentucky Sports Turf Managers Association: www.kystma.org

Keystone Athletic Field Managers Org. (KAFMO/STMA): www.kafmo.org

Mid-Atlantic STMA: www.mastma.org

Michigan Sports Turf Managers Association (MiSTMA): www.mistma.org

Minnesota Park and Sports Turf Managers Association: www.mpstma.org

MO-KAN Sports Turf Managers Association: www.mokanstma.com

New England STMA (NESTMA):
www.nestma.org

Sports Field Managers Association of New Jersey: www.sfmanj.org

Sports Turf Managers of New York:
www.stmony.org

North Carolina Chapter of STMA:
www.ncsportsturf.org

Northern California STMA:
www.norcalstma.org

Ohio Sports Turf Managers Association (OSTMA): www.ostma.org

Oklahoma Chapter STMA:
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Oregon STMA Chapter:
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oregonstma@gmail.com

Ozarks STMA: www.ozarksstma.org

Pacific Northwest Sports Turf Managers Association: www.pnwstma.org

Southern California Chapter:
www.socalstma.com

South Carolina Chapter of STMA:
www.scstma.org

Tennessee Valley Sports Turf Managers Association (TVSTMA): www.tvstma.com

Texas Sports Turf Managers Association:
www.txstma.org

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Sprayer on a budget

Q: I HEAR ABOUT ALL THESE PEST CONTROL PRODUCTS I COULD USE ON OUR FIELDS, BUT WE DO NOT HAVE A SPRAYER. WITH OUR LOW BUDGET, I ONLY USE “DRY PRODUCTS.” IS THAT OKAY? –from a North Carolina high school

A: There is nothing inherently wrong with using dry products. In fact, there are several of advantages to using dry products compared to liquids. The application equipment requirement to apply dry products is often the same rotary spreader you are using to apply fertilizers. The spreaders are often tractor-mounted, but I have seen a number of people use push-types on fields. Calibration of spreaders is relatively easy and the spreaders are typically low maintenance, inexpensive pieces of equipment that last for many years.

Also, dry products require no mixing so there is less chance of spilling a concentrated product. If there was a spill, the cleanup for dry products is typically much simpler than for liquids. For these reasons, dry products may result in a greater safety factor in terms of human and environmental exposure. Although the potential inhalation of dust with dry products is an issue that should be considered.

But with liquid applications better coverage is usually achieved. With quality spraying equipment, a much more accurate application of products is possible. This is especially important with low-use rate products that are common with many of today's new herbicides. There are a wider variety of products formulated for liquid application compared to granular application. In many cases, multiple products may be tank-mixed together so that a turf manager can more efficiently spread products over the field. Just be sure to check for product compatibility before mixing in the spray tank.

Having said all that, it has been my experience that putting together a usable sprayer is not as expensive as one might expect. I say this because I really believe a multi-field facility should invest in some type of sprayer. There is no doubt that high-tech dedicated sprayers can be very expensive to purchase. If you are managing fields at the highest levels, then these types of high-capacity sprayers are usually considered a necessity. But there are other options for spraying that may be available for much less.

First, it never hurts to ask your equipment suppliers what they have in their used inventory. You may get lucky and find a great dedicated sprayer with limited wear and within your price range. The large turf equipment companies have quality, dedicated sprayers that are highly serviceable and can last for many years. So, do not be afraid of used equipment when buying from reputable source.

But let's look far below dedicated sprayers. I want to introduce you to smaller, more portable sprayers that are more common with “hobby farmers.” These usually have tank capacities between 25 and 60 gallons. You may have a number of retailers in your area that sell these types of sprayers. Look around at some of these places and see what they have available.

Most all these retailers sell a tank that can be dropped into a utility vehicle you already own or you can get a small trailer sprayer that you can pull behind a utility vehicle, tractor, lawn mower, UTV, or ATV. For around \$350 one can usually find a 25- to 30-gallon chemical resistant tank, electric pump, and 7-foot boom with a hand wand option mounted on a 2-wheeled trailer. For less money, one can find a similar sized sprayer that will fit onto a utility cart or ATV. For another \$50 to \$100 dollars you can upsize to a 40-gallon sprayer. A 60-gallon tank sprayer will usually cost about \$600. Along with the larger tank one usually gets a larger electric pump for a greater capacity to move liquid and correspondingly wider booms.

Many of the suppliers previously mentioned also sell components so that a person can assemble (or repair) their own sprayers. As I alluded to earlier, more money gets you larger tanks (less refilling) and greater capacity to use wider booms. Spend more up front and you will need to mix fewer tanks and can finish spraying a field faster. Since most of the turf herbicides are sprayed at volumes between 25 to 40 gallons per acre, to finish a football field (1.32 acres without sidelines) will likely require you to mix at least two tanks unless you get a larger tank.

If you do not have a sprayer because you thought they were too expensive, I would encourage you to look into one of these sprayers that you can use with an existing vehicle (rather than a dedicated sprayer). It will open up a new world of opportunities in terms of products that can be applied and ease of application. Since some products are available as either granular or sprayable formulations, being able to use the sprayable may also allow you to purchase the cheaper formulation. This savings offset may be enough over time to pay back the cost of the sprayer.

I will end by suggesting that once you buy the sprayer that you go back to the April 2018 issue of *SportsTurf*, and go through the article titled, “Technical Information on Setting Up Sprayers” on page 34. It is a great reference on sprayer set-up and use. **/ST/**

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