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SportsField

MANAGEMENT

January 2021

Vol. 37 No. 1

The Official Publication of the Sports Turf Managers Association

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Fertilizer Math

Expert insight into fertilizer
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



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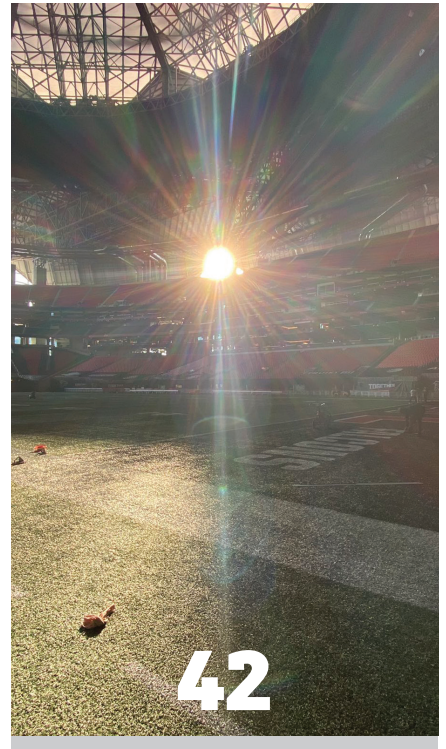
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Editor's Note



John Kmitta

Associate Publisher/
Editorial Brand Director
jkmitta@epgmediallc.com
763-383-4405

Happy New Year.

Wow, that sounds good. A new year always brings hope and anticipation for better days to come, as well as goals and plans to improve ourselves and the world around us. With 2020 in the rearview mirror, this new year brings even greater aspirations for health and happiness.

On a professional level, the upcoming STMA Conference and Exhibition brings excitement for the chance to interact (albeit virtually) with other industry professionals, see what is new on the market, and hopefully learn something new.

The industry's biggest event also ushers in a changing of the guard for various STMA board positions, committees, and, of course, the passing of the gavel to a new STMA President.

With that in mind, I want to thank outgoing STMA President, Jimmy Simpson, CSFM. Jimmy was one of the first people to welcome me and make me feel at ease as I took over lead ed-

itorial duties on the magazine (during the planning stages for the rebrand to *SportsField Management* no less). My interview with, and profile article of, President Simpson was my first real introduction to STMA, and I thank him for placing his trust in me to represent him, STMA and the industry well.

At this time last year, as we prepared for the STMA Conference and Exhibition in West Palm Beach, Fla., none of us — President Simpson included — could have anticipated the year and the challenges to come. But through his words and actions, he helped guide the association through these difficult times.

Jimmy always signed off his President's Message with the tagline "Collaborating in change together." In 2020 — in a year of so many major changes — I have no doubt that his emphasis on collaboration has been more important than ever, and that his leadership will continue to impact STMA moving forward and inspire all of us to work together for a better future. **SFM**

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Jim Cornelius, CSFM; Kiley Dickson, PhD;

Cliff Driver, CSFM; Scott Stevens, CSFM;

and Steve Ware

They say absence makes the heart grow fonder. Normally this time of year, we are all gearing up to meet at the Annual Conference and Exhibition, which had been scheduled for Palm Springs, Calif. I can tell you for certain that I

am feeling a major loss without us being able to gather as a group to kick off the new year. The annual conference has always been an opportunity to connect and engage with each other, and has always lifted my spirits as we started the year. Obviously, this year our event has been forced into a virtual environment in which many of us are not necessarily comfortable. I, for one, would much rather learn and interact in person. The virtual environment just does not work well for me. I have found over this past year that it is hard to connect and exhibit emotion of any kind in that environment, thus, making a connection with others becomes even harder. However, in a time when no matter how bad we want to be together, we cannot. The virtual option is the only choice, and it provides us the opportunity for some form of connection. While not our ideal, this form of connection served our membership well during the height of the pandemic, and hopefully it will do so again during the conference.

Absence throughout this year has made my heart grow fonder of our industry and its people. I am longing for the time when we



Jimmy Simpson, CSFM

STMA President

Jimmy.Simpson@townofcary.org

can all get back together and share our successes and failures among friends. This industry has provided me many opportunities, and none are greater than the opportunity to meet so many great people. I appreciate the patience and trust that this association had in me during the past year. It certainly was not an easy year, but I would not trade it. My goal at the beginning of the year was to collaborate in change together, and that is ultimately what I feel we have done. This association, due to the resilience of its members, has made substantive changes that will have a positive effect for years to come.

