

IN THIS ISSUE: Is your facility safe?

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

AUGUST 2017

SportsTurf

SPORTS FIELD AND FACILITIES MANAGEMENT / www.sportsturfonline.com

BEATING THE ELEMENTS: TOYOTA PARK IN CHICAGO



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- » Late fall fertilization
- » Science of shrub care
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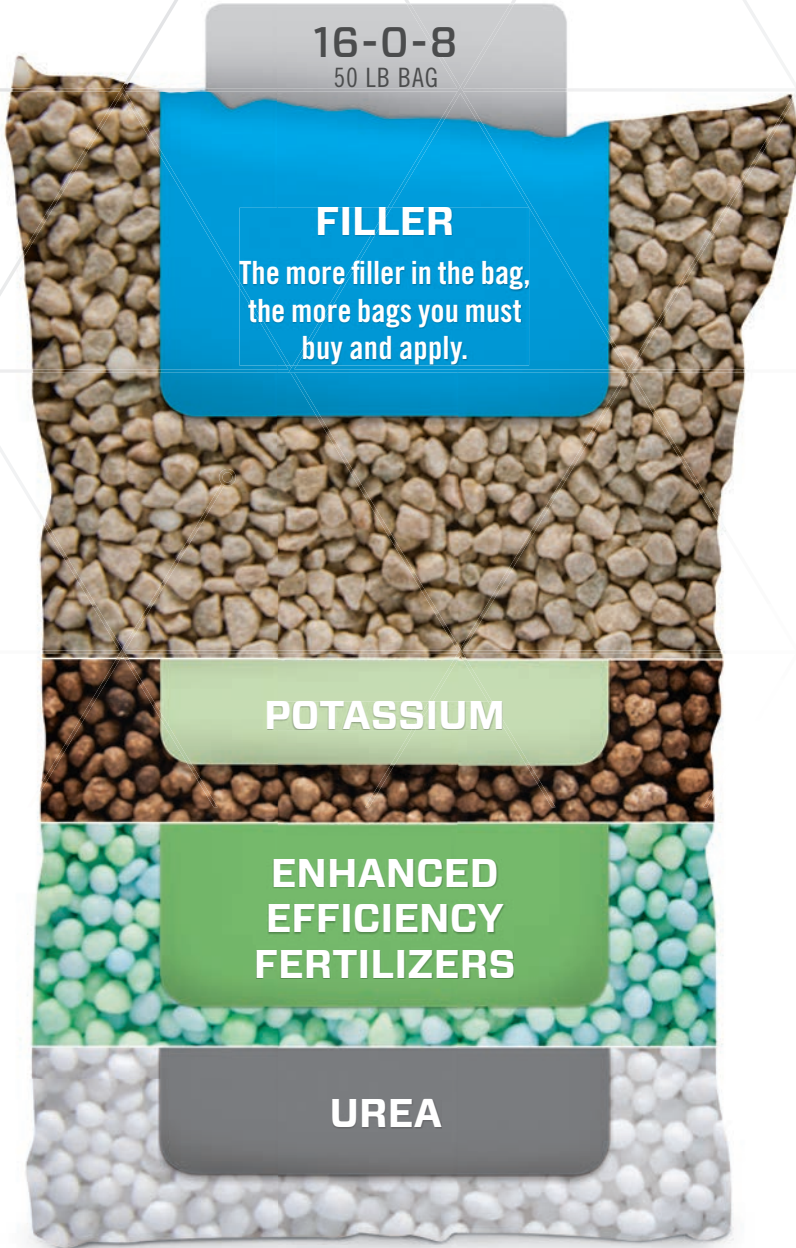
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ON THE COVER

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2016 STMA Field of the year award

Joel White, turf manager of the STMA 2016 Professional Soccer Field of the Year, spent more than 30 years as a golf course superintendent before moving over from the "dark side" to managing sports turf at Toyota Park outside Chicago. Read his reflections in the differences and similarities between the two jobs on page 34.

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FROM THE SIDELINES



Our fresh new look

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

MANY THANKS TO EPG MEDIA'S managing art director, Dodi Vessels, for redesigning the magazine's look, with an assist from fellow EPG artist Becca Hudson. And thanks to the STMA's Editorial Committee for their feedback in the process. We got what we wanted—modern, simple and clean. Now it's up to *SportsTurf's* new art director, Phil Tippin, to continue to produce pleasing and readable pages, as you'll find in this, his debut issue. Unfortunately nothing could be done to improve the look of the photo subject on this page . . .

Buying intentions

I don't often enough give a shout out to our advertisers, both print and online, without which there would be no magazine. If a company advertises here they know they are reaching a lot of turfsters who make buying decisions.

Recently we surveyed readers on buying intentions over the next 12 months; here are some percentages from the results (thanks to all who responded your time much appreciated): 80% of respondents said price was the #1 factor influencing purchases, followed by 77% citing both prior experience with a brand and "quality." Only 30% said warranties were a factor.

Another interesting result: 24% plan to spend \$50,000 to \$100K on equipment and supplies this year; 22% said \$10,000-\$25K; 17% said less than \$10,000; and 15% said \$100,000-\$250K.

Battery-powered equipment: 75% still report they'll pass but 25% said they planned on buying such equipment.

Here are some numbers showing the percentage of respondents who plan to buy these products in the next year:

- | | |
|-----------------------------|-----------------------------|
| ■ 84% fertilizer | ■ 41% valves |
| ■ 72% field paint | ■ 40% sprinkler accessories |
| ■ 71% herbicides/pesticides | ■ 38% riding mowers |
| ■ 61% pop-up sprinklers | ■ 35% drag mats |
| ■ 51% soil amendments | ■ 33% utility vehicles |
| ■ 46% pipes & fittings | |

Thirteen percent said they didn't plan on buying anything. Yikes!

More than half of respondents (56%) said they plan on renovating an existing field this coming year, 25% plan on installing a new irrigation system, and 21% plan on installing new drainage.

Personal note

This month my oldest son will be heading to college. I won't say, "It seems like yesterday" when he was born because 18 years, pre-9/11, feels like a very long time ago to me. I made fathering mistakes along the way but he survived them and now it seems my work in that regard is mostly done. I hope we'll still have meaningful conversations while shooting baskets in the driveway or on the golf course, and some laughs as time passes, but his future is now up to him. Best of luck, Max, your mother and siblings and I love you. **/ST/**

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PRESIDENTS MESSAGE

Why we do what we do



Tim Van LOO / CSFM / STMA President / vanlooti@iastate.edu / @cycloneturf

WELL, IT'S AUGUST! That means most have endured the long month of July and the heat that it brings. For me in Iowa the temperatures do not drop a lot in August, but the days are getting noticeably shorter. The nighttime temperatures start to drop and for whatever reason, I can germinate Kentucky bluegrass with no effort in less than 10 days. August is also the time of year that I may have to remind myself why I love my career. I am not saying I forget, but sometimes in the hustle and bustle, I can lose focus on the parts that bring me great satisfaction. Please allow me a few paragraphs to share some of what I do to mentally stay focused on why I do what I do.

The pursuit of perfection is simply that, a pursuit. I have to remind myself that perfection is impossible, but worth chasing. I think that is why so many of us do not apply for "Field of the Year" consideration; we do not ever feel it is good enough. I love pulling off the appearance that everything is perfect, but we all know that last 5% is nearly impossible to get "perfect." The reminder is a quote that Dr. Trey Rogers of Michigan State would use: "The closer you get to perfection, the further away it appears to you." When Trey said that for the first time in front of me, I thought, "What is he talking about?" After being away from college for 11 years, I now understand the warning with great clarity.

The fields are not mine; they are for the players, coaches, and fans. We are simply the tools that are used to bring the event a safe surface for play. A few weeks ago I attended a wedding reception in our SUKUP end zone club at the stadium. It was a beautiful night and the kids and many adults eventually made their way to the playing surface. They ran around for hours on the field having a great time and making memories. Many people asked me if it was bothering me that they were on the field. I simply replied, "No," because the people playing on the field were giving me a gift. That gift was a reminder that a field is a place for memories to be made and a place for fun to happen. I found great satisfaction that night when feeling like I had a part in making an already special night more memorable.

I cannot speak for everyone reading this, but I love my job, and I know that many of you feel the same way. So many things go into preparing a field. So many unsung heroes who deliver for me so I can deliver for my department. Please let me or headquarters know if there is anything we can do to help you get closer to perfection.

/ST/

Late fall fertilization of sports turf in northern climates

// By DR. PETE LANDSCHOOT



Fall is the time of year when cool-season turfgrasses recover from summer drought stress, heat, and disease. For sports fields, fall is also the time that turf takes a beating from football and other fall sports. This year, many sports turf managers in the northern US will be making fertilizer applications in late fall with hopes of improving turf color, vigor, and recovery from fall/winter injury the following spring. This article examines how late fall fertilizer applications influence turf performance, when to make applications, as well as the types of fertilizers and rates which may provide a desirable turf response.

Why fertilize in late fall?

Whereas late fall fertilization is not an absolute necessity, there may be a few reasons why sports turf managers might want to apply nitrogen towards the end of the fall sports season. Perhaps the main reason is to extend green turf color to the end of the season, which can be well into November or even December if there are post-season football games scheduled. This late season color response of cool-season turfgrasses to nitrogen fertilizer is more noticeable in regions where winters are warmer and during periods of mild temperatures in November and December. Late fall nitrogen applica-

tions can also enhance spring green-up of turf without the excessive growth that often accompanies early spring fertilization. This green-up will often last into the middle of spring, so an early spring fertilizer application may not be needed. A fertilizer application in mid- to late spring is usually required to sustain turf color and growth into the summer months.

A small but potentially important increase in the plant's carbohydrate reserves occurs when nitrogen fertilizer is applied in fall instead of early spring. Cool-season turfgrasses accumulate carbohydrates in stems and rhizomes during fall. Carbohydrates

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help turf resist winter injury and aid in disease and environmental stress resistance the following spring and summer. Because carbohydrates are tapped for energy by roots and shoots during periods of rapid growth, forcing excess growth with early spring fertilizer applications can deplete carbohydrates quickly, leaving turf vulnerable to spring and summer stresses. Late fall nitrogen fertilizer applications tend not to produce as much leaf growth in spring as an equal amount of early spring fertilizer, thus carbohydrates are not exhausted as quickly. The result is a slight advantage to the turf in the form of better stress tolerance.

Another *reported* benefit of late fall fertilization is an increase in rooting, though precisely when and how this increase occurs is a source of some debate. Maximum root growth of cool-season turfgrasses occurs in spring and fall. Some root growth will occur in winter if temperatures are above freezing, whereas little if any growth occurs in summer. Fertilizer applications are typically made in spring and late summer in attempts to promote root growth. One problem in using this approach is that much of the

fertilizer is used by the shoots, sometimes preferentially over roots. One reported advantage of late fall fertilization is that roots are still growing at a time when shoot growth has ceased or slowed dramatically, thus allowing the roots to make full use of the fertilizer. However, root growth is very slow during this period, and if the soil is frozen, they do not grow at all. Consequently, the benefit of increased root growth in response to fall fertilization is questionable.

One study at Virginia Tech showed that moderate rates of soluble nitrogen (1 lb. nitrogen/1000 sq. ft.) in late fall increased rooting of turfgrass without a noticeable increase in shoot growth. In contrast, a study at Ohio State showed no increase in root growth during late fall or winter following late fall fertilizer applications. However, when compared to early spring applications of nitrogen, late fall applications allowed more rooting in spring. Presumably, this benefit was due to early spring green-up from late fall applications, which alleviated the need for early spring fertilization.

When nitrogen fertilizer was not applied in late fall, but instead in early spring, ex-

cessive shoot growth occurred, depleting carbohydrate reserves that would have otherwise gone into root production later in spring. The take-home message from the Ohio State study is that while the net effect of late fall fertilization on rooting is slight, application in late fall may be more beneficial with respect to rooting than an early spring application.

Late fall nitrogen fertilization is occasionally blamed for increased winter injury, snow mold, and annual bluegrass encroachment. A few studies have been designed to examine the influence of late fall nitrogen applications on winter injury. But to my knowledge, none have conclusively demonstrated detrimental effects in the sports turf arena. Heavy fertilization in mid-fall, when grass shoots are actively growing, can sometimes enhance snow mold diseases (presumably due to reduced pre-winter hardening and increased succulence of plant tissue). While some studies have shown increased annual bluegrass populations in fall, there is little evidence to show that this increase is related to *late* fall fertilization.

When to apply

Many agronomists agree that late fall fertilization of cool-season turfgrasses should take place when foliar growth slows to the point that turf no longer needs to be mowed, grass is still green, and before the soil freezes. In the northern US, this period usually occurs sometime in November. Application timing may vary from year to year depending on weather conditions.

