

THE INTERVIEW: Mike Trigg, CSFM

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February 2016

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JEFF SALMOND, CSFM

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STARTING LINEUP

February 2016 | Volume 32 | Number 2

FEATURES

Meet the 2016 Sports Turf Managers Association President

- 8** Jeff Salmond, CSFM, University of Oklahoma's director of athletic field management

Field Science

- 12** Fertilizers 101: basics you should know
16 Is fraze mowing right for you?
20 Tips for removing paint from synthetic turf

The SportsTurf Interview

- 28** The SportsTurf Interview: Mike Trigg, CSFM

Facilities & Operations

- 24** Take back your ball fields!
32 Update on synthetic field infill products
34 ASBA honors distinguished sports facilities

2015 Field of the Year

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

Tools & Equipment

- 42** New products in the Green Industry

DEPARTMENTS

- 6** From the Sidelines
7 STMA President's Message
31 John Mascaro's Photo Quiz
44 STMA in Action
47 STMA Chapter Contacts
48 Marketplace
49 Advertisers' Index
50 Q&A



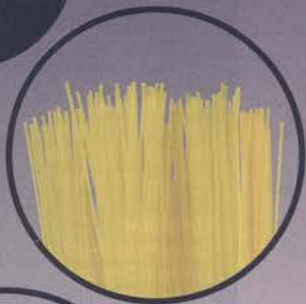
ON THE COVER:

New STMA President Jeff Salmond, CSFM, is the director of athletic field management at the University of Oklahoma in Norman and oversees the personnel and management for all OU Athletics fields. He also is currently serving as an Advisory Board member for the Oklahoma State University-Oklahoma City turf management program. In addition, Salmond serves on the Board for the Oklahoma Turfgrass Research Foundation and the City of Norman Board of Park Commissioners.



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WISH I'D LEARNED

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Recently I had a conversation with my teenage son about the value of education. His cell phone was in another room so I assume he might actually have been listening. Here are some comments from STMA members about what they wish they had learned earlier in life:

"I wish I would have went into a turf program. Many years of experience does catch you up in some areas, but not all."—Mike McDonald, CSFM, University of Minnesota

"For me it would be how to manage events better. In school no one ever talks to you about which battles to fight and which ones not to when it comes to the overall, long-term health of the field(s) for which you are responsible. Here at Sports Authority Field we are so much more than a football stadium; we are an event venue. And with hundreds of events that take place on the field over the course of the year there is no way that we can say no to all of them, especially when revenue is involved. I would have loved to an entire class on managing these events. Dealing with clients and event planners in an effort to find common ground on what will be most beneficial for the event as well as the turf can be very challenging."—Luke Kellerman, Denver Broncos

"I wish someone would have explained to me how all of these related sciences I took to get a BS in Plant Science (chemistry, soil science, toxicology, physiology and the like) related to growing grass. When I was in school, I figured a little ornamental horticulture, maybe botany, and pathology was all I needed

to grow grass. I might have paid more attention at the time and how it all related had someone explained it to me. I couldn't relate when I was 19-20 years old."—Michael Cline, Wilbur-Ellis Company

"I have been out of the 'day to day' turfgrass management business for 10 years although I interact with many customers and friends who remain active sports turf managers. I truly believe the agronomics can be learned by anyone. Perhaps I overstate this; however, if someone has a heartfelt passion for making a sports field safe, appealing, and desirable for competition, the 'nuts and bolts' of science and agronomy are widely available, and updates remarkably forthcoming from a very generous bench of really talented sports field managers. What is not widely available for true sports field manager integration are the leadership skills necessary for success. Leadership and human relations expertise in all interaction and communication with field crews, tarp crews, neighbors, coaches, players, administration, the press, you name it! Looking back at my time as a SFM oh so many years ago I didn't ask enough questions or listen appropriately."—Jimmy Rodgers, CSFM, Luck Stone Company

"I would have to say more courses in understanding the financial aspects of the turfgrass industry. Since I have been in this industry I have had to learn by doing when it comes to budgets and purchasing equipment."—Matthew Kerns, Germantown Friends School (PA). **ST**

Eric Schroder

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The Official Publication Of
The Sports Turf Managers Association

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SportsTurf (ISSN 1061-687X) (USPS 000-292) (Reg. U.S. Pat. & T.M. Off.) is published monthly by EPG Media & Specialty Information at 75 Pike Street, Port Jervis, NY 12271. POSTMASTER: Send address changes to SportsTurf, PO Box 2123, Skokie, IL 60076-7823. For subscription information and requests, call Subscription Services at (845) 856-2229. Subscription rates: 1 year, \$40 US & Poss.; 2 years, \$65 US & Poss.; 1 year, \$65 Canada/Foreign Surface, 1 year, \$130 Airmail. All subscriptions are payable in advance in US funds. Send payments to SportsTurf, PO Box 2123, Skokie, IL 60076-7823. Phone: (847) 763-9565. Fax: (847) 763-9569. Single copies or back issues, \$8 each US/Canada; \$12 Foreign. Periodicals postage paid at Port Jervis, NY and additional mailing offices. COPYRIGHT 2015, SportsTurf. Material may not be reproduced or photocopied in any form without the written permission of the publisher.

MENTORS

Jeff Salmond, CSFM
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I am honored and humbled as the next President of STMA. I want to thank Immediate Past President Allen Johnson for his successful year. I wish the best for all of you this year through your various seasons.

Many of our members have returned from the Annual Conference in San Diego. For some, it may have been the first time. I remember my first Conference in Colorado Springs, CO in 1997. Last year at the Conference in Denver, all who had attended in 1997 were invited to take a picture after the Awards Ceremony. I may have been one of the youngest in the picture. But that picture helps me reminisce about others in the picture who have helped cultivate and mold me into who I am and where I am today. The people I talk of are our mentors.

A mentor is someone willing to spend time and expertise to guide the development of another person. Each person in that picture has aided me and has helped to progress the sports turf industry. They had the stuff that I wanted back then as a greenhorn. I truly want to thank the mentors who have played a role in my life and career. Dr. Brad Fresenburg at the University of Missouri, Mike Andresen, CSFM, and Dr. David Minner at Iowa State University, and Vince Patterozzi at LSU. I hope that I can continue the passion of my profession to be of a greater value upon

their investment and for those whom I influence every day.

My most influential mentor is my father, Jim Salmond. At a young age, he taught my brothers and me the importance of working hard and what it takes to be a well-rounded individual. Dad instilled in us a work ethic that we use in each of our own workplaces. He taught us to respect all people and their professions, an honest day's work for an honest day's pay, and also the Toma-ism "and then some." We grew up farming, so bottle-feeding calves and feeding chickens before school, hauling hay, walking soy beans (the worst) were just a few of our daily chores. The best story relates to digging postholes. One day my dad set us out to dig 100 postholes for a fence line. He told us that he would pay us each a quarter a hole. My brothers and I gave him the facial expression "you must be nuts to only pay us a quarter." My dad told us that he'd pay us each a quarter a hole, or we could just dig 'em. Needless to say we dug them for a quarter a hole.

Mentors are very important to each of us. They have nurtured us, and placed time and energy into molding us into models for success. I urge each of us to become coaches for others in the sports turf career that we love, and thank the ones who helped us get started. Dig a posthole to help start someone's foundation. 

Jeff Salmond



OKLAHOMA DRILL: THE IMPORTANCE OF WORKING HARD

NEW STMA PRESIDENT
JEFF SALMOND TAKES THE REINS

■ BY JOHN TORSIELLO

You might say new Sports Turf Managers Association President Jeff Salmond, CSFM, has always been a down-to-earth kind of guy. After all, Salmond, who took over the position this month from Allen Johnson, CSFM, was raised on a small farm in Sugar Creek, MO and grew up learning the nuances of making a living from the soil and dealing with the vagaries of Mother Nature. After searching for his professional identity upon graduation from high school and considering another

career path in college, Salmond returned to his roots, so to speak.

"I have always loved sports. I started out at the University of Missouri with aspirations of working in sports," says Salmond. "My athletic ability only took me through high school, but I wanted to stay connected with sports in some way. I wanted to be a physical therapist and had 3 years of classes under my belt while applying twice to get into the program. Needless to say I didn't get in, and I contemplated how I was going to get out of college in within a 5-year period. I stayed on campus during the summer working toward another degree program, and I needed a job. I took one at the University of Missouri's Turfgrass Research Center and immediately fell in love with turfgrass. I couldn't believe there was a degree for taking care of grass and sports fields. It was a much shorter crop than I was used to working with when I was younger, but it was a job doing something outside. I was taught at a young age that if you fall in love with something, do it, and do it to the best of your ability and with passion. I also feel that way about the Sports Turf Managers Association."

Salmond accelerated through the turf degree program in four semesters and went on to receive a BS in Plant Science. Before leaving Mizzou, he did an internship in 1995 for the Cleveland Browns in the NFL and was encouraged to seek more in-depth turfgrass education. He went on to receive an MS in Horticulture from Iowa State University.

His Master's work was researching the use of crumb rubber in high traffic areas on natural grass athletic fields. He also assisted Dr. David Minner with the construction of the Iowa State Sports Turf Research area. His career experiences included working as an assistant field maintenance manager for the Baltimore Ravens of the NFL, the head athletic turf manager for the University of New Mexico, and an agronomist at Northwestern University.

Salmond now is the director of athletic field management at the University of Oklahoma in Norman and oversees the personnel and management for all OU

Athletics fields. He also is currently serving as an Advisory Board member for the Oklahoma State University-Oklahoma City turf management program. In addition, Salmond serves on the Board for the Oklahoma Turfgrass Research Foundation and the City of Norman Board of Park Commissioners. He has been an STMA member since 1995, received a STMA Student Scholarship in 1997 and became a Certified Sports Field Manager in 2003. He helped develop the first STMA Student Challenge. Salmond was also instrumental in starting the Oklahoma Chapter of STMA in 2011 and is serving as its Vice President. Over the years he has also served on and chaired various STMA committees.

Salmond and his wife, Loida, live in Norman and have four children: Taylor, Tyson, Tinley and Troy. He credits his wife for invaluable support lent to his career and his work with the STMA, while raising a young family. He cites his parents, Jim and Mary Salmond, as his first big influences. He says, "They are the ones that instilled the hard work ethic in me."

There have been professional field managers and mentors who have influenced him as well. They inspired Salmond to pursue his school and career paths and steered him along the path to the notable success he has enjoyed. Jeff gives a lot of credit to his good friend, Neal Pate of the Cleveland Browns, for introducing him to the sports turf industry. "Neal was a year ahead me in school at Missouri, and told me about the job opening at the Turfgrass Research Center and student internship at Missouri's baseball field. Had he not shown me this opportunity, I don't know where I would be," says Salmond. Another person of influence was Troy Smith. Troy was the incoming STMA President when he asked Jeff about serving on the Board. Salmond is grateful of the path that Troy helped lead him on in serving the STMA.

After starting his working career in the NFL, Salmond has used the league's standard as a mindset for his expectation everywhere he has been. "We grow and build up a grass plant, while making it look and play its absolute best, only to punish it through the rigors of cleats

and foot traffic. Then we recover it only to replicate that each game and practice, in some instances for national television audiences, let alone for those in attendance. Whether it is the football, soccer, softball or baseball field, we treat every field the same and to that NFL standard."

He says sports field managers are charged with providing safe fields for the student-athletes, professional athletes, and youth. Athletes are valuable to their institutions, their teams and their parents. "That's a lot of responsibility, and you always have to remember you have their health and safety in your hands, much like a doctor," says Salmond.

Because what sports turf managers care for is indeed often a "living organism," its condition is somewhat at the whim of nature. "But this can't be an excuse for poorly maintaining your fields or lacking high standards. We have to deal with different types of weather phenomenon along with multiple sporting and marketable events. We have to be able to adapt, call a few audibles, as well as being environmental stewards, to get our work done," says Salmond. "At the collegiate level we are constantly working around sports schedules, squeezing our agronomic practices in a short window of opportunity between the games, practices, events, commercials and photo shoots, which can be challenging. It's also where communication and coordination with my staff and OU administration becomes crucial."

Being flexible and an expert at multitasking is also part and parcel of a good sports turf manager, says Salmond. He and seven assistant athletic field managers at OU are responsible for the maintenance of outdoor and indoor football fields, indoor and outside track complexes, baseball, softball, and soccer fields, a cross-country course, all grounds around the school's basketball arena, tennis courts, and several other OU athletic facilities. Whew.