As the association moves forward, I encourage the membership, commercial partners, board of directors and headquarters team to continue to push for and embrace change to stay relevant well into the future. Thank you for the opportunity to serve as the president of this association; it has been the pleasure of my career. I am looking forward to the many bright days ahead. **SFM**

Collaborating in change together,
Jimmy Simpson, CSFM

Little Things Matter

By Pete Smith

The word “please.” A simple “thank you.” A handwritten note. Sometimes the simplest of gestures create the biggest impact in our lives — at home and at work.

Equally as powerful is the elimination of one phrase from our conversations — “I didn’t have a choice.”

A significance-based mindset recognizes that in every moment, of every day, in every situation, we always have a choice. What we don’t always like are the options from which we get to choose or the outcomes of our decisions.

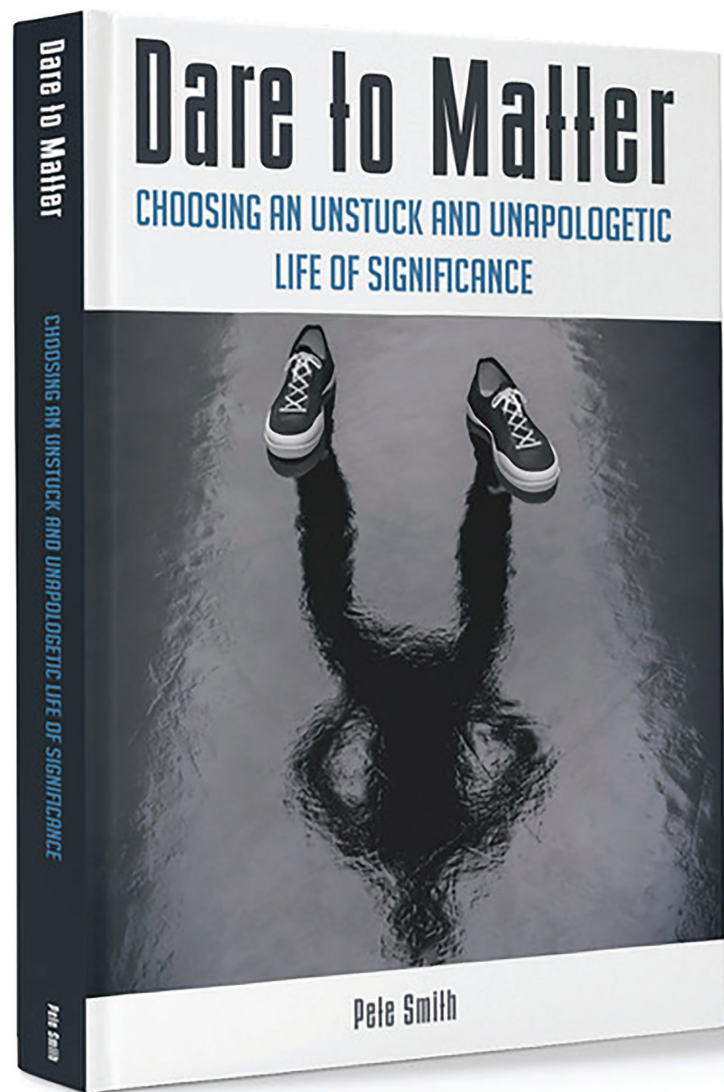
All too often, individuals, teams and organizations spend their time lamenting on the difficulty of the situation they face. When none of their options are convenient, easy or even desirable, it becomes easy to say they have no choice. When the outcome of their decision is not exactly what they had hoped or planned, it becomes easy to say they had no choice.

When one or both of these situations present themselves, the temptation exists to begin making excuses about their actions, or to place blame on someone or something else as to why they “had to” make the decision they made. At times, people may even rationalize their decision in order to make their decision make sense to the person with whom they are speaking.

Of course, no excuse, or blame or rationalization actually matters. It

rarely changes the current position that someone is in. What matters is the simple acceptance that a choice

was made in light of the options, an outcome was produced, and the next steps can now be considered.