In recent years, the practice of applying nitrogen and/or phosphorus fertilizer to turfgrass during late fall has been questioned by environmental groups, government agencies, and some agronomists because of the increased potential for nutrient runoff and leaching during cold weather. In response to these concerns, several states in the northern US have placed date restrictions on turfgrass fertilizer applications during late fall and winter. Because of the new date restrictions in these states, sports turf managers must apply fertilizer before the cut-off date (mid-November in most cases), or wait until the following spring to fertilize.

Fertilizer sources and rates

Most late fall fertilization programs include moderate amounts of nitrogen. Rates of <1 lb. of mostly slow-release nitrogen/1000 sq. ft. are suggested over higher rates to avoid excessive growth in spring and nitrogen leaching or runoff during the winter. In some cases, slightly higher rates of certain slow release nitrogen sources are used, such as polymer-coated products that release nitrogen at higher temperatures over a long time period.

Slow or controlled-release nitrogen sources are a better choice than soluble sources on sandy soils because of reduced potential for leaching. Nitrogen fertilizer should never be applied to frozen soil due to the increased chance of nutrient runoff.

Although fertilizer application timing is not as critical with phosphorus and potassium as it is with nitrogen, these nutrients can sometimes benefit turf when applied in late fall. Phosphorus is important for root growth and maturation of turfgrasses and application rates should be determined according to soil test recommendations. There is no need to apply phosphorus if it is present in soil at sufficient levels. Potas-



sium should also be applied according to soil test recommendations. At appropriate concentrations, this nutrient can enhance cold-hardiness of turfgrasses. **IST/**

Peter Landschoot, PhD, is a Professor of Turfgrass Science and the Director of Graduate Studies in Agronomy at The Pennsylvania State University in University Park.

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IS YOUR FACILITY SAFE?

// By SCOTT BILLS, CSFM

My goal in this article is to help readers learn about the Theory of Liability and Standard of Care as they relate to the responsibility of administrators, facility managers, athletic directors and coaches to provide safe and playable athletic facilities.

Theory of Liability

There are four factors that make up a complete Theory of Liability:

■ **Dangerous Condition.** A dangerous (or improper) condition must exist (if someone trips and falls on a sidewalk and is injured, but there are no cracks or unevenness or anything

that makes it irregular or dangerous, there is no liability).

- **Causation.** The dangerous (or improper) condition must have caused the incident (and injuries or damages). Maybe the sidewalk was cracked and uneven in one spot, but the injured party tripped and fell somewhere else/nearby, then there is no liability.
- **Notice.** Must be established that the defendant(s) either knew or should have known, with typical/proper/reasonable attentiveness (consistent with the actions of a reasonable man and/or the normal standard of care) of the dangerous (or improper)

condition. Alternatively, if the defendant(s) created the dangerous/improper condition, this covers or is considered notice.

- **Standard of Care.** What would a reasonable person do? It must be shown that the defendant(s) violated the typical/normal standard of care. Often the expert, who should have relevant knowledge and/or experience, establishes the standard of care (of/for the defendant[s]) and then opines on whether or not it was violated.

The definition of “standard of care” is the watchfulness, attention, caution and



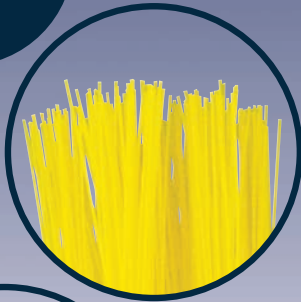
Plaintiff breaks his left leg after sliding into second base on an improperly maintained synthetic baseball field.



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prudence that a reasonable person in the circumstances would exercise. If a person's actions do not meet this standard of care, then his/her acts fail to meet the **duty of care** that all people (supposedly) have toward others. Failure to meet the standard is **negligence**, and any damages resulting there from may be claimed in a lawsuit by

the injured party. Negligence is conduct that falls below the standards of behavior established by law for the protection of others against unreasonable risk of harm. A person has acted negligently if he or she has departed from the conduct expected of a reasonably prudent person acting under similar circumstances.

The problem is that the "standard" is often a subjective issue upon which reasonable people can differ.

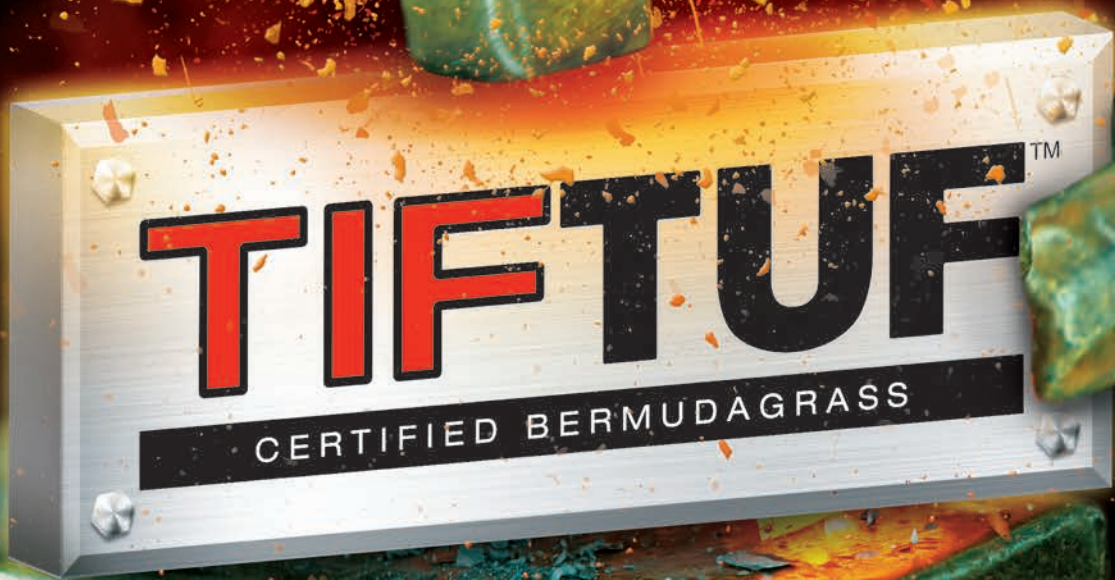
In order to establish negligence as a Cause of Action under the law of torts, a plaintiff must prove that the defendant had a duty to the plaintiff, the defendant breached that duty by failing

CASE STUDY

Broken Ankle on a Public Synthetic Softball Field.

At approximately 4:15 pm on March 30, 2015, the Plaintiff was injured while playing softball in a high school softball game. The Plaintiff was running towards home plate and slid into the base. The Plaintiff's foot got caught in the turf and she continued to slide, and then discovered her foot was turned the wrong way.

"During my inspection I observed the field to be a softball field with painted baselines at the southwest corner of an all synthetic carpet style nylon soccer field. The field surface material was uniform in all areas except the right hand batter's box. This surface measured approximately 3' wide x 5' deep and consisted of a taller fiber sewn onto a rubber backing. The section appeared to be a repair and replacement of the original surface. This piece was significantly different than the original carpeting in length of fibers, texture and thickness. The rubber backing thickness was 1/2" and the fibers were 1 1/2" high compared to the 1/2" height of the surrounding surface. The replacement piece was not attached, connected or otherwise anchored to the surrounding synthetic carpeting or substrate and protruded 1/4" - 1/2" above the surrounding surface."



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to conform to the required standard of conduct, the defendant's negligent conduct was the cause of the harm to the plaintiff, and the plaintiff was, in fact, harmed or damaged.

What separates a "common accident" from an "act of negligence" is the standard of care. By neglecting the proper standard of care for a given situation, an individual may be found liable for any resulting injuries. You can be found negligent if a "dangerous condition" existed, caused the incident, you had "notice," and your actions or inactions violated the standard of care.

Reasonable person

The so-called "reasonable person" in the law of negligence focuses on how a typical person, with ordinary prudence, would act in certain circumstances. The test as to whether a person has acted as a "reasonable person" is an objective one, and so it **does not** take into account the

specific abilities of a defendant. Thus, even a person who has low intelligence or is chronically careless is held to the same standard as a more careful person or a person of higher intelligence. A jury generally decides whether a defendant has acted as a reasonable person would have acted. In making this decision, *the jury generally considers the defendant's conduct in light of what the defendant actually knows, has experienced, or has perceived.*

Proof of negligence

In a negligence suit, the plaintiff has the burden of proving that the defendant did not act as a reasonable person would have acted under the circumstances. The court will instruct the jury as to the standard of conduct required of the defendant.

For example, a defendant sued for negligent driving is judged according to how a reasonable person would have driven in the same circumstances.

A plaintiff has a variety of means of proving that a defendant did not act as a reasonable person would have acted. The plaintiff can show that the defendant violated a statute designed to protect against the type of injury that occurred to the plaintiff or a plaintiff might introduce expert witnesses to provide evidence of a customary practice.

If you don't want to get sued, here are some basic industry expectations:

- Establish standard operating procedures. Inspect the premise regularly and keep maintenance records customary for the site or sport.
- Repair defects immediately or prevent exposure to users, participants or spectators until the premise is made safe.
- Keep users, participants or spectators safe during the use of the premises by having a plan for reasonable supervision and security.
- Use reasonable employee recruiting, selection, hiring and training practices.
- Have a written emergency and medical plan
- Practice the plan

Risk management is the process of identifying and minimizing elements that could cause injury or harm to users, participants or spectators. Four elements of risk management include:

- Identification with regular inspections
- Evaluation by prioritizing based on severity and frequency
- Treatment by stopping the activity, reducing the risk, transferring liability through contract (hold harmless clauses), and assuming the risk is worth the liability exposure
- Implementation—once a treatment is implemented, reevaluate to ensure it was the correct option

You can be subject to a lawsuit for negligence if a dangerous condition exists, is the cause of an injury, and you had notice and violated the standard of care. Inspect your facility as if you will be a participant, parent, or spectator.

/ST/

Scott Bills, CSFM, is owner of Sports Field Solutions, LLC, Frenchtown, NJ.



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ANSWER
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Tips for removing paint from synthetic turf

// By MIKE HEBRARD

Many spectators still can't tell the difference between inlaid and painted lines and when it comes to the college football bowl season even I have a hard time deciphering between grass and synthetic. The skill and precision of today's grounds manager is amazing with the short turnaround of a field's use.

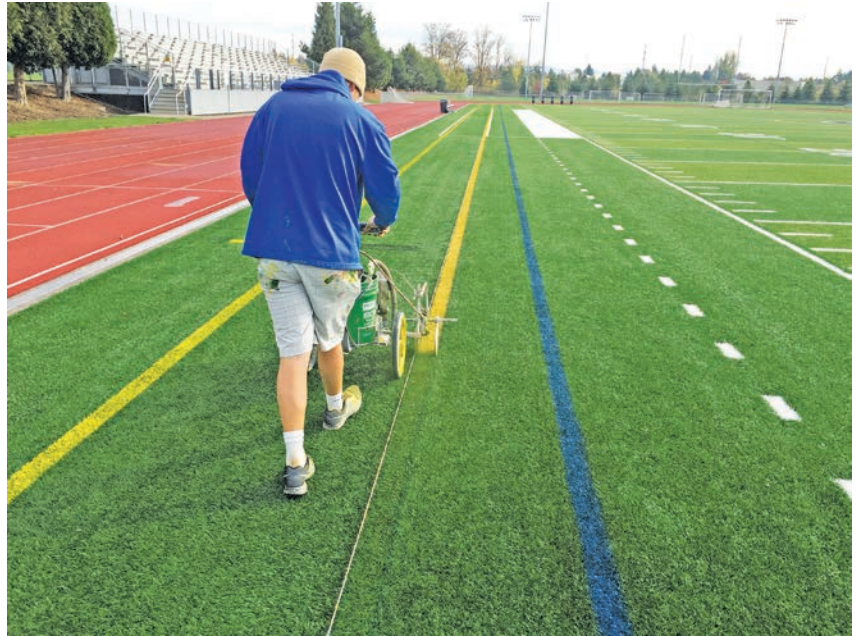
Things to consider when painting removable lines and logos include: how long they need to last; do they have to be removed immediately after the event; and what effect will this have on other sports?

Most of the removable lines that I paint are for lacrosse in the spring when football and soccer are a low usage sport. Since most of lacrosse is a club sport and not directly associated with the high school, the clubs are required to pay for the painting and removal of their lines. I recommend that these lines be painted as if inlaid so that there are several cuts or routed-in markings down the middle of the field with the girl's lacrosse starting at the football goal line and ending with the girl's arc near the 25-yard line. During the course of the summer the lacrosse markings will wear the painted lines down and are slightly noticeable when the fall sports begin.

However there are some programs that insist on the markings being removed. Removal begins with applying a chemical remover that will soften the paint on the turf fibers and then scrubbing the remover, which will help break up the painted fibers. Constant soaking with water over the painted area will loosen paint that will eventually drain through the system.