And if that wasn't enough, "We are in the middle of a building renovation project at the football field. The stadium is getting 'bowled in,' which means the football team is using the practice soccer and



After starting his working career in the NFL, Salmond has used the league's standard as a mindset for his expectation everywhere he has been.

rugby field in addition to the infield area of the track and field complex. We have to make sure the team is taken care of and has excellent grass to practice on while the renovations are going on. It's been a challenge but it's going well. We have also just recently completed full field construction projects at our softball and baseball fields. We have a great athletic field management staff, willing to do whatever it takes. We are what I call, 'The Directors of First

Impressions' at OU," he says.

WANTS MORE CHAPTERS

Salmond is thrilled to be assuming the position as President of the Sports Turf Managers Association. "I am thankful and fortunate to have been with STMA for 20 years. I will work at the highest level of service in STMA to give back to the organization that has given so much to me. I plan to encourage growth nationally

by promoting the formation of chapters in states that do not have one and look at things internationally. I believe that by doing this we will continue to strengthen the role and importance of the sports turf manager on all levels," he says. "I would also like to continue to promote professionalism across the industry through the CSFM certification program, and see STMA as the leading association for athletic field management globally. In our

jobs as sports turf managers, we cannot stop learning, and STMA provides the education, and networking with other sports turf managers to help us be successful."

Salmond is convinced effort must be made to promote sports turf managers and their assistants as experts in their craft: individuals whose talents and dedication are valuable to those they are employed by, whether it is a professional or college team or a local government. Indeed, the new STMA president believes making decision-makers aware of the vital role and importance of sports turf managers and what they can mean to the quality of life at their institutions, franchises and communities to be one of his primary missions at his new post. Besides just being surface caretakers, sports turf managers are doctors, but also agronomists, architects, meteorologists, mechanics, machine operators, financial and schedule planners, and computer operators. And should look to be paid accordingly to all those skill sets.

"We need to build upon our relationships with user groups and administrators, whether they be athletic directors, owners, school boards, local government, or youth sports groups. We need kids to play sports and get outside in nature because they are our end-users, the reason why we have a job. We need parents of today's youth to want fields like they see on television," Salmond says. "We also need to encourage more young people to get into the sports turf management career. The industry has much to offer with different types of jobs and careers."

Salmond has thought about the future of sports fields and believes a good grass field can go a long way given the proper resources, care and a sports field manager. "The variety of grasses have improved significantly and there have been major advances in growing natural grass and caring for the surface. But, the technology will continue to improve."

Another challenge he sees is "burn-out" with sports turf managers. "We are starting to see people change careers within the industry or totally get out of the industry because of the overwhelming time of overseeing fields for sporting and marketable events. There are hardly any off-seasons anymore," he says.

Thus he believes it is important to develop sports field managers and their assistants. "We need to provide continuing education and access to institutional turf programs for our members and promote the importance of a sports turf manager within user groups.

Kim Heck, CEO of STMA, says she and the rest of the STMA staff are excited about Salmond's Presidential year. "He is always so prepared to address the many issues that come before our board, and he brings a very reflective process to addressing these issues. Jeff listens very well and asks great questions. He wants to know the entire landscape of an issue before he offers an opinion. His style is collaborative and engaging. These are important traits for any leader, but are especially crucial for the President of a non-profit association. Jeff consistently looks forward. He understands our strategic plan very well, and thinks beyond it—not only what we are implementing now, but envisions the ideal future."

Continued on page 23

Hallowed Ground

Bobby Gruhn Field
at City Park Stadium
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FERTILIZERS 101: BASICS YOU SHOULD KNOW

■ BY SUSAN HADDOCK

Turfgrass fertility management is a year round task, so a review of fertilizer basics may be helpful. Generally, fertilizer is defined as any substance containing one or more recognized plant nutrients that promote plant growth. Checking with the Department of Agriculture in a number of states results in a mixed bag of definitions. Many states include any substance that controls soil acidity or alkalinity, provides other soil enrichments or provides other corrective measures to the soil in the fertilizer

definition. Most states exclude unmanipulated animal or vegetable manure and some states exclude marl, lime, limestone, wood ashes, peat and/or compost that has not been shown to have value in promoting plant growth.

There can be confusion over the terms natural organic, synthetic organic and organic fertilizer. **Natural organic** refers to products that are derived from either plant or animal products containing one or more elements, other than carbon, hydrogen and oxygen, which contribute to plant growth. These products are derived from living organisms and may include dried blood, composted manure, fish bi-products, bone meal and cottonseed meal.

Synthetic organic refers to products that are manufactured chemically from elements or other chemicals. Synthetics go through some sort of manufacturing process, although they may come from naturally occurring mineral deposits. Synthetic products may also be referred to as inorganic fertilizer.

Organic fertilizer, in the strict sense of definition, refers to a product containing carbon and one or more elements needed for plant growth, other than hydrogen and oxygen. Organic includes both natural and synthetic products. Hence the confusion, as most who desire an organic fertilizer really want a natural organic or non-manufactured product.

This article will focus on synthetic products.

Important considerations are the expectation on product release rate (how quickly turf greens up), product duration (how long the product

produces a greening effect), and environmental impact (product leaching or volatilization). Nitrogen is the most critical nutrient source that promotes turf growth, so turf performance depends on the nitrogen source in the product.

In general, there are three nitrogen release sources: fast release, slow release and controlled release. That being said, there are many environmental and cultural factors that critically affect the ability of turf to uptake nutrients and produce acceptable turf quality. These factors must be evaluated, monitored and corrected, if necessary, before creating a fertilization plan. Soil tests are the basis for developing a fertilization plan and provide information on what the soil needs or does not need to provide for turf nutrient requirements. Additionally, tissue testing can reveal whether the turf is effectively taking up the nutrients.

Fast release sources are referred to as soluble due to their high solubility in water. Fast release nitrogen sources release nitrogen very quickly and may have a quick greening response that lasts just a few weeks. Multiple applications are usually necessary to maintain turfgrass quality. Nitrogen deficiency symptoms may occur between applications due to the cycling between high and low nitrogen levels. Fast release sources may promote excessive shoot growth and readily volatilize or leach. Common examples include urea, ammonium sulfate, ammonium nitrate and calcium nitrate.

Slow release and controlled release sources provide nitrogen gradually over time and promote more consis-

Fertilizer Facts

What to Look For on the Label Example

Guaranteed Analysis	
Total Nitrogen (N).....	15.00%
15.00% Urea Nitrogen*	
Soluble Potash (K ₂ O).....	15.00%
Iron (Fe).....	5.00%
Sulfur (S).....	19.00%
*7.5% Nitrogen slowly available from Polymer Sulfur Coated Urea.	

How to Determine the Slow Release Component

Divide the slowly available Nitrogen by the Total Nitrogen and multiply by 100:

$$7.5\% / 15.00\% \times 100 = 50\% \text{ Slow Release}$$

How to Determine the Pounds of Fertilizer Needed to Deliver 1.0 lb. of Nitrogen/1000 sq. ft.

All the components of a fertilizer add up to 100%. Ingredients not listed are inert, help bind or coat the product or reduce product dust.

Divide 100% by the Total Nitrogen %:

$$100\% / 15.00\% = 6.7$$

6.7 pounds of the 15-0-15 fertilizer are needed to deliver 1.0 lb. of Nitrogen per 1000 sq. ft.

For a 3000 sq. ft. area multiple 6.7 by 3:

$$6.7 \text{ lbs./1000 sq. ft.} \times 3 = 20 \text{ lbs.}$$

20 lbs. of 15-0-15 needed to cover 3000 sq. ft.

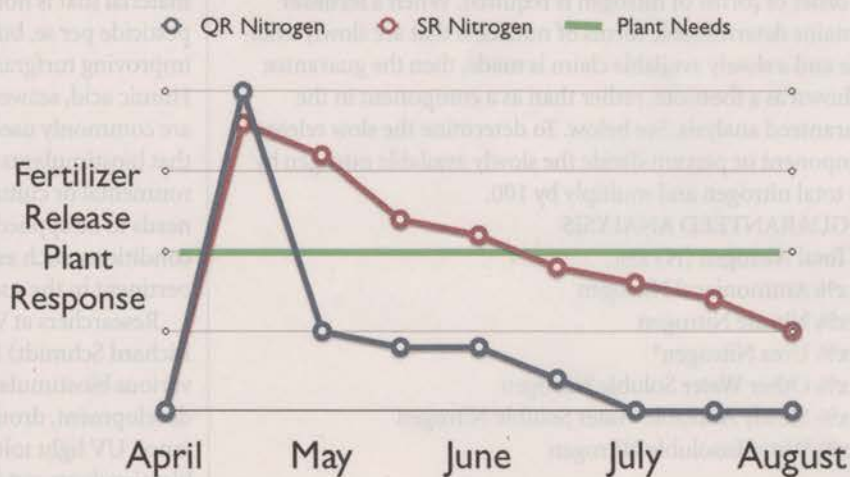
tent turf quality and fewer deficiency symptoms. These sources also minimize losses due to volatilization, leaching and excessive shoot growth. The terms slow release and controlled release are frequently used interchangeably. Here, slow release refers to uncoated products and controlled release refers to coated products. Uncoated products are homogenous, meaning that the composition is the same throughout particles. Examples of uncoated products include ureaform (UF) and methylene urea (MU). These uncoated products contain about 40% nitrogen and rely on microorganisms to mineralize the nitrogen.

Because of this reliance on microorganisms the nitrogen release rate can be quite variable, usually between 8 and 12 weeks, depending upon pH, soil temperature and soil moisture. During cool or cold seasons UF and MU may not be the products of choice, as microorganism inactivity will prevent the nitrogen from being released. Another example of an uncoated product is isobutylidene diurea (IBDU), containing 32% nitrogen. IBDU is soluble and releases nitrogen by hydrolysis, like the fast release nitrogen sources, except that it has low solubility and therefore releases nitrogen very gradually over time depending upon soil moisture. Because of the reliance on soil moisture, dry or drought conditions will delay nitrogen release. Additionally, low pH and high temperature will accelerate the release of nitrogen. Since IBDU is not dependent on microorganism activity it is a preferred product for cool season application.

Coated products include sulfur-coated urea (SCU), polymer-coated fertilizers (PCF) and hybrid polymer-coated sulfur-coated fertilizers (PCSCU). SCU is 30 to 40% urea nitrogen coated with sulfur and sealed with, typically, wax. Imperfections, micro pores and cracks in the coating allow water to enter and dissolve the urea rapidly. Once water enters, the urea can release very quickly and is sometimes referred to as catastrophic release. Coating thickness and imperfections control the release rate, so

Fertilizer Source	Nitrogen Content %	Leaching Potential: Beyond root zone	Burn Potential: Due to salt concentration	Low Temperature Response: 50°-60°	Residual Effect: How long it will last
Ammonium Nitrate	33-34	High	High	Rapid	Short
Calcium Nitrate	16	High	High	Rapid	Short
Ammonium Sulfate	21	High	High	Rapid	Short
Urea	45-46	High	High	Rapid	Short
Ureaform	38-40	Moderate-Low	Low	Low	Long
Methylene urea	38-40	Low	Low	Very Low	Moderate-Long
Isobutylidene diurea	31-32	Moderate-Low	Low	Moderate	Moderate
Sulfur Coated Urea	30-40	Low	Low	Moderate	Moderate
Polymer/Resin Coated Urea	24-35	Low	Low	Moderate	Long

Turf Response to Quick Release and Slow Release Nitrogen Fertilizer



particles release at different rates, usually between 6 to 16 weeks. Microorganism activity is needed to break the sealant to expose the sulfur coating.

During cool seasons microorganism inactivity and coating variability can cause a mottling effect on turf. When the sulfur coating is too thick, the nitrogen does not release, and is referred to as lock-off. These particles may rely on some physical disturbance, such as mowing, to break the particle and eventually release the nitrogen.

Polymer-coated fertilizers release nitrogen by diffusion through a polymer coating. These products may contain other nitrogen sources such as ammonium nitrate, or other nutrients such as phosphorous and potassium. There are a variety of methods and chemistries used to produce the coating. Regardless, manufacturers are able to produce quite predictable release rates depending upon the number of layers and thickness. Water diffuses through the coating to dissolve fertilizer inside. The fertilizer then

moves out of the polymer coating into the soil. Eventually, over 8 to 52 weeks, all of the fertilizer is dissolved from inside the polymer coating.

Polymer-coated sulfur-coated urea is produced with a polymer layer around the sulfur layer instead of a wax sealant. The polymer layer provides more protection and results in even more predictable and uniform nutrient release. Water must diffuse through the polymer coating, dissolve the urea through imperfections, micro pores and cracks in the sulfur coating and then diffuse back through the polymer coating into the soil.

Another brand layers the polymer coating on the urea granule with a sulfur coating and wax sealant on the outside of the particles. With either production method, release rates are longer and less temperature dependent, and surge growth after application is reduced.