Pete Smith is author of "Dare to Matter," which reached #1 Best Seller in the Human Resources and Personnel Management category and #2 Best Seller in the Business Motivation and Self-Improvement Category. "Dare to Matter" is available on Amazon.

We can want or prefer that things were different. We can be subjective in our thoughts and feelings about our options and the outcomes of our choices. However, we must also remain objective regarding the reality that we always have a choice.

If you want to increase accountability, responsibility, ownership and engagement at work, eliminate “I didn’t have a choice” from your conversations, and start encouraging people to ask, “What do I choose to do next?” The former creates a mindset that life is being done “to us,” and we’re simply the victims of circumstance. The latter reminds us that we’re still the ones steering the ship.

You don’t need a huge incentive program to start getting people engaged and motivated at work. Sometimes they just need to be reminded that, in good times and in bad, they always have a choice.

Little things matter, and that includes being more mindful that we always get to choose our next step. **SFM**

Pete Smith is an international speaker and coach in the fields of leadership, management, personal growth and development. His experience, concepts and tools have helped organizations improve their leadership effectiveness, elevate engagement at all levels, transform company cultures, and consistently perform at high levels.

As the keynote presenter for STMA’s 2021 Virtual Conference and Exhibition, Smith will be presenting “Dare to Matter: How Sports Field Professionals Rise to Significance.” At the conclusion of this presentation, attendees will: increase ownership, accountability and responsibility of self and others; implement a behavioral model that builds trust, impacts hiring and strengthens relationships; and identify why “guts and grind” are keys to success in calm and chaos. Smith’s keynote presentation will take place live online on January 13 from 2-3:15 p.m. EST. For more information, or to register, visit <https://www.stma.org/conference/>



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STMA Conference and Exhibition — Exhibitor Spotlight

The 32nd annual STMA Conference and Exhibition will be held virtually, January 12-13, 2021, and will include a virtual trade show. Attendees will be able to view products and equipment, meet with booth staff, and get their questions answered.

In order to shine a spotlight on the products and services being showcased during this year's virtual trade show, *SportsField Management* asked all exhibitors for insight into their companies and products. The following detailed listings are from exhibitors who responded to our request during November and December 2020.

For a full list of this year's exhibitors, please see the exhibitor list in the sidebar on page 18.

For more information about the 2021 STMA Conference and Exhibition, visit <https://www.stma.org/conference/>



AER-FLO, INC.

The PRO-Tector full infield cover from Aer-Flo, Inc. features an entire perimeter reinforced with 2-inch seatbelt webbing of 6,000-pound strength. Other Aer-Flo sports field products include:

- BP Zone infield and Bench Zone sideline turf protector. Made of virtually cleat-proof VIPOL Matrix Material in choice of 23 colors. Chroma-Bond imprinting adds the professional look.
- SOL-Aer winter turf blanket. Unique, non-woven, bi-component fabric. Silver lace coated or uncoated basic white.
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With three consecutive STMA Field of the Year awards under its belt, you know you can trust HGT. These blue-grasses have been carefully engineered by Barenbrug's turf experts to be extremely traffic tolerant, recover faster from stress, come up strong in the spring, and be resistant to summer patch and rust. To top it all off, Barvette HGT, a component of Turf Blue HGT, has consistently ranked #1

in recent NTEP trials, so you know that when you choose HGT, you're planting an award-winning grass.



BILLY GOAT

Built upon the most rugged foundation in the industry, Billy Goat's award-winning 18-inch hydro drive sod cutter, the SC181H, features a heavy-duty drive and cut system with a laser clad cutting blade for 3x blade life, and is a favorite for the sports field management industry. The unit's intuitive variable-speed fingertip hydro-drive controls allow matching cutting speed to ground conditions. And for seamless setup, the unit's Set and Forget blade depth adjustment to 2.5 inches offers a fast and easy start to any task on or off the field. Look for Billy Goat's new 24-inch coming this spring.



COLUMBIA SEEDS

Columbia Seeds is your cutting-edge innovator in the seed industry.