Some mechanical removal machines have a vacuum bar with a chamber that use gravity to separate the liquid and the paint particles from the weight of the sand and rubber that aren't able to be vacuumed into the chamber.

According to Jeff Fisher of Pioneer Athletics, "There are modern removable paint systems for synthetic turf; sports field painting has come a long way with the addition of synthetic turf products. The paint systems available today are quite sophisticated and allow you to control a number of factors, including durability, quality of line, level of removability, ease of application and adhere to different substrate types. Synthetic turf paints come in a variety of strengths; some are designed to last up to a week, some a season or a year or more. These paint systems are designed specifically for synthetic turf, and even for the specific types of plastics that make up the turf,



like, for example, polypropylene, polyethylene and nylon.

Fisher continues, "These substrates can be very difficult to coat evenly and adhere to, so finding a paint that will actually last isn't as easy as running to the corner hardware store. Also, some paints that are not designed specifically for synthetic turf can stain or bind the fibers and infill, creating a long-term mess on the field. The more interesting and high tech paint systems for synthetic turf are the two-part removable systems."

These two-part removable paint systems use specialized resins that can be re-liquefied or re-solubilized when a second, non-toxic "remover" component is added. These removable paint systems rely on a chemical reaction to break down the resin so it can be removed, rinsed or extracted, this makes them very gentle to the turf. Synthetic turf removable paint systems come in aerosol and bulk, long term and event paint, and formulas for hot and cold climates.

These systems combined with modern synthetic turf removal and extraction equipment allow field managers to maximize their field use, while minimizing their time, wear and tear on the turf and unsightly unneeded lines.

Other removable paint systems use standard natural grass field paints or house paints that are made with heavy latex resin systems which are not designed to be broken down, or at least not easily. So to remove these, they use light solvent in the "remover" to soften the paint so it could be physically scrubbed off the fiber. This type of

system tends to leave large rubbery paint pieces in the infill, causes heavy ghosting and can cause you to prematurely beat up your turf. Other systems use field or house paint with soap added to aid in removal by preventing a proper film to be formed; these systems fail miserably when it rains or gets damp.

How do you know if you are using a removable paint system or not? If you can buy your remover solution at a Big Box Store, you are not.

So the makeup of the resin based removable paints allows it to dry quicker while a latex based-paint would take longer to cure.

Repainting the line when it is not truly dry will dilute the paint creating a longer dry time. The more paint that you use (larger spray tip), the longer it takes for the paint to dry. Applying a light (primer) coat first and letting it dry allows for heavier application. But the more paint that is applied the more time and labor is required to remove lines or logos.

Painting existing inlaid logos

Requests for painting an existing inlaid logo with a Red, White and Blue theme have been very popular. For quick removal, a clear removable base will help insure that the paint won't remain on a lighter color of turf. Usually the patriotic theme is used for one game, but with recent catastrophes throughout the world comes increasing requests for special logos. A current inlaid logo can be painted a different color such as Pink for Breast Cancer Awareness month or Red, White and Blue for patriotism using removable paint that can be removed and restored to normal field markings by the next game.

Logos aren't too bad to remove since all of the process is in the same area where you can concentrate the scrubbing, chemical remover and washing without much mobilization. Lines and yard marks require moving the scrubber and water source and usually require specialized equipment and increased labor. Some of the scrubbing machines may have one rotating brush with a pad; others may have two or three rotating brushes in opposite directions to thoroughly massage the chemical on the turf blades enabling the paint to be removed more quickly.

At outdoor facilities a lot of water helps to breakdown the paint particles that are eventually flushed through the drainage system. Most of the newer paints are made from more ecologically safe materials to prevent contamination going into the water system.

When painting indoor facilities with removable turf rolls, more vacuuming and lighter application is the norm so there isn't a lot of water left under the turf. The removal process can also be done on natural grass, but requires the chemical remover being diluted with water as not to harm the turf. Less agitation of the grass blades and more water usually helps preserve the turf.

The darker colors usually dry faster and tend to blend into the turf when removed but the whites tend to show a lot more shadowing and can leave a slight resemblance of the prior logo or lines. There are clear coats "masks" that quality synthetic turf paint manufacturers use to protect sewn in lines and logos. If you intend to add paint over these, look into it before painting. **/ST/**

Mike Hebrard is owner of Athletic Field Design, www.athleticfield.com.

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Advice on being successful in your first turf job

YOU'VE JUST GRADUATED and landed a great job with great opportunities in front of you. Be aware that you "don't know what you don't know." An important communication skill is the ability to listen. You will meet great people in this green industry that have many, many years of experience and have seen and done it all. You can learn a lot from these folks if you listen and ask good questions. Information is not the same thing as knowledge, because not everything you need to know is on Google. Also, share what you know and help others. The late Stan Zontek, an USGA Green Section staffer, would always say that this green industry is a "people business." Stan is absolutely right!

– Mike Fidanza, PhD, Dept. of Plant Science, Penn State

FOR THE YOUNG PEOPLE just getting an introductory-level position, there are a couple things that stand out to me as important first steps. One is understanding the new mindset you must have in regards to the overall operation of where you are working. You are no longer a seasonal or intern punching a clock, this is now your career. You must remain aware of what is going on at your field or complex even when you are not there and how your job responsibilities are directly tied into others', even in different departments. This is also a red flag for those of us in this business because you also must guard against the job consuming your entire existence. It takes a few years of experience to learn the balance (if you ever do!) but it is something to be aware of from the start.

Another common mistake is trying too hard to show how much you know. I personally look for effort and the ability to learn. I don't look for turf graduates in their first job to display a vast knowledge of the business or to have been exposed to the various "real world" problems that cannot be manufactured in a classroom. Show me instead how well you can learn, be coachable,

and eventually work independently. I tell all my interns, "You are going to make mistakes" and that is ok. That is what internships are for. So don't stress yourself out by trying to show me you are a genius. Show me you have good listening skills, an ability to adapt and willingness to give 100 percent. This mindset translates to the first full time position as well.

– Patrick Coakley, CSFM, Ripken Baseball

MY FIRST SPORTS TURF JOB out of college was at Virginia Tech. I think communication plays the biggest role in being successful at your job, be it your first or any

I TELL ALL MY INTERNS, "YOU ARE GOING TO MAKE MISTAKES" AND THAT IS OK. SO DON'T STRESS YOURSELF OUT BY TRYING TO SHOW ME YOU ARE A GENIUS.

job. Communicate well with your employees, supervisors, coaches and athletic directors. A lot of the time mis-communication or not communicating at all leads to personnel issues, with supervisors or coaches getting upset because you mis-communicated with them; that was the biggest thing for me at Tech. I started going to the coaches and talking with them, asking them what they might need, or sharing what I was going to do to the fields. You can never tell someone too much information. The better they understand what's happening, the better working relationship you will have with everyone.

Another thing is to treat your employees the way you want to be treated. Give them advance notice if there is overtime work coming, not 24 hours or less but a week or more. Listen to their needs or wants. Ev-

eryone has issues, be it family or work, and if an employee is struggling, pull them aside and have a one on one talk, and mostly listen. You want respect, which you gain by treating them the way you want to be treated. Thank them for the work they do and take them to STMA or local chapter seminars. Give them ownership in the fields they work on. You will be surprised the output you can receive from an employee.

Don't "micromanage!" That is the worst. Give your employees some rope, let them make decisions about things, and let them take that rope and just be there so they don't hang themselves with it. If they start doing something you know is wrong or could damage the field, start a conversation with them, asking why would you do something that way and listen to the explanation, and talk to them and tell them or show them what could happen if they do it that way. Don't be just a boss; be a leader, a listener, and communicator, and a friend when you need to be!

The one thing I wish I had done differently is being patient. I wish I had been more patient with my supervisor and my co-workers. That is the one thing I am doing now.

– Jason Bowers, CSFM, Glenstone Foundation

TODAY AND HOPEFULLY well into the future I still maintain contact with many of the individuals I worked with at my first job. I feel it is important to establish good relationships both personally and professionally. That way when you are no longer working together you can still call and get advice or meet at the bar or get your kids down onto the field after a game.

I think it's imperative to be open-minded and present yourself in a receiving manner no matter your level of expertise. It is important to be receptive and try to get along with everyone. Once relationships and work ethics are established, you can begin to provide more input and ideas.

Work hard and show everyone that you take your job seriously. Appreciate your co-workers. Prepare to do more work and get fewer rewards at the beginning. People are different and everyone needs to be respected.

Looking back, I really would not have done things differently in my first turf job. I was fortunate enough to be in a position to solely focus on work and my career. I was able to take stock and prioritize what was important to me. This allowed me to make future career decisions based off what I learned during my first work experience

– Noel T. Brusius, CSFM, Waukegan (IL) Park District

VENTURING INTO THE JOB MARKET can be a daunting task, especially for those recently out of school or looking for that first job. While resumes and applications are important, I believe that the best jobs are not the ones that are “posted,” but rather the ones an individual can uncover for him or herself. How is this accomplished in today’s job market? Simply by putting yourself in front of a decision maker and proving your worth through performance (work ethic), experience (past efforts), and intelligence (not measured by IQ, but rather your grasp of the job).

Using this formula, the best way to get your foot in the door is with an internship, and there are literally scores of them out there. Every company, business, or team is looking for individuals who can make a contribution. It is challenging to hire entry level or first-time job applicants because many view their professional future through rose-colored glasses. Yes, higher education is expensive. And yes, everyone wants to make a wage that reflects his or her educational backgrounds. But often times, the **experience** they DON’T have is more of a deterrent than the **education** they DO have, and those with a willingness to learn and grow quickly are the most attractive hires. Education is a good thing, but work ethic will win out over education EVERY TIME.

I have to reflect back on a motto I coined when, after 25 years in television, I undertook a second career in professional baseball groundskeeping: “Hard work can make up for a lack of knowledge. But rarely does knowledge make up for a lack of hard work.”

–Keith Winter, Fort Wayne TinCaps

My advice would be if you don’t love what you are doing, don’t be afraid to make a change. You will spend a lot of time at your job during your lifetime so try to find something you enjoy doing. Showing initiative goes a long way. Don’t be afraid to acknowledge if you don’t know something, but take the opportunity to learn so that you only don’t know it once. Hold your standards higher than what is expected of you and you will always keep your job. I wouldn’t change a thing.

– Allen Johnson, CSFM, Green Bay Packers

I WORKED DURING HIGH SCHOOL at a community association. I loved cutting grass and doing general landscape maintenance. Even though we had sports fields they were maintained like any other grassy area. I had always been around landscaping but knew this job won’t last more than a summer or two. Not a lot of mentoring, just work.

I worked for various landscape companies and the Frederick Keys baseball grounds crew while taking classes. So the transition into my role as turf manager was likely easier than many since I was already in the industry and applying what I was learning daily. Many of the things you learn in school you find are very different in the workplace and with things evolving daily, weekly, yearly at a faster pace, I see this much more now than I did 20 years ago. Many of the things you prep for never come along and things you never knew existed or paid attention to, you find are very important.

Now I take classes on sprayers and mowers as it seems that these concepts are missed or not focused on enough, because knowledge about these is often lacking. Equipment is everything to a sports turf manager but knowledge about the workings, maintenance, and options is just not there for so many.

– Jason Kopp, Turf Equipment and Supply Company **IST/**

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Scholarships for STMA members' children

Apply for the Darian Daily Legacy Scholarship. This merit-based scholarship is designed to help parents and guardians with the costs of higher education for students not pursuing turfgrass management.

Two \$2,500 scholarships will be awarded each year. Eligible students must be enrolled at a college or univer-

sity and be pursuing a degree outside of the turfgrass management field. The parent, stepparent or guardian must be a current member of STMA and have been a member for 3 years. Parents fill out the online application with input from the student and send it electronically with a high school or current college transcript. Answer just one essay question: "What legacy do you want to

leave your child and how has your career helped to define that?" The application is found at STMA.org and must be submitted by October 15.

This scholarship recognizes the legacy left by Darian Daily, a highly involved, 20-year member who passed away suddenly in 2016. Darian was foremost a family man, and he was very committed to advancing students. This scholarship honors those qualities.

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Leo Goertz Membership Grants

Are you, or do you know, a sports turf manager or crew who isn't a national member? Nominate them (or yourself) to receive a 2-year membership to STMA through the Leo Goertz Membership Grant program. The only additional requirement is that they have not been a member for 5 years (STMA can check that when you submit the one-question application.) Up to seven 2-year memberships will be awarded through a random drawing. Online applications are due October 15. Go to STMA.org



Leo Goertz was a long-time member of STMA and a SAFE Board member who gave much time and energy to fundraising. Pioneer Athletics funds this program.

Not a golfer? Or love the game?

SAFE's newest event, TopGolf appeals to both! Debuting Tuesday, January 16 at the 2018 Conference in Ft. Worth, a TopGolf experience will replace SAFE's traditional golf tournament. The uncertainty of January weather in Ft. Worth is driving the change for this year.