LABELS

All fertilizer labels will provide a Guaranteed Analysis. The Guaranteed Analysis is the manufacturer's guarantee for minimum percentage of nutrients claimed for the product. In the guaranteed analysis, nitrogen must be guaranteed as Total Nitrogen (N). If chemical forms of nitrogen are claimed, the forms will be shown in the Guaranteed Analysis. No particular order of forms of nitrogen is required. When a fertilizer contains determinable forms of nutrients that are slowly available and a slowly available claim is made, then the guarantee is shown as a footnote, rather than as a component in the guaranteed analysis. See below. To determine the slow release component or percent divide the slowly available nitrogen by the total nitrogen and multiply by 100.

GUARANTEED ANALYSIS

Total Nitrogen (N) x%

x% Ammoniacal Nitrogen

x% Nitrate Nitrogen

x% Urea Nitrogen*

x% Other Water Soluble Nitrogen

x% Slowly Available Water Soluble Nitrogen

x% Water Insoluble Nitrogen

*x% Slowly available urea nitrogen from _____ (nitrogen source material)

Forms of nitrogen and their sources that may appear in the Guaranteed Analysis include:

■ Ammoniacal Nitrogen sources include monoammonium phosphate, diammonium phosphate, ammonium sulfate, ammonium nitrate, urea ammonium nitrate, ammonium polyphosphate, calcium ammonium nitrate and ammonium thiosulfate.

■ Nitrate Nitrogen sources include urea ammonium nitrate, ammonium nitrate, potassium nitrate, calcium nitrate and sodium nitrate.

■ Urea Nitrogen can come from sources that include urea ammonium nitrate, urea, urea triazone, sulfur coated urea and polymer-coated urea.

■ Other Water Soluble Nitrogen can come from sources that include methylene urea, urea triazone, methylene diurea, dimethylenetriurea, dicyandiamide, triazone, ureaform and urea-formaldehyde.

■ Slowly Available Water Soluble Nitrogen sources include methylene urea, urea triazone, methylene diurea, dimethylenetriurea, dicyandiamide, triazone, ureaform and urea-formaldehyde.


■ Water Insoluble Nitrogen sources that include ureaform, isobutylidene diurea, urea-formaldehyde, feather meal, blood meal, corn gluten meal and other natural organic materials.

So, which fertilizer source is the best?

First and foremost, you must practice sound agronomic practices: perform soil and/or tissue testing, improve soil conditions and correct detrimental cultural practices. Plan nutrient management based on environmental and seasonal influences such as temperature, rainfall and/or irrigation, use intensity and proximity to water bodies. The type of turfgrass, expected quality and budget also influences management strategy.

In addition to fertilization management, you may wonder if the use of biostimulants will produce higher quality turf.

Dr. Keith Karnok from the University of Georgia says turfgrass managers recognize biostimulants to be a product/material that is non-traditional in that it is not a fertilizer or pesticide per se, but is applied to the soil or plant in hopes of improving turfgrass performance (usually roots and shoots). Humic acid, seaweed extract, salicylic acid and plant hormones are commonly used turf biostimulants. Research has shown that biostimulants may improve turfgrass response to environmental or culturally induced stress conditions; however, it needs to be applied before the stress condition. Predicting stress conditions, such as summer stress, drought or disease may be pertinent in the successful use of biostimulants.

Researchers at Virginia Tech (Drs. Xunzhong Zhang and Richard Schmidt) have performed studies on turf response to various biostimulants in regard to enhanced root and shoot development, drought tolerance, salt tolerance, disease resistance, UV light tolerance and heat tolerance showing that biostimulants can improve turf health and stress tolerance. The consensus regarding use of biostimulants is to research products diligently, avoid products that make boastful claims without evidence from scientific studies performed by independent or university backed research, communicate with other turf managers about products that work, test on small areas prior to widespread application and do not substitute biostimulants for a fertilizer management plan. 

Susan Haddock, B.S., MBA, is an Agent II for the University of Florida, IFAS Extension, Hillsborough County.

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IS FRAZE MOWING RIGHT FOR YOU?

■ BY DARIAN DAILY

Is it “Fraise,” “fraise” or “fraize” mowing? These are all spellings used for the word that means aggressive thatch removal, field leveling, and weed removal from sport fields. This magazine uses “fraise.”

HISTORY

This maintenance process was originally referred to as “fraise” mowing by Ko Rodenburg. In the early 1990’s, Rodenburg developed this process of field renovations, while he was the leading parks superintendent in Rotterdam, Holland. He invented this process to help clean up/minimize thatch and to control organic buildup. Rodenburg found that this process also con-

trolled and removed the *Poa annua* plants and seed accumulation while leaving the crown of the plant intact ready for regeneration.

Fraise mowing has been implemented all across Europe for decades to renovate soccer pitches. The process is used to “clean” the organic build up for the soccer pitches that used the Desso GrassMaster system. This process removes all the material so the groundsman could reseed the pitches and still keep the Desso fibers intact.

Fraise mowing was first introduced to the United States in 2013 by Jerad Minnick, who conducted his own stateside research while at the Maryland SoccerPlex. Jerad discovered the benefits to warm season turf and declared that “Grass Can Do More” when fraze mowed. (Read Jerad and Allen Reed’s article in the August 2013 edition of *SportsTurf*.)

» **Fraise mowing** has been implemented all across Europe for decades to renovate soccer pitches.



▲ Rhizomes exposed after thatch/organic material removed. All photos courtesy of Jerad Minnick.

RESEARCH

I have known Allen Reed for many years. Allen is the director of stadium grounds for FC Dallas of Major League Soccer. Allen first told me about this concept at the STMA Conference in Daytona Beach in 2012, after he had begun working with Jerad on the team main training grounds. Allen was very impressed with this process. When the conference concluded, he emailed me photos and videos of the process. When you see this process for the first time, you swear that you are destroying your field! It is such a “different” process compared with what we have seen or had been taught in the US. It took 2 years and several late night “meetings” at STMA Conferences for Allen to persuade me to try it. It is easier to try something new when a trusted friend has done it before you and you respect his work.

SELLING IT TO THE CLUB

After talking with Allen and Jared, as well as several others throughout the country that started using the process, I pitched the practice to the Bengals’ front office. The toughest part was trying to describe the fraze mowing process to people with limited turf knowledge. As hard as it was for Allen and Jerad to get me on board (someone with turf experience) it was doubly hard to get the club management on board.

During the 2013 training camp, we had one field that experienced excessive shearing. The players’ cleats would shear the top ½ inch due to a buildup of organic matter and exces-

sive thatch build-up. After the season, I proposed to the club that we look at fraze mowing to help improve the playability of the field and to help with the shearing issue. I provided them with photos and video links and said that this would be a lot cheaper than sodding the field. I was specifically asked if this would work, knowing that if it didn’t work, I would be a “former” NFL sports field manager. I told the club that fraze mowing would eliminate the thatch build-up and the developing organic matter issue we had on our oldest bermudagrass field and the field would play much better.

IMPLEMENTATION

June 2014 we started the process. We had an area field builder who was sodding our training camp field fraze mow. Neither he nor I had seen it done in real life; but we kept adjusting the depth until I felt comfortable that enough material was being removed and enough stolons and rhizomes were remaining (in hind sight we could have removed more material but I was honestly too scared!). It took about 3 hours to remove the field. We finished on a Wednesday, and then we waited...

RESULTS

We came back in on Monday, 4 days after the process, and there was a haze of green grass growing! We were surprised to see such a rejuvenation of the plant material in just 4 days. After 7 days we sprigged the field to insure the field would be



▲ Six weeks after fraze mowing.



▲ Thatch/organic matter buildup in July 2013.



▲ Following fraze mowing compared to 5 weeks after mowing.

completely filled by the beginning of training camp, just 6 weeks away.

We managed the field as if we were growing in sprigs. We applied lots of water and high fertility to push growth. Once the sprigs took hold, we backed the water off and lowered the fertility. Within 4 weeks, we could have played football on the field.

Going into the process, we knew that fraze mowing would remove all the thatch that we had and help remove the organic layer we had started to build up. This process got the field down to a firm footing. This was done not only by the removal of the thatch, but also as it allows the bermuda to grow laterally instead of vertically. This happens because the plant is a juvenile and will grow vigorously. After 6 weeks, the field was as tight as I had ever seen and there were very little damage after practices.

Something else we found was that we were able to “level” out some of our high spots due to spot sodding. The fraze mower would go over high spots and then mill down the spot to match the surrounding area. We also witnessed that, like Rodenburg, we had less weed issues. The process limited a great deal of weeds in the areas that were renovated and the areas that were not, we had more weed issues.

MOVING FORWARD

This process is revolutionary. Everyone I’ve spoken with that has tried this process has all said the same thing after the first pass: something like, “Holy crap! What have I just done!?” But what we have learned is that natural grass is a tough plant and the more we beat it up, the better and more resilient it becomes.

Like anything new, it will take time before fraze mowing will be a standard in the States as much as it is in Europe. People may think you’ve lost your mind when they see the process the first time, but 6 weeks later you will look like the professional you are.

One note: After the great result of the 2014 season, we bought our own machine (KORO Universal Topmaker) and this past year we fraze mowed two of our three fields. This will be a yearly maintenance program at Paul Brown Stadium moving forward.

As Jerad Minnick says, “We need to think different so grass can do more!”

Darian Daily is head groundskeeper for the Cincinnati Bengals.

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TIPS FOR REMOVING PAINT FROM SYNTHETIC TURFS

BY MIKE HEBRARD

How do turf managers keep bermudagrass fields green all year long? Is there something in the water that allows the fields to stay green? Is it magic? Well, maybe, but in reality the majority of turf managers are overseeding their bermudagrass fields with a cool-season grass to keep them green when the bermudagrass goes dormant.

of users and administrators.

Since my business started by laying out, painting, renovating and laser grading athletic fields, most of my constituents were concerned that Athletic Field Design would go out of business

due to the fact there were so many synthetic fields being installed. Quite the opposite has happened and my request for logos and lines for one-time events or seasonal marking has skyrocketed!

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. I bring up the fact that both Century Link, home of the Seattle Seahawks and Gillette Stadium, home of the New England Patriots, are both completely green turf fields with no inlaid lines or logos. They



chose to go completely green and use removable paint to accommodate soccer and other events with their own field marking identity. While other stadiums, like the Georgia Dome, may have sewn-in lines, they still manage to have more than 200 separate events a year, many of them requiring painting the end zones and other logos.

WHAT TO CONSIDER

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 continued, "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-

The advertisement features a photograph of a baseball player in a purple jersey and cap, reaching out with a baseball glove. In the foreground, a white bag of Harrell's Profertilizer is shown, with a pile of dark fertilizer granules next to it. The bag has the Harrell's logo and the tagline "Growing a Better World". Above the player, the text "Powerful games." is written in a large, serif font. Below that, "POWERED BY" is written in a smaller, sans-serif font, followed by the "POLYON" logo in a large, bold, sans-serif font. Underneath the logo, "Controlled-Release Fertilizer" is written in a smaller, sans-serif font.

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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.

In comparison, here are some other removable paint systems and how they work:

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

With the increase of national show of patriotism the request for painting an existing inlaid logo with a Red, White and Blue theme has 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.

Even the NFL has used this process, for example by painting their shield gold to honor the 50th anniversary of the Super Bowl, along with the 50 yard line numbers on all fields. High school and college games that are played at NFL sites require wider hash and yard mark locations (53' 4" for high school and 40' for college). This allows for a quick conversion of the wider markings and the ability to remove them before 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.

The best removable lines are for TV viewing only, such as the digitally enhanced Yellow 1st down line, line for yardage needed to be in field goal range and more recently digitally overlays on snow-covered fields showing the numbers and yard marks, to aid viewers with the ball location.

Maybe this is where we are headed: having lines and logos digitally generated for the participating teams and attending fans to observe!

Mike Hebrard is owner of Athletic Field Design, www.athletic-field.com.



"Jeff will often offer a perspective


on an issue that no one else has thought of, forcing the group to a more well-rounded position. As he leads the board as president, this trait will continue to serve our association well."

— Outgoing President, Allen Johnson, CSFM

Continued from page 11

Of course, it hasn't been all work and no play for Salmond. "I like to fish or play golf, but I don't hardly get a chance to do that with raising kids and a busy full-time job. My new therapeutic hobby is smoking meat, and I love to spend my spare time smoking a good brisket or pork butt. I just started working on my own sauce," he says.