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2 way diploid PFG Blend	2 way diploid PFG Blend		3 way turf-type 19 Blend	turf-type 1-41 Huesca	turf-type 1-41 Huesca	4 way KRS Blend featuring Sandhore	4 way KRS Blend featuring Sandhore	2 way KRS Blend featuring Sandhore
	4 turf PFG		4 turf PFG	4 turf PFG	4 turf PFG	4 turf PFG	4 turf PFG	2 way diploid PFG Blend
			4 turf PFG	4 turf PFG	4 turf PFG	4 turf PFG	4 turf PFG	4 turf PFG

DLF PICKSEED

DLF Pickseed, as part of a global organization prioritizing the research and development of high-performance turfgrasses, offers products uniquely suited for the demanding sports turf market. DLF Pickseed has provided superior turfgrass varieties for, and agronomic support to, high-profile sporting events over the past two decades, including several FIFA World Cups. DLF Pickseed's turfgrass varieties are more than just acronyms, they perform as well in the field as they do on paper. This superior lineup is embodied within competition-grade blends and mixtures now available throughout the United States.

DURAEDGE

DuraEdge Products specializes in the production of top-quality engineered soil products for the baseball and softball field industry. Each of DuraEdge's stand-alone products undergoes rigorous product testing, ensuring consistent products and



predictable outcomes time after time. DuraEdge provides long-term soil solutions, not just seasonal quick fixes, to clients at every level of play — from community parks to professional stadiums. DuraEdge will also be sharing its booth with 4Most Sport Group, a design and consulting group that aims to reinvent the process by which athletic fields of all sizes and playing abilities are designed, built and maintained.



DURA-TRAC FLOORING

Dura-Trac Flooring by Sur-Loc manufactures the highest quality,

modular flooring system, transforming outdoor spaces into prestigious, multi-functional events. Dura-Trac panels come standard in charcoal grey and translucent. Sunlight easily penetrates the translucent panels, allowing turf to be covered longer with less risk of damage. The slide lock system is self aligning and allows adjacent panels to fit together seamlessly. The 2.75-inch-thick, 4-foot-by-4-foot panel weighs 50 pounds, providing superior strength and maximum stability. Handles heavy loads effortlessly. Offers excellent corrosion/chemical resistance, and can withstand temperature ranges from -10 to 110 Fahrenheit. Easy to clean.



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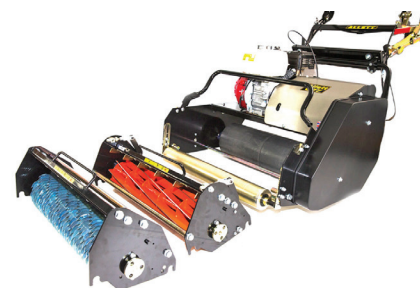
Maximize efficiency, quality and productivity with the Graco FieldLazer. When it comes to delivering brighter, longer-lasting lines in less time while using less paint, Graco FieldLasers are the industry's number-one choice of field marking machines — recognized by field maintenance professional worldwide.



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Whether it's natural or synthetic turf, GreensGroomer products maintain playing surfaces around the globe by focusing on innovative solutions to get the job done efficiently and effectively. Solutions utilizing high-intensity UVC light to disinfect the turf, destroying the DNA of harmful microorganisms; products that sweep up debris from the turf surface without displacing infill material and a magnet that pulls ferrous metals from the turf; and groomers engineered with precise brush dimensions and angles, allowing grooming in

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HUNTER INDUSTRIES

Hunter Industries is a family owned global company that provides high-quality, efficient solutions for the sports field irrigation industry. The new high-torque I-50 rotor further elevates Hunter's popular large turf rotors with increased resistance to dirty water systems while maintaining high-efficiency



performance. For cleaning and cooling synthetic turf fields, the complete ST-1600-KIT allows for long-range irrigation from the sidelines with top serviceability for maintenance. Control sports field irrigation with flexible two-wire control systems and multi-flow monitoring and management capabilities of Hunter irrigation control products. With free online training

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JOHN DEERE

Every field has a story. The best baseball fields are no different. Year after

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12 - 13

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MOUNTAIN VIEW SEEDS

From the wind-swept turfgrass plots of Enid, Okla., rises a new successor in cold-tolerant vegetative bermudagrass: Iron Cutter! Iron Cutter is the result of a 10-year research and breeding partnership from the legendary turf and forage breeder Dr. Charles Taliaferro (breeder of vegetative bermudagrass Patriot, Latitude 36, and Northbridge), Johnston Seed Co., and exclusive marketer Mountain View Seeds. Iron Cutter entered the National Turf Evaluation Program's (NTEP) 2013 Bermudagrass Trial as JSC-2-21-18-V, where it emerged as an ideal choice for turf

managers seeking better all-around consistency and the highest turfgrass quality across the entire reach of bermudagrass's growing zones.