TopGolf has been taking the golf world by storm with its innovative



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take on the game. Players are placed in climate-controlled "bays," similar to bowling lanes, accompanied by



full-service staff and lounges. It offers addictive point-scoring games as well as tournament play to make it fun for all guests, regardless of experience. There is a 240-yard outfield with dart-board-like targets in the ground and micro-chipped golf balls that automatically keep score!

This afternoon event is from noon to 3 pm with food and beverages included. This timing will allow participants to travel in on Tuesday morning, golf, and then attend the bowling event that evening. The Fort Worth location just opened and can be seen from the conference hotels. Plan now to play!

Bowl for SAFE (and for fun)!

SAFE is again hosting a bowling event, with more than just bowling, Tuesday, January 16 from 6-9pm! Look for games and different competitions throughout the event. Our host, Brunswick Westcreek Lanes, is less than 10 miles from



the convention center. SAFE will also provide a full smokehouse barbecue and drink tickets to all bowlers, courtesy of Title Sponsor Fields Inc., and drink sponsor Beacon Athletics. **IST/**

TURFGRASS SCHOLARSHIPS AVAILABLE

The SAFE Foundation annually funds \$16,000 in direct scholarship dollars for students pursuing a career in turfgrass management or research. In addition, those who are awarded the scholarships are also provided complimentary conference registration and hotel expenses at the annual conference. The Toro Company helps to fund this program. Applications are due October 15. To apply, go to STMA.org.

The science of shrub care

// By BRANDON M. GALLAGHER WATSON



Scout for off-color foliage.

All photos provided by Rainbow Treecare Scientific Advancements

Shrubs are key to landscapes in just about every setting. With all their various shapes, sizes, textures, and colors, shrubs dominate homeowner associations, commercial properties, corporate campuses, even residential areas – and are often vital to the structure of the landscape design. While trees have arborists who specialize in their health, and turf care professionals can address grass issues, the care of shrubs almost always falls to the landscape managers. If your clients are looking to you to not only keep the shrubs trimmed and manicured, but healthy and vibrant as well, there are some things to be on the look out for.

Insects and diseases

Insect or disease issues on shrubs run a wide gamut from very species-specific issues (such as boxwood blight) to more general pests (such as aphids). Rather than get into any particular management strategy, it is useful to use broader categories such as “potentially fatal issues” and “cosmetic issues.” The first group is pretty straight-

forward; left unmanaged, this issue will likely lead to the death of the plant. This could be something such as the ficus whitefly *Singhiella simplex* or the aforementioned boxwood blight caused by the fungus *Cylindrocladium buxicola*. Left to their own devices, these pests will kill the host plant. Landscapes managers are left with the choice of either treat for the issue or plan to have the plant removed and replaced.

The second broad category of health concerns – the “cosmetic issues” – is a little less straightforward. Admittedly, I’m biased by my tree care background. In arboriculture, we are taught to educate the client on why aesthetic issues are “just unsightly – it won’t kill the tree so don’t worry too much about it.” Occasionally we run across the client who doesn’t want a leaf out of place, so we still offer some of these services, but it is not considered standard practice. Shrubs, however, are a little different than trees in this regard. We can talk a client into ignoring some leaf spots on their oak when the spots are 30 feet above their heads, but when the leaf spots are at eye-level, as they are with shrubs, the client may not be as easily swayed.

WITH A LITTLE EXPERIENCE IT SHOULD BE PRETTY STRAIGHTFORWARD TO KNOW A WEEPING SHRUB FROM A WILTING SHRUB. IF YOU ARE STILL UNSURE, THERE ARE MANY ONLINE RESOURCES AVAILABLE TO ASSIST WITH DIAGNOSTICS.

Untreated cosmetic issues on shrubs lead to an undesirable plant that is simply removed and replaced. Thus, aesthetic issues really do become potentially fatal issues for shrubs, and warrant management more often than not.

Scouting for insect and disease issues should be a routine part of walking your clients' properties. Symptoms to keep an eye out for include underdeveloped tissues (such as stunted leaves, shorted internodes, and failures of flowers or fruits), overdeveloped tissues (such as galls, witches brooms, or unusually profuse flowering), dead tissues (such as dieback, necrotic leaves, and wilting), and anything else that is an alteration of the plant's normal appearance (such as usual color of leaves, spots on leaves, or uncharacteristic patterns on leaves). All of these diagnostic symptoms require at least a passing knowledge of the common shrubs and their cultivars in your area, of course. Shrubs are commonly propagated for unusual traits – such as colored leaves, stunted sizes, or even contorted growth – that do not occur commonly in nature. With a little experience it should be pretty straightforward to know a weeping shrub from a wilting shrub. If you are still unsure, there are many online resources available to assist with diagnostics.

Abiotic issues

Shrub health issues that are not directly the result of an invading insect or pathogen are often classified as “abiotic” issues, but, really, they could be called “site condition issues,” as poor growing conditions for the shrub are almost always the cause. Common



Foliar sprays are ideal for shrubs.

issues include things such as lack of water causing drought stress, too much water caused by drainage problems, pollution/soil contamination, nutrient deficiencies, and herbicide damage. There can also be biotic issues that result from abiotic conditions. Examples of this would be things such as fungi causing leaf spots while the leaves keep getting wet from the sprinkler system. You can treat the leaf spots with a fungicide but the issue will continue to persist until the sprinkler system is adjusted.

Just like the insect and disease issues discussed previously, scouting for symptoms that may indicate an abiotic issue should be a regular part of walking a property. Contorted or stunted growth may be the result of herbicide damage. Off-color foliage, including interveinal chlorosis, can suggest a nutrient deficiency and possibly root system issues related to watering. Dead tissues can also indicate hydration irregularities. Depending on where in the country you are, dead tissues on leaves and twigs can also be symptoms of frost damage.

Growth control

While growth regulators have been around for many years, it has only been recently that they have become a standard operating practice for many landscape maintenance professionals. A big part of their rise in popularity has been the development of products that offer predictable and consistent growth control results. Plant growth regulators (PGRs) are utilized by property managers to reduce the

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Cosmetic issues are serious health issues for shrubs.

amount that a shrub grows following a trimming event. The growth of treated shrubs is typically reduced 30 to 70 percent, and holds them for 8 to 12 weeks at a time (sometimes longer, depending on the species). This is beneficial to the property managers as PGRs allow you to focus labor toward the project areas most visible to the client rather than allocating them toward tasks such as maintaining a perimeter hedge or trimming parking lot shrubs.

Beyond the operation advantages PGRs provide, there are health benefits to the plant as well. First, just reducing the number of pruning events a shrub is subjected to has positives from a health standpoint. Pruning puts a plant into a growth “mindset,” meaning it is focusing its energy toward growth, often at the expense of allocating energy towards things such as root growth, defense compounds, or storage compounds. Second, modern plant growth regulators, such as paclobutrazol, help stimulate a plant into allocating growth away from vegetative growth and into these other categories such as root growth or defense compounds, making them more resistance to certain abiotic and biotic health threats. There is also research sug-

gesting treated shrubs are more resistant to acute drought than untreated plants due to thicker leaves, increased root systems, and higher levels of abscisic acid. This plant hormone is known as the “stress hormone,” and allows plants to quickly open and close their leaf stomata throughout the day in hot and dry conditions. Thus they can better balance the need to have them open to get carbon dioxide for photosynthesis with the detriment of having them open and losing water.

Application methods and timing

Whether we are talking about insects and disease, abiotic issues, or growth control, eventually the discussion needs to come around to applications. Shrubs have some unique challenges for application techniques that are not shared by other living things in the landscape, such as turf and trees. Applications of healthcare treatments in trees can be done a few different ways, including spray applications, trunk injections, and applications made to the soil at the base of the tree. Applications to turf can be made by spray application or by spreading granular

products. Shrubs, however, are generally too small for trunk injection to be feasible and soil treatments have their challenges as well. Ideally, soil applications (both granular and liquid formulations) should be made to the mineral soil, but shrubs in the landscape have mulch, decorative stones, weed barrier fabrics or, more commonly, a combination of these products covering the soil beneath them. Not removing these barriers prior to application can result in uneven uptake and a further delay in efficacy of the treatments.

Timing of soil applications is also an issue in shrub care, as there is a lag between the treatment date and when you can expect to have efficacy of the product. Depending on the treatment being utilized, that lag can be anywhere from a few days to a matter of months. Combining this uncertainty with the difficulty of properly dosing treatments for shrubs, the vast majority of shrub healthcare treatments are performed by spray applications. Spray treatments eliminate the soil cover issues, they have fast efficacy, and they are fairly foolproof in terms of dosing accuracy. Spraying has fallen out of favor in arboriculture of late, as drift issues make scheduling and



PGRs keep shrub growth in check.



Shrubs are the unsung heroes of landscapes.

planning difficult. But spray remains the most popular management tool in shrub care with relatively short plants and significantly lower equipment costs than in tree care.

Unsung heroes

Shrubs are asked to do many things in the landscape: provide structure, provide color, provide texture, provide screening, and yet they remain overlooked by the casual viewer. When it comes to maintenance, the client often wants the shrubs to look perfect. Particularly in highly manicured landscape designs, shrubs are one of the top reasons a maintenance contractor may receive a callback. Keeping an eye out for potential health issues, and employing quick management tools can keep these unsung heroes looking their best, and keep your clients happy. **/ST/**

Brandon M. Gallagher Watson is a Certified Arborist and creative director at Rainbow Treecare Scientific Advancements.

This article originally appeared in SportsTurf's sister publication Landscape and Irrigation.

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SPORTS TURF MANAGERS: KNOW YOUR IRRIGATION SYSTEM'S COMPONENTS, HOW TO IDENTIFY PROBLEMS

BY MIKE JIGGENS



Irrigation is part of the solution to achieving healthy turf, and knowing how to properly manage an irrigation system is a vital part of realizing that end goal, an audience of sports turf managers was told [recently].

Gary Taylor, owner of GT Irrigation Services, spoke at the 28th annual Sports Turf Canada field day in Hamilton, noting that irrigation helps to reduce compaction. Without irrigation during periods of drought, the playing surface is apt to become extremely hard. Irrigation also helps provide a faster recovery period for turf, especially on football and soccer fields used by adult players.

In his address, Taylor drew attention to the various components of an irrigation system, explaining how they work, their function and how they can be managed.

Sprinkler heads are the most visible part of an irrigation system. When working properly, they are to pop up, rotate, apply water, and retract when finished. Gear-driven sprinklers provide constant speed of rotation and proper application of water. They are available in stainless steel or non-stainless steel construction, but Taylor said, although the stainless steel units cost more, they are worth the additional cost if topdressing is part of the field maintenance regimen.

Under the ground is a swing joint that connects the sprinkler to the pipe, providing a flexible “elbow.”

Electric valves are the station, which control a group of sprinkler heads. The valve opens when “energized” or is turned on. Water flows through the valve, which closes when de-energized. Taylor said the principle is called “hydraulic advantage.” When one energizes a sprinkler, he is energizing a magnet that pulls a plunger, allowing water to flow.

He said he recommends the use of pressure-regulating valves when putting in a sports field, adding there will be varying pressures realized depending on how far the water is from its source.

“Sprinklers work optimally at certain pressure settings, and the electric valve will help to achieve that.”

One of the “Achilles’ heels” of the electric valve, Taylor said, is that dirty water can plug up its small ports. Most electric valves today are made of plastic, but brass models are still available. If valves are to be placed inside a building, he recommended brass be used because “a heck of a mess” will be the result of plastic splitting.

Quick couplings are an ideal addition to have in a system, Taylor said. They are well suited to hand watering and for both season startup and blowout because they are on the main line, making it easier to flush water out of a larger-diameter outlet than through the much smaller orifice of a nozzle.



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Controllers are the brain of the system, he said, adding modular units are becoming increasingly more popular. They allow for multiple stations to be put in.

“The big thing you want to have is continuity within your parts. With public tendering, that can be a challenge at times because it always goes to the low bidder, and you don’t necessarily always get what you wanted. But if the spec is hard and you can customize your system, you can plug in two stations, four stations, eight stations, 12 stations, and add on. You can have a base model with the system put in if you ever want to add to a system. It’s very easy to put in.”

Two-wire

Taylor addressed conventional systems with wires going out to valves, saying there are systems available where, instead of having individual stations, there could be two wires going out connecting decoders at valves. This could be a benefit with large systems, he said, adding going with a decoder system means tying into a proprietary technology.

He recommended a rain switch on a controller so that in the event of rain, the system will shut down.

“There’s nothing like the neighbors or taxpayers seeing it raining and sprinklers operating in the rain. They tend to get a little upset.”

Rain switches can be hard-wired or wireless. Taylor said he recommends wireless switches because they remove sensors out



of the way of vandals. It is key yet inexpensive extra to incorporate, he said, adding it prevents irrigation when a certain water level is realized.