Salmond feels blessed every day with his chosen profession and making a difference in people's lives. "I come to work with the mentality that situations may not be ideal, but I enjoy my job, and I love what I do. I have always blocked out all the ancillary things that you can't control. I'm used to working hard and doing whatever it takes to get the job done."

Those are certainly attributes that will serve Salmond well in his new post. 



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TAKE BACK YOUR BALL FIELDS

■ BY JOE CHURCHILL

Writer's note: This article isn't necessarily for you or about you. As a proud card-carrying member of the STMA, you understand the value of membership and its benefits. You belong to a local chapter, most likely get involved in regional and national STMA events, love to share ideas and network with your peers. You read this magazine faithfully and make every attempt to attend our National Conference when time and money permits. You're a hands-on turf manager who is 100% invested in the health, appearance, performance and safety of your ball fields.

I have a favor to ask: share this article with a peer who is not an STMA member and relies on others to do their field work for them only because they think someone else can do it better. Sharing this message can help rejuvenate or repurpose a career by encouraging a fellow turf manager and friend to take back their ball fields.

THESE ARE THE TIMES WE LIVE IN

We outsource everything these days. What can't we buy online? Amazon just introduced PrimeNow, a 1-hour delivery service currently being rolled out in some major cities. You can actually buy ice cream *online* and have Amazon drop it off at your front door, before it melts. Yes, it's come to that.

Chores like washing laundry, grocery shopping, house cleaning, exercising the family dog and mowing the lawn are all easy targets popular among consumers who claim they don't have the time or don't want to be bothered with such mundane and time-sucking tasks. My favorite? Hiring a service to harvest your dog's "business" and dispose of it properly.

Outsourcing isn't restricted to our personal lives. Many

tasks for which we are responsible in our daily work can and should be outsourced. You probably don't want to service your own HVAC system, perform major vehicles repairs or replace your sports field lighting. These tasks, and many others, are better left to professionals who know what they're doing and have the right tools to do it.

What about general turf maintenance of your ball fields? Who mows, fertilizes, overseeds, aerates, topdresses and controls the weeds on them? The most common answer will be "I do." As an STMA member, you see value in continuing education, networking with peers, monitoring industry trends and keeping up-to-date with ever-changing technology and product improvements. That's why you renew your membership every year.

Unfortunately, this article's message isn't going to reach the thousands of sport turf managers who should read it. As an STMA member, you take pride and display tremendous passion for providing the best playing, best looking, healthiest and safest fields under the sun. Unfortunately, this work doesn't come easily for all of us. When we don't understand something, lack confidence or are short on the right tools or skill sets, it's very tempting and easy to "hire out." It's easy to justify.

AND THESE TIMES ARE A-CHANGING:

Bob Dylan sang about it more than 50 years ago. Change that is. Growing grass has changed in its own right during the past 50 years. It's changed in the past 5. It's changing as you read this. As professional turf managers, you face challenges today that weren't there when you began your professional journey. How about these for starters:



These external pressures create internal issues at cities, schools, universities and private institutions. We live in a litigious society that prefers to point fingers and blame others rather than accept responsibility. This mindset is fueling the trend toward outsourcing darn near everything in the spirit of protecting ourselves and our cherished assets. We are never fully protected from falling prey to lawsuits, but it sure would be nice to "go down" with someone else, like an outside contractor. It's not about eliminating the risk; it's about managing it and sharing it.

Issue:	Translation:
Low Input Sustainability	Using less of everything while managing increased field quality expectations.
Water Conservation	Mark Twain said it best, "Whiskey is for drinking. Water is for fighting over."
Pesticide Use Scrutiny (real)	Movement toward zero pesticide use. They are all poisons and create health concerns or perceived).
Nutrient Fate	Environmental threats associated with leaching and runoff. Zero phosphorous legislation and regulated nitrogen use.
Overused Ball Fields	Extended Seasons + Lighted Fields = More Income
Impacts of Social Media	"Piling on." Real time bashing and inflammatory photo sharing.
Player Safety	The movie "Concussion," starring Will Smith, debuted last Christmas, raising public awareness to a highly charged issue.
Instant Gratification	The "I want it when I want it and I want it now!" syndrome.
Helicopter Parents	Johnny and Susie are both going to play professional ball someday.



AND HELP IS JUST A PHONE CALL AWAY

Professional contractors are invaluable business partners. They are a godsend when there's a job to do and you're not in the position to do it yourself. There are lots of reasons to defer to others when tackling certain jobs.

- You don't know how or lack the skill set to do the job.
- You don't have the proper tools or equipment.
- You're short on manpower.
- The contractor will work when you can't or don't want to (weekends, evenings, etc.).
- It's easier to bear the operating expense rather than hire additional employees, adding wages and benefits to the payroll.
- The contractor can do it cheaper, faster or better than you can.

Jobs that may be favorable to outsource would be:

- Aerating
- Seeding
- Topdressing
- Winterizing irrigation
- Snowplowing
- Early spring and late fall work when seasonal workers are not available
- Pesticide spray applications
- Surface compaction testing

When specialized equipment is required to perform the work or the work that needs to be done doesn't fit internal scheduling, it's time to reach out to a professional contractor. They are highly efficient at what they do, can do it when you can't and will help you deflect potential issues and conflicts associated with doing the job.

BUT WHAT YOU GET COMES WITH A PRICE

And we're not just talking dollars and cents here. There are drawbacks to outsourcing ball field and grounds maintenance besides the direct cost of doing the work. There are compromises and concessions you'll be making.

If you're a hands-on sports turf manager (which 90% of you are), giving up the day-to-day maintenance of your ball fields by outsourcing isn't in your DNA. Maintaining complete control of your sacred ground is paramount to everything else. You have the passion and work ethic to make a list of your management goals and to develop a detailed plan to carry them out. You're not about to hand this off to someone else, no matter how shiny their tractors are or how highly regarded their work is.

Unless the work to be done falls within the true spirit of the list above, it is my belief that you should do the work yourself. It's what they pay you for. It's why you took the job in the first place. You may even make it a personal goal to learn additional skills and find resources necessary to purchase needed equipment, tools and labor moving some of these tasks off the contractor's list and back onto yours. Keeping daily work in-house has its benefits:

- You decide if a treatment (seeding, fertilizing, pesticide application, irrigation) or practice (mowing, soil testing, aerating, topdressing) needs to be done.
- You decide what products are going to be used, how they will be applied, how much you'll need and the frequency of their use.
- You budget how much time it will take to do a thorough job and to do it right.
- You develop a sense of ownership in your fields because

they are a direct reflection of your talents and hard work.

■ You create a sense of pride and intimacy for your fields because of the countless hours and effort you have invested. You know when they are looking their finest and when there's still work to do. You and your fields share a personality.

■ And maybe most importantly, you demonstrate your professional value. You show your superiors that you own the responsibility and can deliver results. You're not just a scheduler with a list of contractors' phone numbers.

Giving up control of your ball field's basic maintenance practices creates dilemmas:

■ You're at the mercy of someone else's schedule. You need to plan around them.

■ The work may not be done by the proprietor, but rather by one of his seasons or lightly experienced employees.

■ It's not the contractor's ball fields. They lack ownership. You're one of many clients.

■ You're relying on someone else's judgment in the products being used on your fields.

■ You're trusting someone else to put down the proper rate of seed, fertilizer, herbicide, etc.

■ You run the risk of not getting the job done properly or to your standards.

■ You give up control and put your own reputation into someone else's hands.

And, to be fair, there are drawbacks to taking on the work yourself:

■ It may require capital investment to purchase equipment

■ You may need to hire another employee(s). Now you're a people manager, too!

■ It requires a time investment. Longer work hours are ahead.

■ You will be assuming 100% of the responsibility. No one else to blame.

■ You will need to invest more time learning new skills via continuing education classes, online research and relationships with academia and suppliers.

As I alluded to at the beginning of this article, I'm most likely preaching to the choir here. As an STMA member, you take a pro-active approach to the smallest detail associated with the care, performance and safety of your ball fields. Yet you may be outsourcing more turf management work than you should, perhaps because you've always let someone else to the work. Or perhaps because the money is available, or maybe because you're comfortable trusting others to do the work or perhaps there's an air of higher status connected to it. Kind of like the guy who has someone else picking up his dog's poop.

We all get a bit complacent in our jobs. I'm as guilty as the next guy. We start looking for shortcuts and easier ways to get the job done. We depend more on others and ask less of ourselves. Case in point: over my 25 years working with sports turf managers from K-12 to the professional level, I have made it a

point to ask those who outsource their fertility and weed control applications if they knew what products were being used on the ball fields and how much was being applied. To this day I have yet to talk to one manager who could tell me. Wouldn't you rather be in the position to share the answer immediately rather than say, "I'll check and get back to you"? What answer sounds better? What answer gives the supervisor or parent asking the question a better feeling of who's in control?

Maybe it's time you give serious thought to how you use your contractors. Maybe it is time to give serious thought to honing your own turf management skills and to take back your ball fields. **ST**

Joe Churchill is branch manager/sports turf specialist for independent turf product distributor Reinders, Inc., in Plymouth, MN and a member of STMA's Editorial Committee.

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THE *SPORTSTURF* INTERVIEW: MIKE TRIGG, CSFM

Editor's note: This month in "The SportsTurf Interview," we feature Mike Trigg, CSFM, Superintendent for the Waukegan (IL) Park District, and a Past President of the Sports Turf Managers Association.

SPORTSTURF: What are your current responsibilities at the Park District?

TRIGG: As Superintendent of Parks, I am responsible for administration of the Parks Department, including maintenance operations of grounds and properties of the District's 48 park sites. This includes buildings, facilities and fleet with a full-time staff of 20 and an average of 30 seasonal staff throughout the

summer. We are very busy year round with all aspects of park and facility maintenance. I have an outstanding staff who share my passion to make the Waukegan Parks the very best they can be. Properties are managed to the highest environmental and conservation standards. Park facilities operated by the district include the Field House Sports & Fitness Center, the Jack Benny Center for the Arts, the Waukegan SportsPark, the Waukegan

▼ **Mike Trigg** at the Friends and Family Community Work Day at Roosevelt Park.



Skate Park and BMX track, recreational centers, an outdoor swimming pool, disc golf course, dog exercise area and agility course, outdoor sports fields, picnic areas, playgrounds, and sports courts (basketball, tennis, and pickleball).

A full range of programs and services are offered year round for all ages, from infants to seniors as well as special needs groups. Healthy lifestyles, wellness initiatives, and a connection with the outdoors are integrated throughout programs, services, and special events. There is something for everyone!

Over the past year, I was also responsible for the development of the District's 2015-2020 Parks & Open Space Master Plan. The Master Plan guides and shapes the future of the Waukegan Park District parks and facilities. It serves as a guide for the Board of Commissioners and staff to conceive and define the District's future infrastructure. The focus of the plan is the Park District's management, protection, use and development of parks. The Master Plan was formed by opinions and input gathered from the public, staff and board members. It establishes District-wide Park Improvements, as well as recommended improvements for each park site for the next five years and beyond, based on current needs and expected resources.

I was chairman of the development of an employee driven Green Team Committee. The Committee's largest undertaking in its first year was a community Recycling Event. The event was a huge success. Materials collected during the event came from over 450 different vehicles, filled more than two semi-trucks and amounted to more than 40,000 pounds of recyclable household electronics. Our Green Team initiatives are ongoing with a commitment to conservation, sustainable practices and environmental stewardship.

SPORTSTURF: How did you first become involved in sports turf management and how did you first become involved with STMA?

TRIGG: My exposure to sports turf management began when I started with the Waukegan Park District in 1986 as a Parks Supervisor. My responsibilities included field maintenance of more than 30 athletic fields located in our Parks and on Waukegan School Grounds.

Now, almost 30 years later, I am proud of our development of a community sports complex. The Waukegan Park District leads the community in providing facilities and programs that improve the quality of life of Waukegan residents. The Waukegan SportsPark responded to a community need for sports fields. The Park District closed an underutilized golf course and used the property to construct the community SportsPark. The consolidation of softball and soccer sites into one facility meant that neighborhood parks and school grounds were no longer needed for league play. The result is a state of the art sports facility, opened in 2011, demonstrating sustainable design and a focus on family convenience. The 138-acre Waukegan SportsPark includes 13 natural turf soccer fields, a championship synthetic turf soccer/football field, four softball fields, concession and restroom facilities, a maintenance building, picnic areas and a playground with water spray features.

Over the course of the past five years, we have developed a successful maintenance routine that includes a strong emphasis on turf cultural practices.

The SportsPark provides the physical platform for district recreation program expansion and community events. Its tournaments serve as an economic engine for the surrounding area and a revenue source to provide rent-free fields for youth sports programs. In 2016 our complex will be going on the sixth year field maintenance operations. Over the course of the past five years, we have developed a successful maintenance routine that includes a strong emphasis on turf cultural practices.