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Pure Seed is a global leader in turfgrass genetics, achieving this through its “Research First” approach and world-renowned research program, Pure-Seed Testing. Pure Seed's team is dedicated to developing solution-based products that meet the demands of turfgrass professionals. This mentality has coined the phrase, “Varieties Make a Difference.” Join Pure Seed on a Virtual Field Day tour of its research program, hear from industry experts, and see for yourself why, “Varieties Make a Difference.”

PURSELL AGRI-TECH

The Pursell family has been in the business of agriculture for more than 100 years, and has long pioneered the use of polymer coating for the purpose of controlling fertilizer release rates and enhancing nutrient-use efficiency. To continue its legacy, Pursell Agri-Tech introduced PurKote Adaptive Nutrient Delivery system as a state-of-the-art, new and improved controlled-release fertilizer designed for use in turf and ornamental applications. PurKote is designed to meet your precise stan-

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SGN 150

SGN 240

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 - Mini MAP
 - Mini SOP
 - Mini Potassium Nitrate
 - Mini N-P-K
 - Micro Greens Grade Urea
 - Micro Greens Grade SOP

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dards, and offers the widest variety of substrates. PurKote is engineered to be as reliable and flexible as sports field managers expect it to be.



SEED RESEARCH OF OREGON

Seed Research of Oregon develops high-performance seed products through proprietary research and development, and offers the highest quality blends, such as Champion GO perennial ryegrass and Defiance! XRE turf type tall fescue. As a member of the DLF Group, Seed Research of Oregon has access to industry-leading seed production, infrastructure and resources. Leveraging global access and experience with superior products and services allows Seed

Research of Oregon to achieve its goal: The Germination of Ideas.



SIDEKICK



SIDEKICK

The award-winning* Sidekick is now available for multiple tractor models – including John Deere, Kioti, Kubota and Mahindra. With so many options, your specific taste

and turf installation needs are sure to be met. See the complete list of models below:

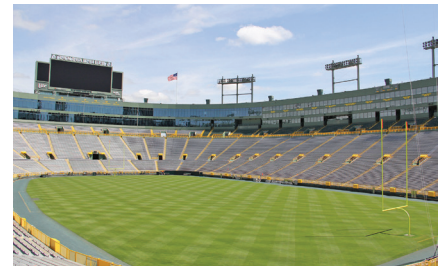
- John Deere** 1025 R and 2032 R
- Kubota B2650 (with optional A/C cab)
- Kioti** CK2610, CK3510 and CK4010 (all with optional A/C cabs)
- Mahindra Max 25 HP HST

* STMA 2013 Innovation Award

** Official Partner of John Deere and STEC Equipment (Kioti)

SPORTS FIELDS INC.

Fields, one of the Sports Fields Inc. companies, is a preeminent builder of fields and sports parks. Fields is committed to building fields and sports parks of distinction that facilitate peak



team performance; are constructed using the industry's best resources; and embody the essence of durability, precision, technological innovation, service and quality. By combining the premium quality of its fields with the best in customer care, Sports Field Inc. create fields and sports parks of distinction that wow teams, coaches and guests; and set the standard in today's field and sports park construction business.

Meet your new Workforce.



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The **NEW Torrent™ 2** takes debris cleanup to a whole new level. It's the fastest, most productive blower available with unprecedented power, precision and control to get your job done.



Topdressers

Choose from the most comprehensive line of spinner and drop-style topdressers available. **WideSpin™** and **Mete-R-Matic®** models handle a variety of mixtures, are easy to load, simple to operate and super efficient.

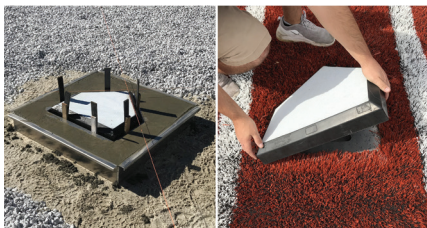


Overseeders

Get your fields in shape faster with the **TriWave® Series** of overseeders featuring patented floating heads and fully adjustable depth controls for superior germination regardless of conditions.