Typically, the controller is located inside a building. Having maintenance radio, however, allows stations to be turned on while the sports turf manager is out in the field. This can be particularly helpful when aerifying sports fields.

“You want to mark your sprinkler heads unless you want to harvest them with your aerator. With the maintenance radio, you can pop them up, put flags down and identify them.”

A flow sensor is a feature highly recommended by Taylor. It is put on the main line going in in conjunction with a master valve. The master valve controls the entire system on the main line. A flow sensor then goes in to record flow on every single station.

“So if someone breaks off a sprinkler head, that night when he goes to irrigate, the controller via the flow sensor will say, ‘Oops, I have an overflow going here,’ it will shut that station down and move on to the next station and have an alert...an alarm...on the controller.”

In the morning, the sports turf manager will be alert to the overflow.

In the event of a main line break, the entire system will typically shut down because it will realize something is wrong, but every single station isn’t likely to be broken. This translates into a significant water saver.

Although polyethylene pipe works well in a park setting, PVC pipe should be used on sports fields, Taylor said. It has greater water-carrying capacity and is the critical part of an irrigation system that many tend to take for granted.

For every 500 feet, it is recommended having a gasket extension joint of some sort, he said. PVC pipe is put together by solvent welding. When done properly, it is actually stronger than the pipe itself, he said.

“When it’s done properly, these joints should last for the life of the system.”

Wire joins the controller to the valves and provides the path through which the signal passes. TWU wire is 14-gauge and is the preference for sports fields, Taylor said.

“Use the right product up front and you’re not going to have any problem.”

A special cable is needed to monitor the flow sensor. Twisting of the wire when sending data across it will repel any interference.

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It has a foil sheath around it that protects it from interference from other power sources.

"It's very important the flow sensor cable be that type."

In the controller are station wires. An individual wire goes out to the valves and a common wire completes the circuit. Without the presence of the common wire, the system won't run, nor will the system operate if the common wire is broken.

Taylor said that if a string of stations aren't working, and they are in a certain order, the first thing to look at is the common wire.

"Individual stations will typically only affect one station."

A 180-degree head puts down twice as much water as a full-circle head, taking 1 1/2 minutes to move each way as compared to three minutes for the head to go full circle.

Troubleshooting

Troubleshooting is something sports turf managers should be able to accomplish when problems are obvious, Taylor said. If a head is stuck up, it can be pushed downward by stepping on it in order to avoid it being run over by a mower. If a head is stuck on, it is a valve issue and not a sprinkler problem and is not shutting to allow the head to retract. If a head is broken off, a little "geyser" will become apparent.

"This is where a flow sensor pays for itself. The first time that station runs, it would turn on and then turn off. It would alarm the controller."

When troubleshooting for wiring issues, Taylor said a multi-meter can be a valuable piece of equipment. If a station doesn't come on, the voltage can be measured. The controller should be checked to see if there is voltage going out to the station. If voltage is going out, continuity can be measured. Continuity is tested through the station and will typically be about 29 volts. If there are two running, it will be doubled. If "wacky" readings appear, there is a problem, he said.

A particularly low reading means the solenoid has shorted out which requires having to open the valve box. If it is wide open with "one" flashing on the screen, there is zero continuity, meaning there is either a blown solenoid or a broken wire. If a number of stations are flashing "one," the common wire needs to be checked.

Taylor said wire problems can be detected with a wire tracer that hooks onto the controller to trace the path of the wire. If it's a direct cut, the cut will be found because the signal stops. If the problem cannot be found, a fault-finder device can be used to determine where between two points the problem has occurred.

The best means to acquire evapotranspiration (ET) data, he said, is via an on-site weather station. The key is to know the precipitation rate of the sprinkler, understanding whether it is putting down one inch of water an hour or perhaps a half-inch. Another concern is the spacing of sprinklers, and whether it's in a square or triangular pattern or if it's inline or just a single head.

Irrigation auditing is an important process to acquire sprinkler data, and especially knowing distribution rates and uniformity.

"How evenly is that water being applied to the turf?"

Taylor said central control is an important asset for the sports turf manager, allowing him to program and monitor from one site. He has access to flow sensing in real time and has one or more weather stations integrated into the system for accurate ET calculations. The central control system can be set up to allow the computer to determine how long irrigation should be taking place.

There are numerous ways to control satellites, he said. Some sites can be several miles away. To connect to those sites, there are land or ethernet connections if a network system is in place. A cell modem can be put inside the controller to allow access through the Internet. UHF radio is a viable form of communication that has been around for several years. Another means is 900-megahertz radio that has no operational cost and no licensing fees. Cellular connections have a monthly fee and UHF radio has an annual fee.

"The more you have online with central control, the less often you have to go there as an irrigation manager."

Taylor said central control will allow the turf manager to become aware of a leak before a crew member charged with mowing the field visually spots one and reports it.

/ST/

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► FIELD

TOYOTA PARK, CHICAGO FIRE SC/CHICAGO RED STARS SC,

► LOCATION

Village of Bridgeview, IL

- **Category of Submission:** Professional Soccer
- **Sports Turf Manager:** Joel White
- **Title:** Turf Manager
- **Education:** Associate's degree in Turf Management, Kirkwood Community College (IA)
- **Experience:** I have 35 years on golf courses; my sport turf management experience is the past two seasons at Toyota Park.
- **Full-time staff:** Brian Fickett, seasonal full-time
- **Original construction:** 2006
- **Rootzone:** 80% sand 20% peat
- **Turfgrass variety:** Princeton-105, Bewitched
- **Overseed:** HGT and RPR perennial ryegrasses; 700 lbs. total for the year of HGT, and RPR for divots, @ 300 lbs. over the year.
- **Soil heating system:** Water-glycol heat, entire pitch, four zones
- **Drainage:** 4-inch tile on 10-foot centers, hooked up to a SubAir aeration system, with pressure and vacuum.

Why STMA should consider your field a winner for baseball?

With the 2014 golf season in the books I come across position opening for a turf manager at a sports facility and applied. Three weeks later I change my business card to Turf Manager at Toyota

Park. With my start date the first week of January and finding out we can have a match the first week in March, I put the phone to good use, setting up vendors and reaching out to my peers. The next thing I accomplish was to join STMA and plan my trip to the show. When I was there I found anyone who would help me out and not one would turn my questions down. It was fantastic. The only problem was I forgot to ask someone how to take a foot of snow off 8 days before the first match.

The main tenants of the stadium are one MSL team, one NWSL team and a Rugby team will be calling this home here next year. Dotted through the season, the pitch will host/accommodate a wide variety of events that would include: concerts, commercial shoots, football, youth soccer, high school soccer, college soccer and international soccer. During the season the pitch will encounter over 55 soccer matches and practices plus over 70 separate events.

The pitch itself is set in a constant changing environment on the south side of Chicago. It could be calm in the morning to blowing 10-15 mph winds by the afternoon, usually every day. Watching the forecast is difficult also, the weather person can say it may rain but that means anywhere from Wisconsin to Indiana. I just have to go by one thing; if it's raining on the pitch it is raining. I do not count on anything. The stadium itself has challenges for

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

the grass also, it has multiple overhangs on both sides and one directly over the south end goal area, the grass only receives a fraction of sunlight needed to grow turf. The challenge with that is trying to keep the goals playing the same. The shaded area will only receive hand watering and extra seed with no sand. By doing this I find I can keep the goal until after August. Overall the pitch is ok to manage. I find 2 games a week and 7 days off and it is ready to go again, it's when 3-4 games in a week is when it gets tough.

Considering this is the end of my second season managing a sport field and the pitch is still green and so for me it has been a good year, there are no complaints. I often tell myself I should have done this years ago and what a fun ride this has been. I find the 35 years working on a golf has come in handy except for the bigger spikes, big plastic pieces, semi-trucks and thousands of people seeing what you do, it is mostly related to taking care of a golf course, almost. Being considered for Field of the Year would be a feather in anyone's hat but for us it would confirm the hard work, commitment and shows just what two guys can do.

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

WHITE: The biggest challenge is to try to fit all the events in on the main pitch. This year there will be 60 plus professional matches and practices between both teams. One thing that helps is a large calendar white board in my office. All the events on the main pitch are put down alongside the applications of product used for each day. I can always look ahead and see what needs to be done. This also helps with other events that may pop up during the year.

ST: *What changes if any are you considering or implementing for the winning field in 2017?*

WHITE: Overall things have not changed much I still do things on the fly. A small change I plan to do this year is to mix up the size of tines used for the year; I need to change it up for the condition of the pitch. I plan to use the SubAir system more often through the day and plan to topdress a little more often.

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

WHITE: Work on a sports field it is different week to week and that makes it fun, as is meeting new people and always trying to make the pitch better. The biggest headache is when the first team wants to use the main pitch for practice and only gives a 24-hour heads up.

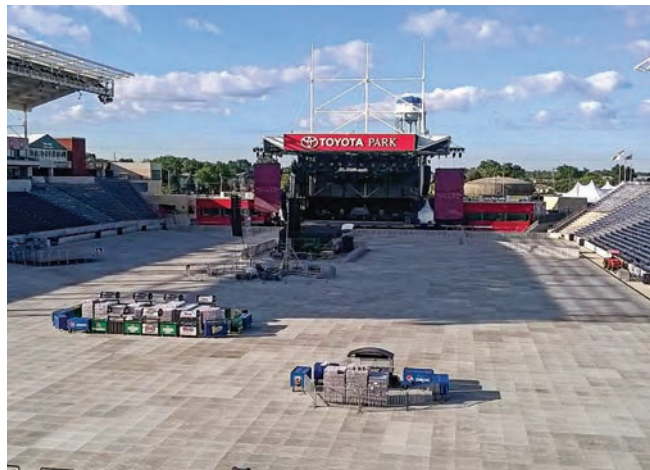
ST: *What's the best piece of turf management advice you have ever received?*

WHITE: Do not over pump it, it is just grass. You can grow it, reseed it, seed it and try to control it but at the end of the day Mother Nature always wins.

ST: *Are you yet involved in "sustainable" management practices? If so, what are you doing?*

WHITE: Each year I will take three soil tests. I will base my

TOYOTA PARK





program off of the tests. The first one is to see where to start, the second is to see if the pitch is on target, and the third is to have a head start for the next season. This year I took three separate tests across the main pitch to see if the sun or the lack of it made a difference.

ST: *How are you using social media at work?*

WHITE: I am not a person to post items but I do go to the STMA site and check out the pics. Sometimes I will pick something up and use it here at work.

ST: *How do you balance your family life with work demands?*

WHITE: To start out, it always helps to have a family that understands what you do and the time it takes. My wife of 31 years has always picked up the slack when I have become too busy, and now that I am working in the twilight of my career I try to take a more time off and relax a little more, especially when the snow is flying

ST: *How do you see the sports turf manager's job changing in the future?*

WHITE: I have not been around long enough to have seen where the sports turf manager has been but I do see the managers being asked to do more. Technology will become a bigger part, as will new grass varieties, as well as water management ideas and safety.



Joel White on differences between soccer and golf turf management

After the past two and half seasons I can clearly say taking care of the grass on professional sports field is tougher than taking care of the grass on a golf course. Of course this is debatable, but I spent 38 years working at a few different country clubs.

Both sides present the good, the bad, and

the ugly. The best way to compare soccer matches versus golf traffic: Imagine having your club championships, men and ladies, and team matches, plus your club's men and women invitations, all in one day, and then ask your grass to do that 60 times starting all season long. Keep in mind the competition will be played out even if

you have rain, sleet, snow or frost. I just cannot tell professional Soccer leagues to stop a game just because it is 27 degrees. Yes, that happened this year in Chicago; not only did they play the game I had to mow it so you could see mow patterns on the pitch to help referees see offsides. On a golf course you can shut things down, make



people wait, or say, “pull carts only” to help the grass out.

I can hear the golf superintendents now, “I have 180 acres to take care of and this guy just has 100,000 square feet!”) and you would be right. I take care of my pitch just like I was handling putting greens. Greens are mowed between .90 and .130 inches; the pitch is mowed between .500 and 1 inch. I keep this pitch at .700 inch for the whole year (bluegrass); the players do not like changes any more than golfers do. I think of it as if the speed and smoothness of the pitch has to be the same as a putting green to relation to the ball size; both games are played on the ground.

Where I think supers have a harder time than I do is the people they work for, 300 chiefs better known as club members. Maintaining golf courses is not easy and superintendents have a lot to do. Keep in mind supers today are asked to do more with less, just like a lot of sports turf managers. But members do not care if you have less to work with; they say “just make it better.”