I became involved in the Midwest Chapter STMA (now known as the Illinois Chapter) in 1990. I was privileged to have STMA Founding Father Harry Gill come to Waukegan for the Chapter's first sports turf workshop. Harry gave a short talk on "Being Professional in the 1990's" and demonstrated pitching mound preparation and maintenance. Joining National STMA, I attended my first conference in January 1991 in San Diego. I served on the STMA Board of Directors from 2000-2009, and was President in 2005-2006.

While board service was a demanding and time consuming vocation, it was ultimately one of the most rewarding experiences I have had. I was honored to work with CEO Kim Heck and her staff in their first years with the association. It was rewarding to learn and work with her, and the headquarter staff on association management and strategic planning. Also, I certainly know that I have been the recipient of true inspiration from the many STMA members I had the privilege of meeting and working with over the years, both during my board service and into the present day.

I continue to participate in committee work. It has been exciting to be a part of the Environmental Committee these past few years with the development of the STMA Environmental Facility Certification Program. This is yet another example of raising the professionalism of this association and improving the image of this industry.

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

TRIGG: First and foremost has to be the opportunity to have met and known great individuals in the sports turf industry, like Harry Gill, Dr. Bill Daniels, Dr. Henry Indyk, Dr. Ken Kurtz, Steve Wightman, and Dr. Dave Minner, to name a few. All of these individuals played an important role in my career thanks to their willingness to share their experiences and information on sports turf management. I have always been committed to continuing the sharing of information that promotes advancement of the sports turf management profession.



▲ Mike and his wife, Paula, at the Grand Canyon.

SportsTurf Editor Eric Schroder has written that, "This industry has many people with a willingness to be personable and share because they truly believe sharing is a responsibility to their profession." In my opinion, the networking that takes place within this association is our greatest asset. One of the biggest benefits of STMA is the individuals you meet at conferences and local chapter events. To quote my good friend Mike Schiller, "Friendships and lasting memories is what makes STMA so special."

SPORTSTURF: What specific challenges do turf managers at the Parks & Rec level face that differ from your peers in other STMA membership categories?

TRIGG: Like a lot of sports turf managers, we face overuse and budget constraints in maintaining adequate turf grass on soccer and ball fields. Here at the Waukegan Park District, requests for field usage can vary from the standard ball field or soccer field, to flag football, lacrosse, 3 on 3 soccer, rugby, ultimate Frisbee, and even cricket.

An athletic field maintenance crew in a Park and Rec setting may be responsible for all aspects of a site, not just the turf or field itself. At our SportsPark this includes trash control, cleaning restrooms, playground and building maintenance, natural area management, program/event assistance, as well as turf and landscape maintenance.

Those of us in a municipal setting are faced with a number of required governmental procedures, particularly with purchasing and award of contracts for outside services. Many times this process may require a bid process or securing multiple quotes for materials and supplies. It can be a very time-consuming, exhausting process. Also, staff hiring and training requirements can add a great deal of time and paperwork to one's job duties.

Unrestricted site use is another factor. Many park sites' athletic facilities are open for public use when not scheduled for games. The challenge with no restricted access is that the general public may create increased field maintenance work. Play on a wet skinned infield, frost damage to turf, pick-up football games that create a mudbowl, as well as vandalism, are all issues that can occur on a site in a park site. Field use may also occur year round, with no off season. This creates limited opportunity to conduct needed turf cultural practices.

Finally, recruiting potential interns, full time, or seasonal staff to work at a Park & Rec facility can be seen as less glamorous to a major or minor league facility. But I can promise you that Parks & Rec facilities offer outstanding sports turf management experience opportunities and careers. Facilities like the Waukegan SportsPark demonstrate that parks and recreation facilities are the gateways for healthy, prosperous, and connected communities.

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

TRIGG: With my two boys now living and working in California, one in Los Angeles and the other in San Francisco, my wife Paula and I look forward to visiting them and California's National Parks. One of our bucket list items is to visit all National Parks in the country. We visited the Grand Canyon last year and it was absolutely amazing!

My other interest is continued involvement as a mentor with high school students in the Center for Conservation Leadership (CCL) Program. CCL is a unique yearlong environmental education program, designed to develop practical understanding of conservation and the careful use of and protection of rivers, forests and other natural resources. As a mentor, I am paired with a student to assist with his or her stewardship project in their own communities.

This past fall, we conducted a Family and Friends Stewardship Work Day at Roosevelt Park. Over 50 people participated in the workday, including current and former CCL students, mentors, family friends and donors, helping the Waukegan Park District Staff improve the park. This motivated group cleared the park of litter, removed buckthorn and other invasive plants, mulched the rain garden and planted spring bulbs and two new oak trees. It was a rewarding experience to see the enthusiasm of these students and their interest in environmental stewardship.

This is the "Parkie" in me ... local parks and rec agencies are leaders in protecting our open spaces, connecting children to nature, and providing education and programs that engage communities and conservation. **ST**

John Mascaro's Photo Quiz

John Mascaro is President of Turf-Tec International

Can you identify this sports turf problem?

Problem: Brown area in center of the field

Turfgrass area: College football stadium

Location: Gainesville, Florida

Grass Variety: Celebration Bermudagrass

Answer to John Mascaro's Photo Quiz on Page 41



Background illustration courtesy of istockphoto.com



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UPDATE ON SYNTHETIC FIELD INFILL PRODUCTS

■ BY MARY HELEN SPRECHER

Nobody wants to say it out loud, but it's true: people are still leery of the crumb rubber used in synthetic turf fields.

And the unease remains, despite research to the contrary, according to the Synthetic Turf Council (STC), which serves as a clearinghouse for the more than 50 studies that have addressed various concerns on synthetic turf, including those conducted by local, state and federal agencies.

"In each case," notes a statement from STC, "study results have shown no elevated health risks associated with synthetic turf or its components. For schools that have conducted their own analysis in the past year, those who report their findings have all found there is no research that validates a plausible link between crumb rubber and cancer."

But faced with a public that still backs away from the idea of crumb rubber, the industry has undergone a seismic shift, with manufacturers bringing out a number of infills as an alternative to rubber. And who can really blame them? There are an estimated 11,000 synthetic fields in the US, and sooner or later, they are all going to need updates, replacement and more. That means more inquiries about what else is available on the market. And while many may make the decision to stick with crumb rubber, others may investigate alternatives.

So what are some of the new infills out there? *SportsTurf* has made it easy for you by listing them below. It is essential to note, however, that this is by no means a complete list. In addition, new systems are under development constantly.

Some of these systems are proprietary, meaning they are copyrighted; others are available on the common market. They are listed below with an eye to explaining briefly what goes into each system; however, this is not meant to be a comparison of how fields perform since many systems are simply too new to have extensive data.

Green-Coated SBR Crumb Rubber: This is a system that uses crumb rubber infill; that infill is simply encapsulated in colorants, sealers or anti-microbial substances.

Coolplay V2: Coolplay uses a special cork topdressing that replaces the layer of crumb rubber used in most fields. It is combined with other materials as well.

US Greentech Envirofill: This product uses a rounded quartz core that is then coated with a polymer.

Organic (Cork-Based) Systems: These systems are made of 100% cork that is derived directly from cork trees.

Ecomax: This system uses an extruded composite of recycled turf and thermoplastic elastomer (TPE).

Zeofill: This is a 97.6% pure Clinoptilolite zeolite, a product based on volcano ash that landed on purified water. It is a product that has seen popular use in dog parks.

Nike Grind: Another one of those proprietary systems mentioned earlier, this is a product containing rubber from running shoes.

Organic (Fiber-Based): This is a field that includes infill primarily made out of coconut husks, peat and rice husks.

TPE (Thermoplastic Elastomer): TPEs are elastomers with both thermoplastic and elastomeric properties.

Again, these are a few of the alternatives out there. Others are available, and you can pretty much rest assured that plenty more are in development.

So what's the bottom line? The bottom line, of course, is that alternative infills are growing in popularity, and field builders are gaining experience with them. Those who are in the market for a new field, or for a replacement field, and who have become interested in an alternative system, should be sure to ask the important and relevant questions that would be asked regarding any sports surface:

- What is the cost for this system?
 - How readily available is it? Can it be ordered easily?
 - What is the warranty on this product? What is and is not covered? Who will address any problems?
 - What pile height is recommended for this system?
 - Does it require a shockpad? (Some do, some do not, but you should ask since this can affect the total cost.)
 - Where does the infill come from?
 - How much maintenance does this system need on a daily, weekly, monthly, etc. basis?
 - What specific type of equipment will be needed to maintain it?
 - What can I expect from this system? For example: what can I expect over the first few weeks or months? Will there be migration of infill? Will it pack down over time and become firmer? How long will that take? How often does it need irrigation? How does it respond to heavy rains? Will this system look, feel or smell any different to my athletes?
 - Does it hold heat?
 - Is this product recommended for my geographic area?
 - Will this product hold up to the type of use I expect it to get? Is there any type of activity that is not recommended?
 - What is the protocol for end-of-life for this product? Can it be recycled? How should it be disposed of? Who do I call?
- That sounds like a lot of questions, but a new surface, whether for a tennis court, a gymnasium floor or a sports field, is always a big decision. You want to make sure you get what is

best for your facility, your athletes, your budget and those who will be maintaining the field.

A few other points:

Many new infills are more expensive than crumb rubber; this is the case with many newer products on the market, and the sports industry is not exempt, obviously.

In addition, many of the new systems on the market lack long-range performance data. This is not a criticism of any one system; it is simply a fact since many of them are first-generation products. They may, in fact, provide excellent performance, but because they are still so new, there have not been as many long-range studies. It is a sure bet that such studies will become available over time, and that they will be made available to potential buyers.

Seek advice from a professional sports contractor and in particular, one who has extensive experience in sports fields. The American Sports Builders Association, for example, offers its Certified Field Builder (CFB) program, which is a voluntary certification for those who wish to demonstrate their knowledge of sports facility design and construction. The Certified Field Builder program, in fact, includes two other certifications: CFB-N (for those specializing in natural grass fields) and CFB-S (for those specializing in synthetic fields.) The CFB designation indicates knowledge of both types of fields. Information on the Certified Field Builder program is available

on the American Sports Builders Association website. In addition, find out if there is a licensed design professional in your area who has been working with sports facilities. The experience that can be brought to the table by sports specialists can help you make the best decision possible.

Find out if others in your area, such as athletic directors, field managers or sportsplex administrators have experience with fields with alternative infill. Get their feedback and recommendations.

So, given the options, is there any recommendation as to the right field? As always, the right field is what is right to the buyer, the athletes who use it and those who maintain it.

Mary Helen Sprecher is a free lance writer who provided this piece on behalf of the American Sports Builders Association, a non-profit association helping designers, builders, owners, operators and users understand quality sports facility construction. The ASBA sponsors informative meetings and publishes newsletters, books (including the publication, Sports Fields: A Construction and Maintenance Manual. It also offers its voluntary Certified Field Builder program. Available at no charge is a listing of all publications offered by the Association, as well as the ASBA's Membership Directory. Info: 866-501-ASBA (2722) or www.sportsbuilders.org.



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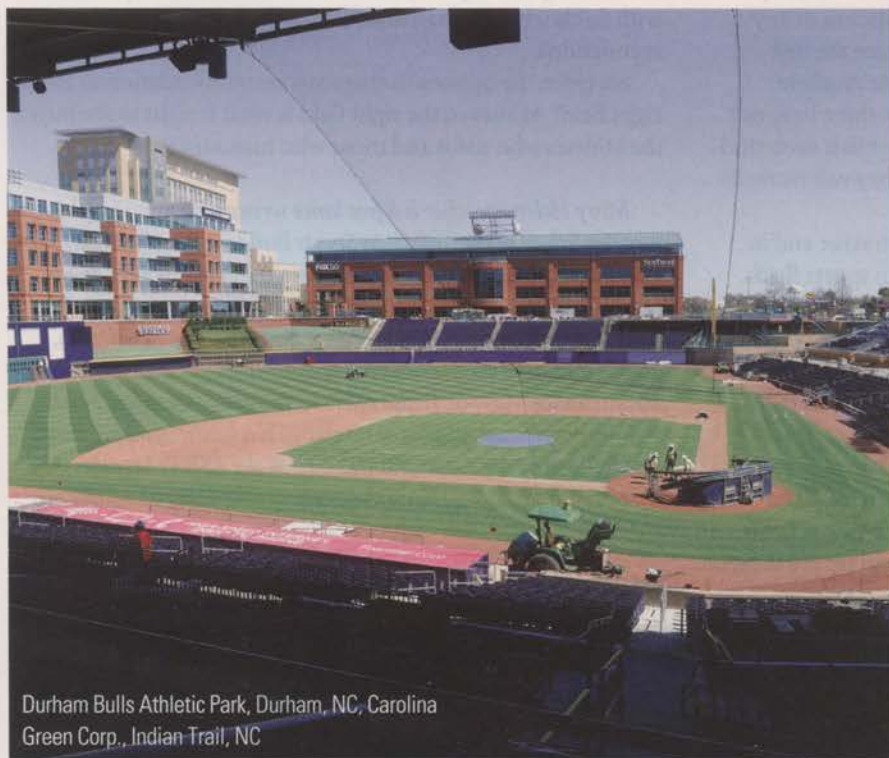
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Durham Bulls Athletic Park, Durham, NC, Carolina Green Corp., Indian Trail, NC

Lhe American Sports Builders Association (ASBA), the national organization for builders and suppliers of materials for athletic facilities, has announced the winners of its annual awards. Awards are presented each year to facilities built by ASBA members, which best exemplify construction excellence.