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TORO

Toro's newest model in the Reelmaster family of reel mowers, the Reelmaster 3105-D, is designed exclusively for sports fields and grounds facilities. This new mower features Toro's EdgeSeries cutting units in 8- or 11-blade configurations, with heights of cut (HOC) ranging from ¼ inch to 2 inches. To further improve the quality of cut over 1-¾ inch and up to 2 inches, Toro is introducing a new fixed head, 27-inch 8-blade DPA

JOHN MASCARO'S PHOTO QUIZ

CAN YOU IDENTIFY THIS TURFGRASS PROBLEM?

PROBLEM:

3 x 6 foot worn area on sideline

TURFGRASS AREA:

Recreational soccer field

LOCATION:

Southwestern Pennsylvania

TURFGRASS VARIETY:

Ryegrass, fescue and
Kentucky bluegrass blend

Answer on page 33

John Mascaro is president of Turf-Tec International



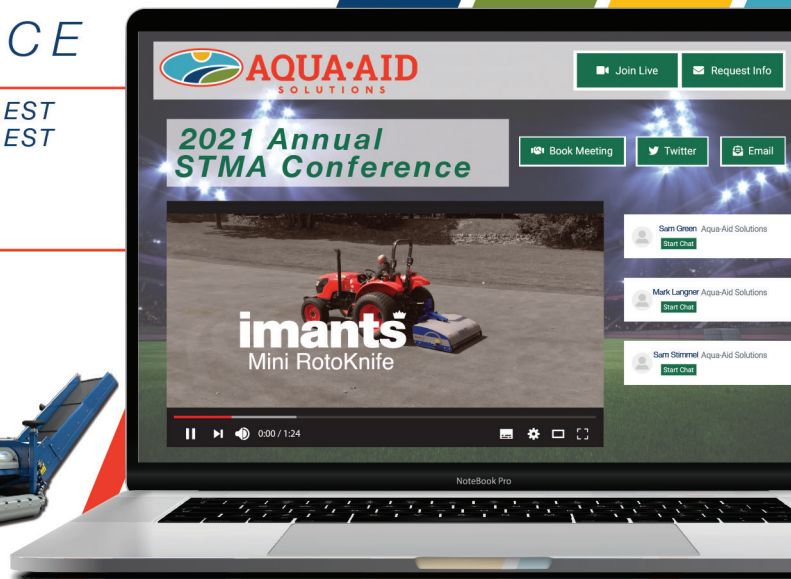
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cutting unit without a front roller. In comparison to a rotary mower at these higher HOC, the scissor cut on Reelmaster cutting units is much healthier for the grass plant versus the impact cut of a rotary mower. Additionally, in this HOC range, a reel mower eliminates the swirl cut look that can occur with a rotary mower. In general, a Reelmaster produces better overall after-cut appearance.

TURF-TEC INTERNATIONAL

Turf-Tec International is the leading manufacturer of diagnostic turfgrass tools in the world. Turf-Tec specializes in manufacturing devices to check the health and playability of natural grass and synthetic turf fields. From soil sampling, penetrometers, Clegg Im-



pact Testing for gMax, thermometers, moisture sensors, infiltration rings, light, wind meters, stress detection glasses, EC meters, macroscopes, prism gauges, shear strength testers, ball roll and rebound devices, turf pluggers, as well as many other devices. Turf-Tec will be live in its booth (set up with all the tools) for virtual chats during the STMA Exhibition January 12 and 13. See you there!



UNITED TURF AND TRACK

United Turf and Track, STMA member and certified field builder with ASBA, is a premier, turnkey, full-service sports field construction, installation, renovation and consulting company for natural grass and synthetic turf fields serving Oklahoma and Arkansas. **SFM**

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FieldTurf
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Graco, Inc.
GreensGroomer
Harper Turf Equipment
Harrod Sport
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John Deere
Kifco, Inc.
Landmark Turf & Native Seed

Landscapes Unlimited, LLC
Lebanon Turf
Mar-Co Clay Products
Matrax, Inc.
Mid-America Sports Construction
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The SportsField Management Interview:

Brian Bowe

In this edition of the *SportsField Management Interview*, we meet Brian Bowe, former director of field operations for the Memphis Redbirds.* The second of three brothers, Bowe grew up in Rolla, Mo., and graduated from the University of Missouri in 2009. He moved to Memphis in 2010 where he lives with his wife and two dogs. Bowe joined the Memphis Redbirds' grounds staff as assistant groundskeeper in 2014 and held the role of director of field operations from 2018 until the end of 2020. He enjoys woodworking, hiking, cycling, drawing and cooking in his free time.