When golfers watch golf on TV they often think their courses should be like the ones they see. If they only knew most of the time the course does not even play like that all the time. Even I may have 30 games on TV no one compares this pitch to someone else. We all have heard of armchair quarterbacks; many golf club members bring the whole chair out when they play golf. Each day you hear it’s too slow, too fast, too wet, too dry, too long, too short, too soft and any other thing they can think of when their golf game is bad. When the golfer plays well the golf course is great. At least in my case management cannot just go across the street and see another pitch and compare the grass to grass.

To compare more things golfers have spikes we have cleats, golf has traffic patterns we have heavy use areas. Golf season starts early spring to late fall; some sports fields will start late winter (February) and runs into late winter (January football) soccer will run into early December. My season started February 27 on the practice pitch on dormant grass. Some golf courses will try to

**MOST PROFESSIONAL TEAMS
WILL HAVE SOME KIND OF
PRACTICE FACILITY, BUT I HAVE
ONE GRASS PITCH FOR
TWO TEAMS.**



put as many rounds as they can, sports fields will try to have as many games as they can. We have lights golf courses usually do not.

Now we can see about the day-to-day things. I mow this pitch with a reel mower 2-4 times a week depending on the event; greens may be mowed every day and fairways, tees collars and short rough 3-4 times and regular rough 1-2 times. I have a weekly plant health program that will include foliar feeding and a granule package just like greens. I will punch holes 13-14 times a year to pull cores and the others will be some kind of solid tine; greens may be done once a month and fairways two times tees and collars 2-3 times and main rough maybe not at all. I will also divot the pitch with green sand and seed just like fairways and tees. I will topdress once a month just like greens. Tees may be once month and most of the time fairways not at all unless the golf course has a big budget. I do have to deal with weeds, insects, dry spots, wet spots and all the same environmental factors a super does. I have shade issues but I cannot cut down or trim it to help with that problem; the stadium overhangs have to stay, I have asked! I have one goalmouth that only receives 3 hours of full sun each day. And no, I do not have grow lights.

Most professional teams will have some kind of practice facility, but I have one grass pitch for two teams. For the year this pitch will have more than 250 practices on it. The only thing I can compare this to is a nonstop driving range tee. If

I am lucky I will have one day a rest a week where I can get things done. Keep in mind athletes have habits, if it works do not change it just like golfers. In other words, why move to the other side of the pitch to do that workout just do it there every day? On that pitch I will put 50 lbs. of seed down in middle every 2 weeks just to keep up and it works. Practice tees will receive the same to keep up with the worn out areas.

I want to try one last time to show you why this is not easy. I have a soccer-designed stadium, but I am asked to have football and rugby commercial shoots and anything else you can think of to make money. But I have saved the best for last, the concerts. For 3 days this July I will have thousands of people jumping up and down to the beat of the drum on the grass. The pitch will also have a 25 by 25 mixer set in the middle 6 inches of the ground; that spot will not see sunlight for 3 days. The pitch will have pallets of beer, rock rack cable ramp and cables all not letting the sunlight go through. But the best is I will have a 3-story tower with four 6,000-pound weights to hold it down and a larger number of speakers (I was afraid to ask the total weight). The best part is I do have a protective hard plastic cover 2.5 inches thick that is placed over the entire pitch to help protect it. This year it will be down for 4 and half days. When it is taken off at least the whole pitch is some kind of yellow. There is only one thing I can compare this to, which is bleachers that are on the course for tournament, but at least those are not in the field of play or on your greens.

These experiences are just mine and I have never worked at a public golf course and those turf managers have a completely different way of doing things. They are open 7 days a week and can have up to 50,000 rounds a year most country clubs are open 6 days a week and have only 20,000 rounds. As for my pitch I try to just have events on the weekends but some sports fields will have events all week long. At the end of the day both jobs are fun and not easy to do. We all want to have the best grass possible, and best playing conditions.

/ST/

Aerators for sports turf



DryJect, franchise-based aeration

DryJect, LLC, focuses on specialized turf aeration and soil modification services.

DryJect has over 35 North American and international franchise based service centers. DryJect proprietary equipment features the only proven technology of its kind. High-pressure water penetrates the rootzone, and dry amendments including sand/peat mixtures, inorganic soil amendments and more are injected into the aeration holes. Benefits are speed, labor savings, and increased profitability for golf courses, which rely on high quality putting surfaces to optimize revenue. With DryJect, turf managers can aerate, amend, and back-fill the holes in 1 day with time to spare! DryJect aeration is very effective and is a viable alternative to core aeration.

DryJect

TurnAer XT8

Turfco's TurnAer XT8 stand-on aerator is designed for turf care professionals who want increased productivity and reduced downtime. With an aeration speed up to 7 mph, the XT8 can cover more than two acres in an hour. It can easily handle residential, commercial and



sports turf with its raised ground clearance, zero-turn agility, and 30-inch aerating width that fits through a 48-inch gate. Patent-pending Auto-Depth Control allows operators to set a tine depth that remains consistent across a property regardless of turf conditions. The rugged reliability of the XT8 minimizes downtime by using covered drive chains outside the aeration area and using sealed, self-aligning bearings near the aeration area. Easily accessed chain tensioners and tines keep maintenance simple. Equipped with a 22-hp engine with a cyclonic air cleaner, the XT8 has the power to take on any terrain. Standing platform suspension decreases vibration and shock, reducing operator fatigue and increasing comfort.

Turfco

Toro ProCore 1298 aerator

The Toro ProCore 1298 features proven coring head technology from the very successful ProCore 648 combined with improved robust platform, results in the most productive and durable large area aerators available today. With an aerating depth of 4.5 inches and an aerating width of 98 inches, the ProCore 1298 is both efficient and versatile, and can handle very large-scale aerating applications. The ProCore 1298 features 12 tine heads, and a simple depth control



mechanism, making set up for your exact aeration needs fast and easy. Additionally, the Kevlar-reinforced belt drives and oversized gearbox contribute to an incredibly rugged and durable aerator.

The Toro Company

The Bullet, a new Verti-Drain

Introducing "The Bullet" by Redexim North America. This new Verti-Drain has working speeds near 4 mph for the highest performance in its field. The Bullet has working widths of 64 and 83 inches and is the most productive Verti-Drain ever built. It is heavier built than other high-speed aerators, yet it can be used with tractors starting from 45 hp and up. Both models are low maintenance with sealed bearings on most pivot points, a single-speed gearbox and optional hydraulic depth adjustments made from the tractor



JOHN MASCARO'S PHOTO QUIZ

JOHN MASCARO IS PRESIDENT OF TURF-TEC INTERNATIONAL



ANSWERS FROM PAGE 17



The torn-up clay on this 6-year-old T-Ball field was the result of a coach's "helping out." It seems that the coach couldn't find the second base ground plug during set up, so he grabbed a shovel, eyeballed it, and started digging! He worked on finding the ground plug for about 15 minutes. The head groundskeeper for the facility saw the activity and decided to investigate. When he saw the area that had been dug up, he was amazed and so he grabbed a tape measure and quickly found the illusive ground plug, which had been put in the ground with tassels down. After it was located, he also discovered that the coach was off target by nearly 6 feet, causing a lot of unnecessary damage to the skinned area. To repair the damage for the game, he had to rake the clay back together and roll it with the tires from a big mower to firm things back up. After the game, the area was then nail dragged, heavy screen dragged, and then additional conditioning material was applied, and to finish it off a final light screen



drag was used. The inset photo shows the final repaired area. Photo submitted by Andy Ommen, head groundskeeper at McLean County PONY Baseball in Bloomington, IL.

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.

STMA

SOURCEBOOK

Reaching the industry professionals you want to reach!

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

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

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seat. These units penetrate 9 inches into the soil, and our patented parallelogram action give you a true forced heave to the tines, thus producing the shattering effect and relieving compaction leaving the surface ready for play. No parallelogram means no forced heave.

Redexim North America

Imants ShockWave

The Imants ShockWave is a linear decompactor, designed to revitalize heavy wear areas by relieving soil compaction, improving aeration and removing surface water. Reputed to be the world's fastest PTO-driven rotary, linear decompactor, the ShockWave is the ideal maintenance tool for natural turf sports pitches because of the lack of disruption to the playing surface after use. Fine turf on sports field in general can be immediately brought back into play. Successfully



used across Europe and Asia, the Imants ShockWave (by Campey Imants and distributed throughout North America by Aqua-Aid) is now making waves of its own in America. US Sports turf management company, St Johns Turf Care, has enlisted the ShockWave for use across the seven different sports facilities they maintain. "This machine does everything that we need in opening up the soil and allowing it to breath, but also allowing it to be played on immediately after it has completed its run," owner of St Johns Turf Care, Jeff Pilcher said.

Campey Turf

turfslicer from g2turftools

The turfslicer is a patented device that is installed on the g2 turftools turffloat or the brand new mini turfroller. When installed on the turffloat, the turfslicer provides an easy and effective way to grind up and redistribute aerification cores to low areas. The 1/8-inch stainless steel blades have been proven effective in redistributing cores with as little as two passes, which eliminates harvesting or repeated dragging to remove cores. When using with the mini turfroller, the turfslicer penetrates thatch area to provide much needed air space while replanting existing stolons to promote healthier, thicker turf. It is also effective when seeding or sprigging to ensure adequate soil contact.



The turfslicer can be adjusted to a depth of 1.5 inches on either the turffloat or the mini turfroller for maximum slicing of turf or sprigs.

G2turftools

Jake's new GA600 aerator

The all-new GA600 deep tine aerator delivers unmatched hole quality over level and undulated surfaces, using the PerfectStrike tine head motion. The patented PerfectStrike tine head motion and pivot point height minimizes travel angle, which ensures tines enter and exit the turf vertically creating a truly straight hole. When equipped with the AerStrike 4-tine attachment system, the GA600 deep tine aerator serves as the industry's only aerator that performs deep and shallow aeration in a single pass. This system increases productivity and maintains healthier turf. The GA600 is a heavy-duty design built to withstand the harshest conditions, assembled



with high strength and high performance steel drive components for longer life in a demanding environment.

Jacobsen

Advantage heavy-duty aerator

ADVANTAGE heavy-duty aerator is a best buy for your turf maintenance equipment fleet. These rugged turf aerators will handle a large percentage of the workload of a deep tine aerator for much less money and do the job in less time. Whether you prefer coring aeration or slicing aeration, this Advantage aerator will suit your needs. Standard features include steel "chisel point sports" tines, 7.5 cut x 3/8 inches thick; four tines per wheel; tine wheels on 6-inch centers; steel 3-point hitch frame has both Cat I and Cat II hitches. Options include: fine tine 6.3 cut x 1/4 inches thick; fracturing tine 8.5 long x 1/2-inch thick; coring spoons; smoothing roller (6-inch diameter allows easy depth control); tine wheel spac-



ing on 4-inch centers vs. standard 6 inch; and hydraulic wheel kit.

TurfTime Equipment

Air2G2 air injection machine

The Air2G2 air injection machine revolutionizes the way sports turf managers think about conventional aeration practices. Air2G2 uses probes to laterally inject air into the root zone to fracture compacted soil and create pore space for root growth and gas exchange. Fields instantly show evidence of compaction relief and better percolation for faster drainage after rain events. Air injection with Air2G2 leaves fields immediately ready for play, even in between games. With regular use, Air2G2's air injection transforms field manage-



ment practices; when the Air2G2 is included in regular turf maintenance schedules, compaction along sidelines, goalmouths and other high-traffic areas is significantly reduced. Turf can be treated at any time, rain or shine, for a field that's ready for action when it is needed most. Air is everything to anything that lives, and for sports turf, the Air2G2 is a breath of fresh air.

Air2G2

Exmark 30-inch stand-on aerator

The Exmark 30-inch stand-on aerator features a split-tine design to allow easy turning with tines engaged, and zero-turn agility with the tines up. The compact design heightens maneuverability while the 30-inch aeration width and 7.5-mph top speed deliver productivity of up to 1.7 acres per hour. Mass is centralized over the 48 coring tines for maximum core depth consistency, which is adjustable from 2 to 5 inches. The self-cleaning tines are easy-to-replace. Hydraulically-



Shockwave



RELIEVE COMPACTION

Improve aeration & remove surface water
with the Imants Shockwave

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cally actuated tine down force is adjustable by the operator, and the machine is capable of generating a massive 1,200 pounds of downward force. A Kawasaki FS481V twin-cylinder power plant delivers professional-grade power, reliability and durability.

Exmark

Turf Pride deep tine aerators

Healthy turf equals safer playing conditions. No other machine offers durability, performance, user friendly and affordability than the Turf Pride deep tine aerators. Manufactured in the USA with over 20 years experience in designing deep tine machines, Turf Pride DSA models 7000 (70") and 5400 (54") are perfect for sports turf and



manicured turf facilities. A variety of tine sizes, coring and solid, diameter and length available. Productivity up to 48,000 sq. ft./hr. The main frame is one piece of solid steel for excellent durability. The spring-loaded tine alignment assembly arm and the patented parallel linkage arms perfectly position the tines. Compare this movement to other deep tine aerators that use an arc motion and you will see the difference in hole quality.