Awards are presented in various categories: Tennis Courts, Running Tracks, Sports Fields, Indoor Facilities and Track and Field Facilities. Within some categories, there are divisions; for example, the Tennis Court category recognizes facilities in Indoor, Residential and Outdoor divisions.

Projects are scored individually based on considerations such as layout and design, site work, drainage, base construction, surface, amenities, innovation and overall impression. Winning entries are

those whose cumulative scores meet or exceed the standard.

Winning projects are as follows:

Distinguished Field Facilities

Single Field Facilities

Durham Bulls Athletic Park
Durham, North Carolina
Carolina Green Corp., Indian Trail, North Carolina

Nusenda CU Community Stadium
Albuquerque, New Mexico
Robert Cohen Co. LLC, Albuquerque, New Mexico

Spicer Field at Tufts University
Medford, Massachusetts
Stantec Sport, Boston, Massachusetts

University of California–Davis
Davis, California

Siegfried Engineering Inc., Sacramento, California

Xaverian Brothers High School
Westwood, Massachusetts
Activitas Inc., Dedham, Massachusetts

Multiple-Field Facilities

Folsom Lake College
Folsom, California
Blair, Church & Flynn Consulting Engineers, Clovis, California

Indian Hill High School
Cincinnati, Ohio
Sportworks Field Design, West Chester, Ohio

Distinguished Track Facilities Distinguished Outdoor Track Facilities

Jefferson High School
Jefferson, Texas
Fisher Tracks Inc., Boone, Iowa

Olney High School Stadium
Olney, Texas
Fisher Tracks Inc., Boone, Iowa

Somerset Junior High School
Somerset, Texas
Fisher Tracks Inc., Boone, Iowa

The Woodlands High School Stadium
The Woodlands, Texas
Fisher Tracks Inc., Boone, Iowa

Whiteface High School Stadium
Whiteface, Texas
Fisher Tracks Inc., Boone, Iowa

Distinguished Track & Field Facility

Torrington High School
Torrington, Connecticut
Gale Associates Inc., Weymouth, Massachusetts

Distinguished Tennis Facilities

Distinguished Outdoor Tennis Facilities

Harbour Ridge Yacht & Country Club
Palm City, Florida
Welch Tennis Courts Inc., Sun City, Florida

Life Time Fitness Center
Centennial, Colorado
L.E.R. Inc., dba Renner Sports Surfaces,
Denver, Colorado

Sundial Resort
Sanibel Island, Florida
Welch Tennis Courts Inc., Sun City, Florida

Xavier University Brockhoff Family Tennis Facility
Cincinnati, Ohio
Sportworks Field Design, West Chester, Ohio

Distinguished Residential Tennis Facility

Alsop Residential Court at Haven Hill
Beverly Farms, Massachusetts
Boston Tennis Court Construction Co. Inc., Hanover, Massachusetts

Within each category, specific facilities were chosen from among all winning entries to represent the best of athletic facility construction. The winners were as follows:

TRACK DIVISION

Outstanding Outdoor Track Facility of the Year

California State University—Long Beach
Long Beach, California
Siegfried Engineering Inc., Sacramento, California

Silver Award

Kezar Stadium
San Francisco, California
Verde Design Inc., Santa Clara, California

Bronze Award

Oakland Athletic Complex at Perham Field
Dawson County High School
Glendive, Montana
Fisher Tracks Inc., Boone, Iowa

Outstanding Track and Field Facility of the Year

Norwell High School Athletic Complex
Norwell, Massachusetts
Gale Associates Inc., Weymouth, Massachusetts

TENNIS DIVISION

Outstanding Outdoor Tennis Facility of the Year

Bell Recreation Center
Sun City, Arizona
Sunland Sports, Phoenix, Arizona

Silver Award

Belle Meade Country Club
Nashville, Tennessee
Welch Tennis Courts Inc., Sun City, Florida

Bronze Award

Bishop Manogue Catholic High School
Reno, Nevada,
Tennis and Track Co., Salt Lake City, Utah

Outstanding Residential Tennis Facility of the Year

James Goldstein Residence
Los Angeles, California
Zaino Tennis Courts Inc., Orange, California

Silver Award

Nelson Residence
Wisconsin Dells, Wisconsin
Munson Inc., Glendale, Wisconsin

Bronze Award

Miami Beach Residence
Miami Beach, Florida
Fast-Dry Courts Inc., Pompano Beach, Florida

FIELDS DIVISION

Outstanding Single-Field Facility of the Year

Santa Fe High School Ivan Head Stadium
Santa Fe, New Mexico
Nominated By: Lone Mountain Contracting Inc., Bosque Farms, New Mexico

Silver Award

University of Oregon—Pape Field
Randy & Susie Pape Complex

Eugene, Oregon
Cameron McCarthy Landscape Architecture & Planning, Eugene, Oregon

Bronze Award

Cameron School District—Youth Athletic Facility
Cameron, Wisconsin
Rettler Corp., Stevens Point, Wisconsin

Outstanding Multi-Field Facility of the Year

Stagg High School
Stockton, California
Verde Design Inc., Santa Clara, California

Silver Award

Grand Park
Westfield, Indiana
The Motz Group, Cincinnati, Ohio

INDOOR DIVISION

Outstanding Indoor Tennis Facility of the Year

Tuscaloosa Tennis Center
Tuscaloosa, Alabama
Nominated By: Lower Bros. Co. Inc., Birmingham, Alabama

Outstanding Indoor Track Facility of the Year

Carl Maddox Field House at Louisiana State University
Baton Rouge, Louisiana
Nominated By: Mondo USA Inc., Laval, Quebec, Canada

For information on the ASBA, as well as on its publications, activities and upcoming meetings, please contact the Association at 9 Newport Drive, Suite 200, Forest Hill, Maryland, 21050, 866-501-ASBA, www.sportsbuilders.org, or via e-mail at info@sportsbuilders.org.

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Blue Eagle Softball Complex, Clover School District, Clover, SC

Category of Submission:

Schools/Parks Softball

Sports Turf Manager: Will Rogers, CSFM

Title: Sports Turf Manager

Education: Sports turf management certification

Experience: 2 years at Clover Recreation Department;

Athletic Fields Assistant Manager; 5 years at City of York

Recreation Department: Sports Turf Manager; 2 years at

River Hills Golf Course: Fairway Turf Specialist; 17 years

at Clover School District: Sports Turf Manager

Full-time staff: Will Rogers, Lee Clinton, and T.C. McCarter

Part-time staff: Frank Falls, Shea Hall, and Allison Knapp

Volunteers: Ryan George, Brooke Rhinehardt,
and Brittany Rhinehardt

Original construction: 1986

Rootzone: Native soil, sandy loam

Turfgrass variety: Common bermudagrass

Overseed: Overseeded yearly with PHD Perennial Rye Grass

Blend; Overseeded in 3 different directions at a rate of
10lbs/1000 sq. ft.; Seed germination within a week.

Topdressed with locally blended organic and sand material

Drainage: No drainage system

EDITOR'S NOTE:

Below is a short essay on teamwork written by 2015 STMA Schools/Park Softball Field of the Year winner Will Rogers, CSFM. He sent us this essay rather than answer questions in our usual format because Rogers also won a 2014 FOY Award, for Schools/Parks Football, and answered similar questions in our October 2015 issue.

[TEAM]

Do you ever wonder some teams have all the talent, but do not win? Or how some teams have more money than others, but still struggle? Here in Clover, SC we don't have the most money, and the four of us in our crew know we don't have the most talent, but TEAM works. Whether by accident, dumb luck or just God knowing what he was doing (he always does by the way), the four of us are together and are a testament to how team does work.

First of all, we genuinely like each other. We wish this were the case of everyone in this world. Could you imagine what it would be like if everyone enjoyed their careers, and didn't mind going back to work on Monday?

I'm not saying everything here is perfect. We like the occasional day off, but we are always talking at night and on the weekends about things we need to do or do better. And I'm not saying we don't disagree at times, but everyone's opinion is valued and appreciated.

Secondly, we all have different strengths and weaknesses, and understand that. If someone is passionate about a certain project, we let them take the lead on it and the rest of us pitch in. We have each other's backs. We share in our wins and losses.

In this profession, when you have so many variables thrown at you like scheduling conflicts, weather, and budget issues, you

better be ready for your share of losses. We have them and we know you do, too.

Lastly, we are always trying to better ourselves. Whether it's my attaining my CSFM certification, Lee Clinton's going to work at the Little League World Series, our involvement with the South Carolina STMA Chapter, or all of us attending the STMA Conferences, we are all trying to learn how to do things better.

We are blessed to have won a national STMA Field of the Year award 2 years in a row. It's an honor that we don't take lightly. We see pictures of fields around the country, and are in awe of the talent we have in this profession. It's a profession of which we all should be proud. The STMA allows us to be a team on a national level. It allows us to collaborate with colleagues on a local and national level. It allows us to have each other's backs and be an advocate for our profession. It allows us to use each other's strengths and weaknesses, and help each other in areas we need help. It provides us education opportunities to learn new methods, ideas, and technology.

[TEAM] it's a word that works. It works here in Clover, and works for the STMA. **ST**



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

Why STMA should consider your field a winner?

The Blue Eagle Softball Complex is known statewide, nationwide, and even worldwide for its beauty and playability. Opposing teams always enjoy coming to Clover to play at our facility. Eagle Eye Radio now broadcasts all our games on Periscope and can be viewed online around the world. Families of our players that live around the country, Clover citizens who have moved to other areas, and family members serving in the military were able to watch all of our home games online. The comment section on Periscope was filled with how good the field looked on their computer. It's those comments, and the comments of those who visit the field in person, that make our jobs a labor of love.

Blue Eagle Softball Complex had a great year, but it didn't come without challenges. Our facility is 29 years old and was in need of some drainage upgrades. This winter proved to be a tough one on the weather front. February took a toll on the field. Three straight days of lows in the teens, 2 days of snow, and 7 inches of rain in 7 days were huge obstacles to overcome. February also proved to be a tough month for us on the personnel side of Sports Turf. The maintenance coordinator was replaced in February, and new management took over. Expectations and priorities change under new management. Sometimes it felt as though Sports Turf was put on the back burner. There were days of being moving men, days of painting, days of doing construction clean up, and days of cleaning roof drains and gutters. The district passed a new bond referendum adding new synthetic turf fields, a new aquatic center, a new middle school, and a new elementary school. Many people wouldn't understand what this means to a simple softball complex, but it really takes a toll on manpower and funding. Man-hours that were spent at the softball complex are now spent cleaning up around construction projects and sweeping synthetic carpet. Funding that was given for extra projects for fields was now withheld in an effort to be good stewards of taxpayers' money, while building projects were being completed. This summer was also a challenge at Blue Eagle Softball Complex. Our irrigation system is fed by wells. Our outdated compressor kept our water pressure so low that we were not able to properly irrigate the fields early in the summer. We had 61 days over 90 degrees this summer to compound the irrigation problem. These challenges were met with teamwork, patience, unpaid weekend hours, the cooperation of teams and players, and the installation of a new drainage system along the backstop.

Over the past year, there have been many upgrades and addi-

tions to Blue Eagle Softball Complex. The Sports Turf Staff, in conjunction with coaches, students, faculty, and players, made many improvements. The Building Construction class built new benches and helmet racks in the home dugout. New signs were hung on fencing, the concession stand, press box, and dugout. New hitting stations were added to batting cage areas. New bullpens were added to each side of the field. Concrete

was poured for new bleachers, handicap accessibility, and lawn chair areas. A memorial area, including a bench and flowers, was added to remember fans and parents lost due to cancer. An area behind dugout was added to place tiles for past players who went on to play college softball. Blue

Eagle Softball Complex is a facility that is always looking for ways to upgrade to remember the past, honor the present, and look toward the future.