Brian Bowe

** Editor's Note: The following interview was conducted in late 2020, while Bowe was still with the Memphis Redbirds*

SportsField Management (SFM): Please tell us about the fields/facilities you manage, and your staff/crew.

Bowe: AutoZone Park is a AAA baseball/USL soccer stadium in downtown Memphis, Tenn., that was built in 2000. The Redbirds, a St. Louis Cardinals affiliate, have called the stadium home since its completion. In 2019, Autozone Park became a dual-sport facility when the USL soccer club, Memphis 901FC, was created and began sharing the stadium. The playing field at Autozone Park consists of approximately 94,000 square feet of Northbridge bermudagrass. The skinned areas are constructed with DuraEdge Professional infield mix, and, when converting the field into a soccer pitch, are completely covered with about 15,000 square feet of sod that includes a couple of sections of warning track as well. In my time with the organization, we have operated with two full-time groundskeepers and a group of about 15 to 20 seasonal grounds crew members. Our team is responsible for maintaining the playing field, outside grounds and landscaping, performing the majority of the field conversion tasks, and overseeing any outside events that take place on the field.

SFM: What attracted you to the sports field management industry, and what was your path into the industry?

Bowe: I can remember being a young kid attending a St. Louis Cardinals game and thinking, "How cool would it be to come to work here every day?" — at that time mainly just thinking about the vendors walking through the stands. It wasn't until college that I learned that sports field management could be a viable career. I had decided to transfer to the University of Missouri following my sophomore year. My plan was to enroll

in the Plant Sciences department and study Landscape Design. It wasn't until my orientation that summer that I learned of the Turfgrass Management program and immediately switched my concentration area. During my time at Mizzou, I was fortunate enough to get an internship with the athletic department working mainly on the baseball and softball fields during the school year. I also spent my summers working with faculty and grad students maintaining turfgrass research plots at the university's South Farm facility. After graduation, I spent some time working for a landscaping company before leaving the green industry to pursue an opportunity in Memphis to work with a non-profit construction company. While I enjoyed the work I was doing and the mission of the organization, I never lost my interest in the turf industry. After four years in construction, I decided to try to get back into sports field management. As luck would have it, a couple of days into my search, I discovered that the Redbirds were looking for an assistant groundskeeper. I joined the Redbirds for the 2014 season, and my very first day had the pleasure of working an exhibition game between the club and their Major League affiliate, the Cardinals. I served in the role of assistant groundskeeper for four and a half seasons before being promoted to director of field operations in June of 2018 — a role that I will bittersweetly be vacating at the end of 2020 to pursue other opportunities.

SFM: What would you say are the biggest accomplishments of your career and/or what are you most proud to have achieved?

Bowe: There are small things that I think we all take great pride in; getting the slope and table top of a mound perfectly dialed in, admiring a freshly edged infield, overhearing a fan comment on a unique mowing pattern, or having a player tell you the infield is playing perfectly. The thing I'm most proud of, though, is completing our inaugural season of hosting both professional baseball and professional soccer. As an increasing number of my colleagues are aware, the toll of a dual-sport field is high. Not only do the two sport seasons overlap 100 percent, but the time spent converting the field significantly eats into your already limited time to perform necessary cultural practices or to even take a rest. My assistant, my crew, and I spent more than our share of overnights and weekends at the stadium preparing for the next event and often racing to beat an unfavorable forecast. The

days were long, the deadlines were tight, and the field wasn't always perfect; but by the end of the season, we could look back and be incredibly proud of what we had accomplished. With the field a little worse for wear following the end of the baseball regular season, the decision was made to completely re-sod the field in a two-week window before playing host to the AAA National Championship Game and finishing out the few remaining soccer matches. This last big push allowed us to finish out the season on a high note by showcasing the field on national TV, and establishing a great playing surface going into the offseason. While the accomplishments on the field are notable, I'm most proud of my team and how they rose to the challenge. Many of our grounds crew members have other jobs or are in school, and still chose to work very late into the night/early morning, or come in extra days to help get the job done. They did it all with great attitudes and incredible work ethic. Without them and their dedication, we would not have come close to accomplishing our goals.