Arrange a free demonstration at your facility.

Turf Pride

Soil remediation tool

The one-pass design of the Earth & Turf linear aerator changes and improves the structure of soils for healthier turf. Soil and thatch restriction are permanently modified. Maximum modification of turf on athletic fields is assured. Used after the area has been topdressed with calcined clay, compost or sand, the linear aerator conditions a 58-inch swath by cutting grooves in the turf 3 inches deep, approximately one half inch wide and 3.5 inches apart. Aggressive, reverse-spiral-mounted teeth cut the grooves and bring both soil and topdressing material up over the rotor. The blended materials are then brushed back into the grooves by steel fingers on a filler bar,



which reciprocates side to side. Linear aeration can reduce sports injuries by softening turf on athletic fields and arenas. Linear Aeration improves water infiltration and retention, turf and root growth, nutrient absorption and organic decomposition. The 1,035-lb. machine is designed to fit the Category I 3-point hitches of tractors with 35 to 45 PTO horsepower.

Earth & Turf Products, LLC

RYAN introduces Lawnaire ZTS stand-on aerator

RYAN, the leading manufacturer of turf renovation equipment for rental, golf, sports and lawn care professionals, is excited to introduce the brand-new Lawnaire ZTS stand-on aerator. The first of its kind from RYAN, the Lawnaire ZTS brings a new level of efficiency



and profitability to lawn care professionals. The ZTS includes: revolutionary automatic chain-tensioning system; sturdy, shock-absorbing operator platform; intuitive drive controls and hassle-free maintenance access panels; low center of gravity for optimum maneuverability; fast hydraulic tine lift and precise aeration depth stop; powerful and nimble zero-turn drive at up to 7 mph. The quickness and intuitive controls of the ZTS also make it ideal for the rental market, requiring less time and experience, while providing more comfort to the user.

RYAN

Is a stand-on aerator right for you?

Editor's note: This piece on stand-on aerators was supplied by Exmark Manufacturing.



Photo provided by Exmark

Soil compaction is one of the most common issues impacting the health of highly trafficked sports fields and other green spaces. Aeration is widely recognized as one of the best and most cost-effective ways to reduce compaction issues and improve the overall health and vitality of the turf. While the benefits of aeration are well known, selecting the best aeration equipment for your specific needs may be more complex.

According to Lloyd von Scheliha, product manager at Exmark Manufacturing, tractor-mounted and large walk-behind aerators are often the choice of sports facilities with dedicated maintenance equipment on-site. But for grounds crews and contractors that aerate a variety of turf types in multiple locations, a stand-on aerator is a compelling proposition.

"For many turf care professionals, aeration is typically one practice in their overall turf management program," von Scheliha says. "They need an aerator with the versatility to productively aerate an entire sports field, while also having the ability to aerate narrow walking paths with ease."

Case study

Rob Tetrault, Atlanta-area manager for Yellowstone Landscape, is one such professional. While much of Tetrault's business is comprised of commercial office parks, apartment complexes and corporate campuses, his crews also maintain the sports fields and green areas of two Atlanta-area school systems.

"We maintain the DeKalb County School system, which has more than 140 locations, 40 of which have sports fields we maintain," Tetrault said. "We perform mowing, aeration and

overseeding at each of the locations, as well as top-dressing upon request."

When Tetrault recently looked at his options for a new aerator, he said the stand-on aerator had the right combination of productivity, portability and ease of use. "Since we maintain numerous types of turf, in addition to sports fields, the Exmark stand-on aerator was a great fit for us. It helps us get more done with less and is versatile enough to use on any of the properties we maintain."

Ease of transport is another major benefit of the stand-on machine, Tetrault mentioned. "We can easily load, transport and unload the stand-on aerator on a small trailer. Compared to the complexities of transporting a tractor-mounted aerator, the stand-on machine is much simpler and less time consuming."

Often capable of aerating two acres per hour or more, stand-on aerators have the ability to make quick work of even the largest sports fields and properties. In addition, machines such as Tetrault's Exmark offer zero-turn maneuverability, with reduced operator fatigue from the stand-on design.

"Compared to the walk-behind aerators we had been using, the stand-on aerator is significantly more productive," Tetrault said. "You can aerate a large sports field in roughly an hour and a half. With our old walk-behind machines, the same job would have taken three to four hours. And best of all, my guys aren't completely exhausted at the end of the day, so they can come back rested and ready to go the next day."

On smaller properties, Tetrault says the ability to follow property contours with the tines engaged is a major benefit. "Since you're not locked into aerating in a straight line, you can get around the property faster and turn without tearing up the turf."

Tetrault's crews often combine aeration with overseeding or weed control. He tries to schedule aeration either prior to, or just after, the sports season. "Because we're typically aerating in the off-season, we can leave the plugs on the surface to break down naturally. That said, if we aerate shortly before a game or event, we'll usually go back and drag the field to break up the plugs."

"We're always looking for ways to work smarter, not harder," he added.

/ST/



Photo provided by John Deere

Utility task vehicles (UTV) and turf work

ST: How are industry professionals using UTVs? And how has the UTV market changed to better fit their needs?

WE BELIEVE THAT THE LANDSCAPE INDUSTRY is continuing to diversify in how they use their UTVs. We see a large number looking for lighter-duty UTVs, often with turf tires, to handle simple jobs. They are looking to step up from a small, electric, golf-cart-type of UTV without spending the money for a high-end, fast UTV. At American LandMaster, we market the LS350 to this market. We also see the industry utilizing a higher-end 4-wheel-drive vehicle for larger projects. Typically this is a 600cc or higher engine. The vehicles typically have 4-wheel drive with locking differentials to create all the power and traction needed. At American LandMaster, we market our LS550 and LS670 to this demographic.

– Eric Hall, marketing director, American LandMaster

LANDSCAPE PROFESSIONALS ARE UTILIZING utility vehicles to efficiently transport passengers, supplies and tools to and from the jobsite. These machines help them get to their work more quickly than ever before, and are economical to run and operate.

Generally, professionals are spending more time in their machines, so manufacturers like Bobcat Company have added comfort features such as improved visibility, ergonomic controls, easier entry/exit and comfortable seating. Some utility vehicles can now be configured with factory-installed cab heat and air conditioning for added comfort.

Advancements in drivetrain technology has also led to many manufacturers producing more versatile utility vehicles with larger payload and towing capacities, as well as higher power and performance.

Utility vehicles are also flexible in terms of where they can go. For instance, Bobcat utility vehicles have three drive mode selection options <dash> turf mode, two-wheel drive and four-wheel drive <dash> to match varying ground conditions. In turf mode, each wheel spins independently, allowing for minimal ground disturbance on turf, pavement and other hard-packed surfaces. Two-wheel drive allows both rear wheels to receive equal torque and spin for added traction on gravel roads, soggy trails and soft pasture. Four-wheel drive allows the machine to easily navigate in shallow streams, travel in snow-covered paths and pull trailers.

– Chris Austinson, utility vehicle product specialist, Bobcat Company

UTILITY VEHICLES ARE TRULY the Swiss Army knives of any commercial fleet, covering duties ranging from hauling tools, materials and people, to plowing snow or maintaining properties with sprayer and spreader attachments. Our focus is to create vehicles that are as flexible as possible so they can be adapted to whatever job is at hand, while maximizing crew safety, comfort and ease of operation.

– Tom Mielke, utility vehicle product manager, Cub Cadet

PROFESSIONAL LANDSCAPERS ARE DISCOVERING the advanced functionality that UTVs offer. As landscapers expand their business offerings, the need to efficiently mobilize equipment has increased. UTVs, such as the Cushman lineup, are moving away from the “one-size-fits-all” model and are allowing users to customize their vehicles to fit specific needs.

New UTVs come with extensive accessory options to help workers transport trimmers and edgers, leaf blowers, hoses and bags of fertilizer – all while towing a mower from point A to point B. Companies are increasing the capacity of cargo beds, and offering hydraulic power bed options to make hauling mulch or dirt easier and safer for the landscaper. And, unlike a truck, UTVs are more nimble and lighter weight, enabling operators to move heavy loads to a variety of places with less potential damage to the grounds that they work hard to maintain.

Landscapers are seeing greater ROI on UTV purchases due to increased productivity. The cost savings that UTVs deliver are also being seen from improved vehicle mileage. Manufacturers are rolling out efficient gas or electric models. Our Hauler PRO has an im-

pressive 50-mile range and a quiet, powerful 72-volt AC drivetrain, resulting in stamina that few gas vehicles can match.

Cushman is seeing a growing demand for improved ride quality, passenger comfort and safety. Larger space in the operator area, for example, allows crews to enter and exit the vehicle more easily. So, not only is the functionality of the UTV increased, but the ride is safer and more enjoyable.

– Raven Honsaker, director of product strategy and development for Textron Specialized Vehicles (Cushman)

UTILITY VEHICLES ARE A POPULAR OPTION in the landscape market, allowing professional landscapers to use machines to tackle a variety of tasks throughout the day. From moving crews, tools and materials to using machines to perform jobs such as salt spreading, spraying fertilizer or snow removal using a front blade, utility vehicles provide landscape contractors with a productive and efficient tool.

We are seeing more and more landscapers diversifying their businesses, taking on new jobs to increase revenue throughout the year. The utility vehicle market has continued to shift to keep up with the changes and provide customers with the tools they need to complete jobs. From offering new features to improve occupant comfort or machine performance to introducing new attachments that offer additional capabilities to operators, we are constantly striving to keep up with the changing market.

– Mark Davey, marketing manager, Gator utility vehicles, John Deere



Photo provided by Kubota



Photo provided by Cushman

LANDSCAPERS OFTEN USE UTVS for transportation on large job sites to carry their planting/installation materials and tools around and from the base to the various locations. In irrigation and lighting applications, UTVs are helpful in conducting checks on sprinkler heads and leakages or light fixture failures and damaged wiring, etc. The versatility of UTVs does lend them to be equipped with various attachments and accessories depending on the application. A horticulture situation may call for a spray rig to be mounted on a UTV versus a snow application may call

for a snow plow or snow thrower or a broom in the front and a salt spreader in the bed. Construction sites may carry compressors or pressure washers in the back of the UTVs to the point of use. Property maintenance professionals often use UTVs to transport mulch to the plants and shrubs around large properties. UTVs are fun to ride and drive and easy to get in and out of so some of the jobs that were done with pickup's have been replaced by UTVs. UTVs are much more maneuverable and don't cause as much turf damage, and are often cheaper in capital and operating cost than pickup trucks. They are more versatile in terms of people transportation, as well in case of situations where smaller groups of people need to be moved from one location to another within a job site. UTV uses are endless, and as more and more landscapers invest in them, they are finding more ways to get their jobs done efficiently and effectively.

– *Rajesh Joshi, Kubota product marketing director, turf*

They are being used to haul heavy loads such as rocks and mulch, hold tools, and even to grade plots. You are seeing more landscape-specific accessories and implements being made for landscape professionals.

– *Donna Beadle Polaris Spokesperson*

Compiled by John Kmitta.

IST/

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CONSIDER BOARD SERVICE

The STMA Nominating Committee has opened its Call for Board Candidates for the 2018 Board of Directors election. To submit your interest, go to STMA.org, click on the “About STMA” Tab for the 2018 election information.

Eligibility

To be eligible for election you must be a current, voting member of STMA. There are four director positions up for election, as noted below. Those interested in running for the Board must be employed by an organization that is classified in that category, except for the At-Large Director. That position may have candidates from any voting category.

- Director Academic
- Director Parks & Rec
- Director Higher Education
- Director At-Large

Process

The Nominating Committee will be vetting candidates to place on the ballot during September. Some criteria used to evaluate candidates include a member's involvement in the STMA, and leadership in a local chapter and/or their community. The Committee also considers geographical location, a mix of those from large and small employers, certifications achieved, and strengths that the candidate can bring to the board to achieve the strategic plan.

Per the STMA Bylaws, this Committee is always chaired by the



Immediate Past President. The Nominating Committee completes its work of developing a slate of candidates to present to the membership without any involvement of the Board. This prevents the potential for cronyism.

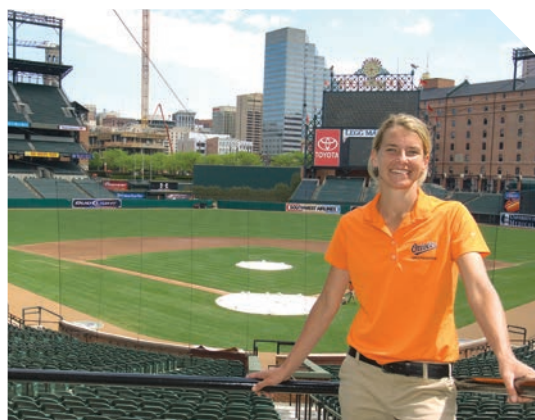
Time commitment & responsibilities

The Board of Directors has three basic roles: setting organizational direction, ensuring the necessary resources to accomplish its goals, and providing oversight. Each board member also has three legal duties: duty of obedience (be faithful to the association's mission); duty of loyalty (acts in the best, overall interest of the association); and duty of care (demonstrates due diligence in decision-making).