The Sports Turf Crew also had a great year. The Sports Turf Crew received the National Field of the Year Award for Memorial Stadium in November. Will Rogers received his

CSFM Certification in May. Lee Clinton had the opportunity to work on the Grounds Crew of the Little League World Series. These are accomplishments that we are proud of, but not what defines us. They are opportunities to better ourselves, serve others, and highlight the great profession of which we are a part.

This year was also a special year for the Lady Eagles. We were honored to host Game 2 of the State Championship series versus Summerville. It was the first time in school history a state championship game was hosted here in Clover. We feel Lady Eagle Softball Complex was the ultimate home field advantage. Opposing teams and fans commented how the complex was an intimidating place to play because everyone in the community had bought in to the field being a "Sacred Acre to Defend." Lady Eagle Softball Complex is a special place. It was the canvas for a state championship season to be painted. It was a place where memories are made every day. Most importantly, it's proof of what can be accomplished when everyone "buys in." That is why we believe Lady Eagle Softball Complex should be considered for Sports Turf Managers Association National Field of the Year. **SI**



John Mascaro's Photo Quiz

Answers from page 31

John Mascaro is President of Turf-Tec International

This brown area in the center of the collegiate football stadium field is the result of the college's graduation. This past spring was the first year the University of Florida decided to have the graduation ceremony on the Ben Hill Griffin Stadium field during a typical warm Florida spring. The sports turf manager applied a growth regulator and a fungicide to the turf before the flooring was placed on a little over half the field's surface. The field was covered for 8 days and when the flooring was removed, you could see this pattern. The brown area was the area where the stage was located on top of the flooring, which also happened to be over the 50-yard line logo area. The reason why this area turned brown as compared to the rest of the turf is that the flooring allowed sunlight to pass through it but the stage area did not. After the flooring was removed, the field was aerified and fertilized. Recovery only took about 10 days.

Photo submitted by Dr. Jason Kruse, associate professor, turfgrass specialist at the University of Florida. Jason Smith is coordinator of turfgrass at the University of Florida in Gainesville.



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

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NEW PRODUCTS

JOHN DEERE LANDSCAPES REBRANDS AS SITEONE LANDSCAPE SUPPLY

John Deere Landscapes rebranded as SiteOne Landscape Supply. With more than 460 locations in 44 states and five Canadian provinces, SiteOne is the largest wholesale distributor of landscape supplies in North America.

"As SiteOne, our vision is to leverage the passion and knowledge of our 2,700 dedicated associates, along with our commitment to excellence in product offerings and service delivery, to make our customers the most successful landscaping professionals in the green industry," said Doug Black, chief executive officer of SiteOne.

SiteOne offers an extensive array of product lines for green industry professionals, including wholesale irrigation, outdoor lighting, nursery, landscape supplies, fertilizers, turf protection products, grass seed, turf care equipment and golf course accessories. SiteOne associates offer expertise to help professionals operate their landscape businesses professionally and profitably.

HERBICIDE WITH LESS ACTIVE INGREDIENTS

Intellagro introduced Civitas WeedFree brand concentrate. It is a hybrid selective herbicide with Microtechnology that delivers the performance the market needs with fewer active ingredients, no offensive odor and a fast response rate. The patent-pending Microtechnology minimizes the proven three-way mix of active ingredients while maximizing their efficacy through enhanced penetration of the product into the plant. This provides several benefits for both the applicator and customer. The fast-acting absorption and reduced active ingredient formula results in no offensive odor and visible injury on weeds within 12 hours. In addition, the white emulsion produced when sprayed identifies areas that have been treated, eliminating duplication of efforts and reducing callbacks. These features help lawn care operators and landscapers protect their bottom line while delivering on increasing customer expectations.

EXMARK EXPANDS SUSPENDED OPERATOR PLATFORM

Exmark added suspended operator platform-equipped 52-inch Lazer Z E-Series and 72-inch Lazer Z X-Series options to the existing 60-inch options in both models for the 2016 model year. The suspended operator platform uses three coil-over hydraulic dampers to significantly reduce the impact of bumps and vibration. It provides 3.6 inches of travel in vertical and fore-aft directions, with trailing arms to limit lateral travel and increase operator stability. The suspended operator platform significantly reduces the negative effects of mowing rough terrain on the operator. The design is easily adjustable for operator weight and ride quality preference without tools, making it easy to achieve the desired ride quality for any operator. There's no harsh bottoming, regardless of operator weight, and the design eases access to hydrostatic drive system components, making routine maintenance easier to perform.



NEW BOBCAT MT85 MINI TRACK LOADER

Bobcat Company introduced the all-new MT85 mini track loader that has a 35-percent-higher rated operating capacity (ROC) than prior mini track loader iterations, rated at 850 pounds, to lift, carry and dump materials. For additional productivity, MT85 operators can lift materials higher with an increase of 12 percent in lift height. For hard digging conditions, the lift arm breakout force has been increased by 29 percent from the smaller MT55 mini track loader. A change from prior Bobcat mini track loaders, the new MT85 is designed with dual ISO joystick controls. The loader's drive function is controlled by the left-hand joystick. The right-hand joystick controls the loader's lift and tilt functions. Gauges and dials on the loader's dash panel remain unchanged from the MT55. A new operator presence/safety pedal regulates the auxiliary hydraulic flow for use with approved attachments. The pedal must be engaged when the operator is using an attachment with detent hydraulic flow.

JACOBSEN MAKES ORANGE SPLASH

In addition to launching the Jacobsen Professional Series, which includes three lines of zero-turn mowers and seven different models of utility vehicles, Jacobsen also sponsored Kellie Pickler's Thursday night concert at 4th Street Live!

The flagship of Jacobsen's new Professional Series is the RZT line of ride-on zero-turn mowers, which provide the power and performance to handle any turf job with ease. The new Jacobsen utility vehicles are led by the diesel-powered Truckster HX, featuring a large capacity of 1,6200 pounds and a top speed of 24.9 mph.

"The GIE+EXPO is the ideal launching point for our new Professional Series of mowers and utility vehicles and our message to the market," said David Withers, president of Jacobsen. "Because we've been around since 1921, many folks are familiar with our brand and associate Jacobsen with the professional end of the market. The GIE+EXPO gives us the opportunity to broaden our customer base. The show also gives us a chance to meet with distributors interested in carrying our new line of products."



NEW PRODUCTS

ECO 250 TOPDRESSER

Ecolawn Applicator introduces a New Generation of top dressers, the ECO 250 Top Dresser. A walk behind self-propelled broadcast spreader, the ECO 250's controls and levers are ergonomically designed for comfort, control, and accessibility. A newly designed hopper eliminates material bridging with smooth, steep sides and its live conveyor system and agitator maintain steady material flow for consistent even spreading. The ECO 250 Top Dresser is lightweight, highly maneuverable and handles wide open lawns and turf areas with speed and ease. Features include broadcast spreader, 180-spread with dual reverse spinner mechanism, 5.5-hp Honda GX 160 engine, walk-behind self-propelled, weighs 314 pounds.



NEW REELS FROM TORO FOR DUAL POINT ADJUSTMENT UNITS

Toro's reel cutting systems have been improved and subsequently integrated with Toro's new EdgeSeries reels, which are currently, or will soon be, available on all Toro Greensmaster walk and riding greensmowers, Reelmaster fairway mowers, and as replacement parts. The new EdgeSeries reels feature updated blade materials for a longer reel life, which in turn, reduces maintenance costs and increases golf course productivity. Additionally, the new reels provide an improved blade angle to promote the overall health of turfgrass by providing a cleaner and healthier cut, while at the same time reducing backlapping and grinding. Low-friction seals and

bearings are also available on cutting units for select Greensmaster and Reelmaster models that, when combined with the new EdgeSeries reels, improve fuel efficiency and maximize the overall productivity of the cutting system. Toro's EdgeSeries reels are available in a number of sizes and blade configurations to fit Toro Greensmaster and Reelmaster models.



NEW STIHL BATTERY-POWERED PROFESSIONAL TRIMMER


The professional FSA 90 R trimmer, part of the Stihl battery KombiSystem, combines the low maintenance and cost-effective benefits of Stihl Lithium-Ion battery technology with the power of Stihl. Quiet yet powerful, this cordless trimmer is great for professionals landscaping in noise-sensitive or exhaust-emission-sensitive areas. It also saves users time and money by eliminating the need for gasoline and two-cycle oil. Professionals get the performance they need with the powerful brushless motor, which delivers a high cutting speed and 15-inch cutting width. This allows users to complete jobs in a short amount of time. FSA 90 R comes standard with durable AutoCut 25-2 mowing head loaded with .095-inch Quiet Line.

HONDA POWER EQUIPMENT VERSATTACH MULTI-PURPOSE SYSTEM

Honda Power Equipment entered the split-shaft trimmer market with an all-new product offering, the Honda VersAttach multi-purpose system. Featuring two powerhead options and six different attachments, the VersAttach System combines the power and reliability of Honda 4-stroke engines with a robust lineup of tools. The VersAttach system offers two powerhead models, the UMC425, powered by a Honda GX25 mini 4-stroke engine, and the UMC435, powered by a GX35 mini 4-stroke engine. Each model can be paired with an optional interchangeable edger, line trimmer, blower, hedge trimmer, pruner and cultivator that fit quickly and securely into the attachment shaft by way of Honda's SureLoc joint locking system. The SureLoc joint locking system is a two-position joint mechanism that operates with a click and a twist, allowing the user to easily connect and disconnect attachments with no tools required.



GRAVELY UNVEILS REDESIGNED PRO-TURN 200 AND 400 MOWERS

Gravely unveiled a redesigned series of Pro-Turn 200 and Pro-Turn 400 commercial zero-turn mowers. Redesigned from the inside out, the new Gravely Pro-Turn 200 and 400 series feature smarter components, a smoother ride and more intuitive controls. With the launch of these new units, Gravely introduced to the market a constant-belt tensioning system, which enhances overall performance. The new system maintains a constant belt tension, which produces a consistent blade tip speed; eliminates belt slippage, which can damage belts and pulleys; improves engine efficiency and reduces the load, which saves fuel and engine life; and eliminates spring adjustments, which saves time by ensuring consistent cut quality. In addition, the new deck level system features an exclusive design requiring only a four-point adjustment, reducing parts by 50 percent, which helps the mower maintain its best cutting performance. The deck level system also eliminates deck hanger welds, resulting in a flat deck and improving cut quality. 



STMA announces election results

STMA names those elected to its 2016 Board of Directors. The board includes:

- **Immediate Past President,**
Allen Johnson, CSFM,
Green Bay Packers, Green Bay, WI
- **President,**
Jeffrey Salmond, CSFM,
University of Oklahoma,
Norman, OK
- **President-Elect,**
Tim Van Loo, CSFM,
Iowa State University, Ames, IA
- **Commercial VP,**
Doug Schattinger, Pioneer Athletics,
Cleveland, OH
- **Secretary/Treasurer,**
Sarah Martin, CSFM,
City of Phoenix, Phoenix, AZ
- **Academic Director,**
Beth Guertal, PhD,
Auburn University, Auburn, AL
- **Higher Education Director,**
Nick McKenna, CSFM,
Texas A&M, College Station, TX
- **Parks & Recreation Director,**
Jimmy Simpson, CSFM,
Town of Cary, Cary, NC
- **At-Large:**
Elected Director, Weston Appelfeller,
CSFM, Columbus Crew SC,
Columbus, OH

Two directors have one year remaining in their terms and were not up for election. They are the Director representing Professional Facilities, **Dan Bergstrom, Houston Astros**, Houston, TX; and the Director representing Schools K-12, **Bobby Behr, CSFM, Ashley Ridge High School**, Summerville, SC.

President Salmond made two appointments during the STMA Annual Meeting January 21 to fill open positions. Jeffrey Fowler, Penn State University Extension, was appointed to an At-Large position, and Randy Price of Tri-Tex Grass to Commercial Director. **ST**



Allen Johnson, CSFM



Jeffrey Salmond, CSFM



Tim Van Loo, CSFM



Doug Schattinger



Sarah Martin, CSFM



Beth Guertal, PhD



Nick McKenna, CSFM



Jimmy Simpson, CSFM



Weston Appelfeller, CSFM



Dan Bergstrom



Bobby Behr, CSFM



Jeffrey Fowler

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50%

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of the 2,600 STMA members
from 33 chapters around the
country have never donated

We rely on individual donations for
of our total funding

60%

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Sources: Centers for Disease Control and Prevention (www.cdc.gov)
& The American Academy of Orthopaedic Surgeons (www.aaos.org)

STMA Committee service closes February 11; volunteer online today at STMA.org

STMA relies on its more than 20 committees and task groups to help to advance its strategic plan. Each committee member is appointed by the President and committees begin their work March 1. Most committee work is completed via conference calls, usually two to six per year. Some active committees, such as the Past President's Council, are not open for volunteers.

This year STMA will have the following committees:

Awards: To judge the association's awards program applicants selecting the Field of the Year winners and the Minor League Baseball Sports Turf Manager of the Year; to develop strategies to enhance the programs. (Approx. 20 hours Mid-Oct. to Mid-Nov.)

Bylaws: To develop association bylaws, which are fair and enforceable, and clearly define the expectations for membership, governance processes and board of directors service. (Approx. 3 hours per year)

Certification: To develop strategies to grow the number of certified members; to consistently monitor the program and recommend enhancements to ensure that the program is the top achievement for sports turf managers. (Approx. 12 hours per year)

Certification Review Panels: (CSFM Members ONLY) To consider alleged violations of any Application or Certification Standard. Panels may be established as standing panels. Members may be assigned to one of three panels (These panels are called into operation only if there is a concern of possible violation).

Chapter Relations: To create a chapter structure that is beneficial locally and nationally; to financially assist chapters with their administrative, operations and educational efforts; to facilitate the sharing of best practices. (Approx. 8 hours a year)

Conference Education and Tours subcommittees: To develop all content, sessions, workshops and off-site venues, and select speakers and moderators for the next year's conference that will make it a "must attend" event for members and nonmembers; to recommend strategies that will drive attendance to the exhibition

and will add value to exhibitors. (Education - approx. 12 hours over 2 months; Tours - approx. 6 hours per year)

Commercial Advisory Council: To provide a forum to exchange ideas on how STMA can better serve and engage its commercial members and how this segment can help to advance the association. (2-year commitment - Approx. 16 hours per year; not available for sign-up)

Editorial: To insure that the STMA magazine contains information relevant to the sports turf manager; to provide ideas and contacts for articles for publication. (Approx. 6 hours per year)

Environmental: To develop environmental strategies that position STMA and its members as leaders in environmental stewardship and the related health and safety issues that impact fans and players. (Approx. 12 hours per year)

Ethics: To provide a fair and unbiased council to investigate claims of ethics violations, determine if the claim has merit, and shepherd the appeals process. (This Committee is called into operation only if there is an ethics violation claim).

Finance & Audit: To provide oversight of the STMA's financial resources by reporting information to the Board of Directors. (Approx. 5 hours per year)

Historical: To preserve the history of the association and the profession. (Approx. 24 hours per year)

Information Outreach: To develop educational and informational opportunities for members to enhance their personal and professional development. (Approx. 8 hours per year)

International: To position STMA as a global leader in sports facility management and make STMA the 'go-to' resource for those who work internationally in the industry. (Approx. 8 hours per year)

Membership: To develop initiatives to drive membership growth and retention; to recommend programs that add value for each member. (Approx. 8 hours per year)

Natural Grass Task Group: To develop strategies to promote the benefits and possibilities of natural grass for athletic fields. (Approx. 6 hours per year)

Nominating: The Immediate Past President chairs this committee selects its members. It must have representation from each category of membership. (Not available for general committee sign-up)

Past President's Advisory Council: Purpose: To advise the STMA Board on issues pertaining to the past, present and future of STMA. (Limited to STMA Past Presidents)

Scholarship: To judge the recipients of the SAFE Scholarships, the Terry Mellor Educational Grant and the Gary Vandenberg Internship Grant; to develop strategies to enhance these programs. (Approx. 12 hours over one month mid-Oct. to mid-Nov.).

Student Challenge: To develop the annual student challenge exam questions, answer key, and protocols; assist in proctoring the exam as needed. (Approx. 6 hours per year and volunteering at the conference)

Technical Standards: To help determine standards and best management practices needed in the profession and to guide the work of the ASTM on developing sports field and facility standards. (Approx. 4 hours per year) For 2016 this committee will be reactive, and called into service if there are issues with ASTM or other standards.

Website and Social Media: To insure that the STMA website contains information relevant to members, prospects and the green industry in an easily accessible and consumable format. (Approx. 4 hours per year). **ST**

STMA Affiliated Chapters Contact Information

STMA thanks new chapter sponsor, Team Premier Pro, which is part of Riverside Turf. Their latest grass release, PremierPRO, has a versatility not seen in other Bermudagrass varieties.

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

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.sfmnj.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

Texas Sports Turf Managers Association: www.txstma.org

Virginia Sports Turf Managers Association: www.vstma.org

Wisconsin Sports Turf Managers Association: www.wstma.org

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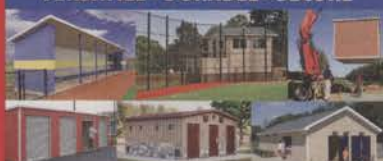
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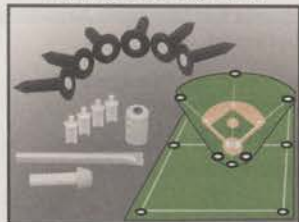
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1 What is your company's primary business? (check **ONLY ONE**)

- F ☐ Sports Complex G ☐ Athletic Field and/or Park Architect/Designer
T ☐ School, College or University P ☐ Park
H ☐ Other (please specify) _____

2 Which of the following best describes your title? (check **ONLY ONE**)

- A ☐ EXECUTIVE/ADMINISTRATOR — President, Owner, Partner, Director,
General Manager, Chairman of the Board, Purchasing Agent, Athletic Director
B ☐ MANAGER/SUPERINTENDENT — Superintendent, Landscape/Ground
Maintenance Manager, Foreman, Supervisor
C ☐ GOVERNMENT OFFICIAL — Government Commissioner, Agent, Other
Government Official
D ☐ SPECIALIST — Architect, Designer, Consultant, Agronomist, Horticulturist,
Certified Specialist
F ☐ COACH
E ☐ Other (please specify) _____

3 Do you have the authority to buy, specify or recommend products and/or services for your business or organization? Y ☐ Yes N ☐ No

4 Yearly operating expenditures (excluding salaries)

- F ☐ Over \$1 million C ☐ \$50,001 - \$100,000
E ☐ \$500,001 - \$1 million B ☐ \$25,001 - \$50,000
D ☐ \$100,001 - \$500,000 A ☐ \$25,000 and under

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Q&A with Pamela Sherratt

Questions? Send them to 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

Getting ready for early spring games

I received a phone call just before the holidays asking for my opinion on whether undersoil heating should be used over the winter period, to make sure a field was ready to host a game the first week of March. There was also some discussion about what maintenance practices could be carried out to get a field ready for play at a time when the turf is usually just breaking winter dormancy.

These types of questions are becoming more common as fields are being used for year-round events, sometimes as early as February. At Ohio State, the grounds crew strive to accommodate outdoor play as much as possible and have even ploughed snow before lacrosse games, but will move games indoors or to synthetic if the ground is frozen. Generally speaking, native soil athletic fields in the northern states are frozen from the end of December until mid-March, though winter 2015 has thrown a curve ball and soil is still in the mid-40's F into early January. Regardless of what dates soils freeze, the most important thing is to keep play off until there has been a thaw, not just at the surface, but also deeper into the soil profile. No rainwater or snowmelt can percolate through underlying ice to flow into the water table, but the rain and the melt might keep coming. That means that the little layer of thawed out soil on the top is quickly saturated, becomes mud, and can develop all kinds of surface compaction problems.

But back to the question: what kinds of things can be done to accommodate late winter/early spring sports like baseball, soccer and lacrosse? Turf managers at professional stadiums in the US have used soil heating systems to extend play into January, and turf managers in Europe use heat and supplemental lights and growth blankets to keep grass growing all winter long since their soccer season demands it. But if there are no games scheduled until March it

makes sense to let the field go dormant until a month before the event and then use heat, blankets and lights to wake up the turf.

One of the downfalls of using heat to keep grass growing throughout winter could be a surge in plant parasitic nematodes. During my visit to England last summer, turf managers told me again and again of problems with nematodes on their sand-based fields and their lack of options to control them, since pesticides are so heavily restricted. Garlic and mustard extracts were being applied weekly to try and combat the problem.

Seed is your best friend and it can be applied early, even when the soil is still going through the freezing and thawing cycle.

In addition to soil heating, supplemental lights and growth blankets, there are other things that can enhance early spring green-up. Selecting turf cultivars that have quick spring green-up is one option and is particularly important with Kentucky bluegrasses, since some varieties have long winter dormancy. Spring green-up rankings of turf cultivars can be accessed through the National Turfgrass Evaluation Program website (NTEP.org). Applying a late season fertilizer the previous fall is a common practice that results in earlier spring green-up. Spring applications of green dyes and slow-release fertilizers containing iron can also be useful to enhance color without excessive top growth.

I have done some studies with the plant growth regulator trinexapac-ethyl (TE) and seen very favorable results for early spring green-up after making applica-

tions the previous year. In one study, TE was applied every 2 weeks at half the recommended rate from April until the end of August and the following April the difference between the untreated and treated turf was incredible. The TE-treated plots were a dark green color but did not produce excessive top growth. From my experience, applications of TE would certainly be a viable option for turf managers with early spring games, and it would have no detrimental effect on any spring seeding or sodding operation.

Seed is your best friend and it can be applied early, even when the soil is still going through the freezing and thawing cycle. It will not germinate till soil temps are consistently in the 50's, but at least it is in place to do so as soon as those temperatures arrive. I am an eternal optimist and seed just about all year long if I see bare soil or thin turf. This past fall I was able to successfully renovate a football field well into November using that optimistic approach (and ryegrass).

Once soils have thawed completely, mowing as frequently as possible will help to remove brown leaf tissue and also promote tiller density. Late winter and early spring usually brings lots of rain, so practices that maximize drainage, like coring, tining, verti-draining and topdressing are also a good idea.

Lastly, early spring is the time when major outbreaks of weeds like prostrate knotweed and crabgrass occur, particularly on compacted, heavily used fields. There are several herbicides available now that can be used safely on newly seeded/sodded turf without causing turf injury, so they should be on hand.

To those of you hosting games in February and early March, good luck! Drop me an email and let me know if you have a spring green-up idea or tip that I have not covered here. **ST**

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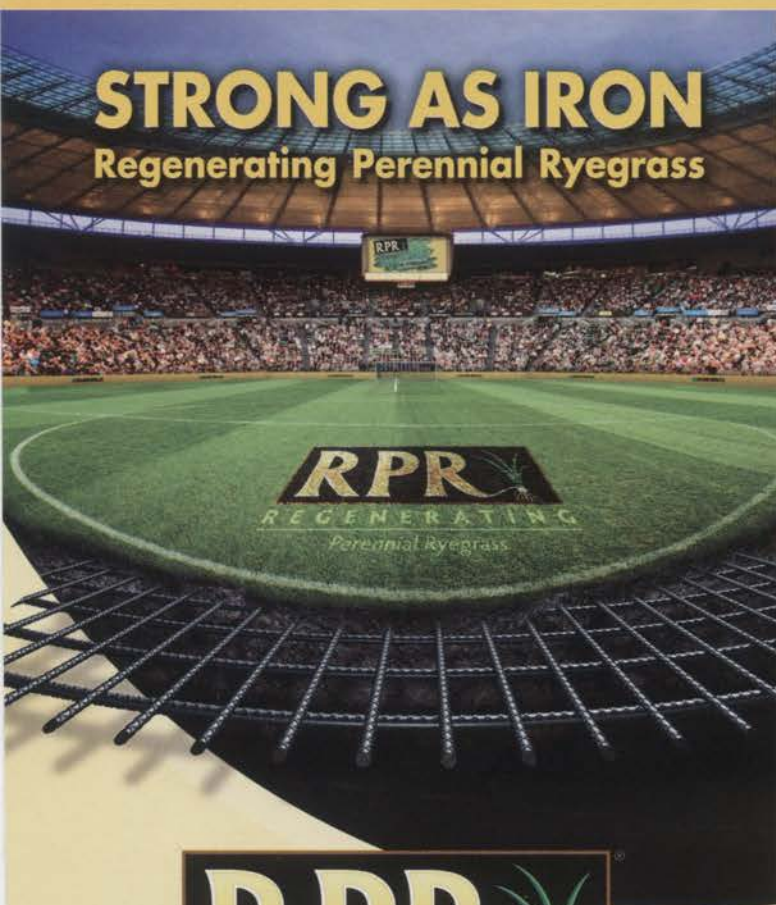


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