Board members are asked to attend and actively participate in four board meetings per year. These typically fall in January, March, June and October. Expenses to attend these board meetings are covered by STMA; however, no compensation is provided to board members for their time and talents. Chairing one or more committees and attending the National Conference are also required of each board member.

The Call for Board Candidates closes September 1.

Orioles' McFadyen stars in documentary



I love stories about people who challenge expectations and break barriers.

One such inspiring story is that of Nicole Sherry McFadyen, one of only two women in history to be named Head Groundskeeper of a Major League Baseball team. Beginning with her first internship, the film shows how McFadyen rose through the ranks to become a leading innovator in the field, ultimately taking the prestigious head job at storied Camden Yards in Baltimore. Filmmaker Sarah Knight tells McFadyen's story in this well-crafted documentary that not only grants insight into a woman earning a top position in the field of turf management, but also provides detailed information about the work MLB groundskeepers do on a daily basis. To learn more about why she made the film and what it offers for turf management professionals and educators, I sat down with filmmaker Sarah Knight. This is the transcript of that interview. -Kendra Hodgson, Director of Marketing & Distribution, Media Education Foundation

EDITOR'S NOTE: The STMA financially supported the production of this educational video.

HODGSON: *For people who haven't seen the film yet, can you briefly describe what it is about?*

KNIGHT: "Diamonds are a Girl's Best Friend" is a portrait of Nicole Sherry McFadyen, Head Groundskeeper for the Baltimore Orioles at Camden Yards.

HODGSON: *Can you tell us a little bit of why you decided to make this film?*

KNIGHT: A few years ago, I was on a tour of Camden Yards when our guide mentioned Nicole and sang her praises. I was intrigued, and introduced myself when we got down onto the field. Nicole and I started emailing and the project grew from there. I've always been particularly interested in telling the stories of women in non-traditional roles.

HODGSON: *How do you think this film could be useful to turf management professionals, and aspiring turf management professionals?*

KNIGHT: The film culminates in a rare, ten-minute, behind-the-scenes look at the inner workings of maintaining a Major League baseball field. It is a real "Day in the Life" of the Orioles' grounds crew. Nicole and her staff provide a step-by-step insiders-only view of their daily tasks over one grueling 14-hour workday.

When we premiered at the Cooperstown Baseball Hall of Fame, a professor from SUNY Cobleskill approached me to say the film would be an ideal tool for his classes, the likes of which was not available at the time. I believe it is an essential piece for anyone who is considering or preparing for a career in turf grass management.

HODGSON: *One of the key themes of this film is that Nicole Sherry McFadyen is not just a groundskeeper, but one of the few women to hold the position of head groundskeeper in major league baseball. Why does that matter?*

KNIGHT: Nicole's story embodies the values of hard work, commitment and a positive attitude. She has transcended the stereotypes of what women are interested in, what they pursue, and how they proceed. Promoting affirmative images of women in leadership positions, especially in a typically male-dominated profession, instills self-esteem into girls. As Nicole says in the beginning of the picture,

"We, as women, have to think outside the box. We're not just designated to be doctors and lawyers, there are other things we can do."

But the audience is not limited to young girls. Nicole's journey offers a universal lesson told through a baseball story. More broadly, it inspires all young people to find alternative ways to express their talents and dreams.

I was also pleased we were able to shoot a Bonus Feature to include on the DVD entitled, "Extra Innings." We got to follow Nicole after getting married, having a baby and returning to the field full time.

In addition, by the time that coda was shot, Nicole had several young women on her crew and it was delightful to see them featured.

HODGSON: *What did you learn about turf management and women in the field of turf management by making this film?*

KNIGHT: Overall, I was blown away by how incredibly physically demanding the job is! The crew was exhausted at the end of each shooting day and all we had done was observe. The endless hours, relentless heat and physical strain require unimaginable stamina. But what a world it would be if everyone went to work loving it, and owning it, as Nicole does.

Sarah Knight is a Manhattan-based film and theatre director/producer. Her narrative feature debut, "Vino Veritas," starring Emmy winner, Carrie Preston ("Claws," "The Good Wife"), can currently be seen on Amazon Prime and iTunes. Her documentary, "Hot Flash," about Saffire-The Uppity Blues Women, was nominated for a Blues Music Award and was acquired by Shorts International. She has produced and directed numerous other short films and won fellowships to the Berlinale Talent Campus, the Rotterdam CineMart Producer's Lab, and the Tribeca Film Institute's Tribeca All Access.

Praise for "Diamonds are a Girl's Best Friend": "My job as an Outreach Educator is to deliver educational programming throughout New England that shows educators how to use baseball as a vehicle for education. When reaching out to students, many times I find it extremely difficult to show how baseball relates to women. Your film not only opens eyes, but avenues as well, in showing how women not only hold a place in baseball but stand shoulder-to-shoulder with all of their colleagues."-Larry Moore, Educational Consultant and Outreach Educator

STMA appreciates commercial support

Many of STMA's programs are enhanced through the support of its commercial members through advertising, dues and sponsorship. Their support allows the association to improve programs and services for our practitioner members. Commercial companies also are responsible for driving innovation in the industry. In return, STMA gives our commercial members access to the membership through our trade show, magazine and a myriad of other avenues of recognition. However, STMA never shares your email address, except one time per year in advance of the conference, and only with your permission.

Another way STMA recognizes its commercial members is through the Annual Membership Directory. More and more members are selecting the "go green" option; thus, developing a printed directory does not make good business sense. STMA has a 24/7, online membership directory that is real-time and easy-to-use. We also have the online Industry Sourcebook that lists commercial companies. There are 100 new commercial companies or companies that renewed their membership after the deadline to be listed in the printed 2016-2017 Membership Directory. They are listed on the next page:

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CONSIDER SPONSORSHIP FOR MORE RECOGNITION

As commercial members, there are many ways for your company to get involved with STMA and our non-profit, the SAFE Foundation, through sponsorship. As our national conference in January inches closer, we still have quite a few opportunities left!

Every year SAFE contributes thousands of dollars for scholarships to a new generation of sports turf industry leaders, courtesy of donations from our commercial partners. Donations to the SAFE Foundation are tax-exempt, as allowable by law.

Our Awards Program recognizes those members who are doing excellent work on their fields through the Field of the Year awards. Sponsors enhance this program by helping to defray conference registration and hotel costs for the winners. In return for their support, sponsors receive recognition in the monthly Field of the Year feature in [START ITAL]SportsTurf[END ITAL], and verbal and printed recognition throughout the annual conference. This program is open for additional sponsors.

If contributing your efforts toward our chapters seems more your speed, the Chapter Network Sponsorship promotes your company within chapter-related materials and gives you a chance to speak to chapter leaders during the conference's Chapter Meeting. This program is also open for additional sponsors.

This year, we have introduced two new sponsorships that we are very excited about. The General Session marks the official opening of the Conference and is highly attended. The new General Session Sponsorship is a great way for companies trying to get involved and want the opportunity for a speaking platform. The Trade Show dessert is always a hit; as the Trade Show Dessert Sponsor, your company's logo will be placed with the desserts through edible discs or on napkins (depending on dessert selected) distributed throughout the entire Trade Show. These are just two ways you can gain visibility for your company.

If your company would like to learn more about all the sponsorship opportunities available, or have an idea for a new sponsorship, we would love to hear from you! Please contact Kenzie Jay, STMA Sales & Marketing Manager at kjay@stma.org.

STMA Affiliated Chapters Contact Information

Sports Turf Managers Association of Arizona: www.azstma.org

Colorado Sports Turf Managers Association: www.cstma.org

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

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

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:
405-744-5729; Contact:
Dr. Justin Moss okstma@gmail.com

Oregon STMA Chapter:
www.oregonsportsturfmanagers.org
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

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Q&A with PAMELA SHERRATT

Sports Turf Extension Specialist

Questions?

Send them to Pamela Sherratt at
202 Kottman Hall,
2001 Coffey Road,
Columbus, OH 43210 or
sherratt.1@osu.edu

Or, send your question to Grady Miller at North Carolina State University, Box 7620, Raleigh, NC 27695-7620, or email grady_miller@ncsu.edu



Q: WHY IS MY GRASS BROWN?

A: As turf professionals there is no doubt you have heard this question a hundred times from friends, family, neighbors and field users. Turf goes brown for many reasons and figuring out why can be tricky. Diagnosing a turf problem involves asking many questions and ideally seeing the turf first-hand or having good quality sample or HD pictures at hand. Questions need to be thorough, since the diagnosis will result from the process of elimination.

First, identify the turfgrass that has the problem. It is important to know the turfgrass species because certain species are susceptible to certain problems. A common problem I see each summer is rough bluegrass (*Poa trivialis*) going dormant under heat stress and it is sometimes misdiagnosed as a disease because the symptoms are similar in nature. Additionally, warm-season grasses and summer annual weedy grasses like crabgrass, bermudagrass and prostrate knotweed go dormant or die in the fall and result in brown turf.

Turfgrasses that are brown and straw-colored in the spring may be species that have a long winter dormancy. This is especially true for some Kentucky bluegrass cultivars. Certain turfgrasses are also susceptible to certain diseases, e.g., a common summer disease of tall fescue is brown patch. Kentucky bluegrass is susceptible to summer patch and leaf spot, and perennial ryegrass is a host to most of the common diseases.

Online prediction models have been developed that forecast when environmental conditions are right for a disease to occur. These prediction models are based predominantly on local weather data, namely temperature and humidity. For example, brown patch disease is most severe when the sum of the daytime and nighttime temperature exceeds 150, with 10 hours of continuous leaf wetness. If those conditions exist and tall fescue cultivars are particularly susceptible to the disease, then there is a high probability that brown patch disease will occur.

It is much easier to identify the fungal pathogen by the “symptom” it causes rather than the sign. Symptoms of the disease include leaf spots, blight, root rot, leaf tissue collapse and/or death. From a distance these symptoms will look like patches or mottled areas of discolored turf. They are generally circular in nature and typically do not spread in straight lines or blocks, however, when I stated as much at a conference an attendee later sent me a picture of *Pythium* on a golf green, spread by the mower and in perfectly straight lines.

Examples of disease symptoms:

- Hourglass shaped lesions on leaves caused by dollar spot disease.

- Discolored spots on leaves and leaf twisting caused by grey leaf spot disease.
- Circular patches of brown grass caused by brown patch disease.
- Frogeyes, arcs and rings caused by summer patch, necrotic ring spot or fairy rings.

Some of the symptoms are best-viewed close-up, possibly with a hand held magnifying glass, and some look more obvious from a distance. Some have unique symptoms, like the blue smoke ring seen around a brown patch of grass in the early morning (brown patch disease) or the obvious “frog-eye” of summer patch disease. Each of the diseases has a unique sign and symptom that help to identify it from the others. Signs are defined as a visual identification of the pathogen, and include mushrooms, orange pustules, hyphae and/or mycelium. Signs are usually best seen first thing in the morning, before the dew has burnt off. If there are no visible signs and symptoms are difficult to diagnose, it is best to send a sample away to a diagnostic lab. Check to see if your local Extension service or university turf program has one.

In addition to disease, turfgrasses are susceptible to certain insects. For example, Kentucky bluegrass can be infested with bluegrass billbugs while perennial ryegrass will not. If the turfgrass species and time of year are ideal for white grub, billbug, or chinch bug (lawns primarily) damage, inspection of the soil and turf crown/roots will also help the identification process. There are some good videos online showing how to perform the tug-test for bluegrass billbugs or sample for white grubs. Fields with a history of insect problems are likely to have repeat infestations, so it is important to keep good records.

There are other turf problems that are not considered biotic (living). These are referred to as abiotic problems. If the grass is chlorotic (yellow-brown) it could be soil-related. Is the soil saturated or compacted? Grasses cannot take up nutrients in waterlogged, poor soils. Has a soil test identified any nutrient deficiencies? Is the turf drought or heat-stressed? In some instances, poor irrigation distribution uniformity is the cause but those symptoms/patterns cannot be identified clearly until you are standing up high, in the bleachers or stands. Other abiotic problems include blunt mower blade damage (notably on perennial ryegrass fields in spring when the turf is trying to go to seed), winter desiccation, traffic damage during frost, fertilizer spills or chemical misapplications, an object sat on the grass for a prolonged period of time, or urine spots. Some of these abiotic problems are harder to diagnose so it is important to eliminate disease and insect issues from the onset.

/ST/

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