SFM: What are the biggest challenges you have faced in your career, and what advice do you have for other sports field managers when it comes to facing similar challenges?

Bowe: Some of the biggest challenges I've faced in my time in Minor League Baseball are work/life balance and stress. I've missed some big events in the lives of family and friends, such as weddings and milestone birthdays, but the little things, like missing dinner at home with the family, add up as well. My advice to others facing these challenges is to make sure you advocate for yourself. It can be cathartic to vent shared struggles together with other field managers, but no one else is going to make your struggles known to those in management above you. My hope is that your concerns are heard, and that real efforts are made to help you address those issues — but nothing can be done until you speak up for yourself. We all knew about the long days and nights and weekends when we got into this industry. To a certain degree

those things are inevitable, but with the trend of adding more and more events and ever-increasing expectations, you're the person who best knows what you need to accomplish what is being asked of you. I also think that counseling/therapy can be an incredibly useful tool for a groundskeeper. With therapy becoming more and more culturally acceptable, I believe that finding an hour every couple of weeks to see a therapist will pay mental dividends to anyone willing to invest the time and effort.

SFM: Who were your mentors in the industry, and/or what is the best advice you received during your career?

Bowe: I've met some really great people in the industry going all the way back to my time at Mizzou. Dr. Brad Fresenburg not only hired me to work summers with him at the university research farm, but was also crucial in helping me get an internship with the athletic department where I worked my final two years of



college. Brad is laid back and full of knowledge, always willing to help out in any way that he could. Similarly, Jerry Cummings of the University of Missouri athletic department offered tutelage and encouragement early on in my journey. Jerry is someone I've been able to turn to with questions throughout my career, and long after I had left Columbia still sends holiday and birthday messages. The person I had the opportunity to work with the longest was Ben Young, who was brought in to be head groundskeeper for the Redbirds in 2015. I learned a lot from Ben, especially in terms of managing a team. He was incredibly patient and always took the time to teach others.

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

Bowe: STMA has given me the opportunity to meet, network and build relationships with other sports field managers around the country and at all levels of play. Without the STMA, it would have been difficult to get to know so many of my peers and those who have been in this industry much longer and are all incredibly willing

to lend advice, a helping hand and encouragement. Most of my closest friends in the industry have come from chance meetings at an STMA event. Additionally, the education sessions and trade shows at national STMA conferences have helped keep me up to date on new ideas, technology and tools around the industry — many of which I've used on my own field.

SFM: How do you think the profession and industry will change in the next 10 years, and/or what would you most like to see in terms of industry advancement in the future?

Bowe: I'm hopeful that the professional profile of sports field managers rises to meet the continually increasing expectations and expertise required to be successful in our industry. I believe this is already happening at the highest levels of professional sports, and even at some universities; but we have incredibly talented, hardworking, and innovative field managers working in parks and rec, high schools, and minor league sports where expectations on these professionals are often increasing at a higher rate than their resources. **SFM**

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Fertilizer Math

For expert insight into fertilizer application and rates, *SportsField Management* recently interviewed Christopher S. Gray, Sr., golf channel manager, professional fertilizers at LebanonTurf, and Steve Harris, manager, golf national accounts and sports turf at SiteOne. Their responses are as follows:

SportsField Management (SFM): What is the best way to determine how much fertilizer is needed to supply a specific amount of a particular nutrient per 1,000 square feet?

Gray: Part of properly managing and executing a sound nutrient management plan is making sure that you know

how much you need to apply for any of the “Big 3” nutrients: nitrogen (N), phosphorus (P) and potassium (K).

There are actually a number of different ways to properly calculate these, but one the easiest ways is as follows:

- Determine what amount of N, P or K you want to apply. For this explanation, let's say you want to apply .9# of nitrogen per 1,000 sq. ft.

- Look at the NPK analysis on the bag of fertilizer, and convert them to a more math-friendly decimal form. Let's say you have a bag with the analysis of 20-5-10, which means there is 20% nitrogen, 5% phosphorus and 10% potassium. You'd simply convert each one to .20 nitrogen, .05 phosphorus and .10 potassium.



All photos provided by SiteOne

■ Now take your desired application rate (.9# N) and divide it by the decimal form of the nitrogen (.20). It will look like this: $.9 / .20 = 4.5$ lbs. of fertilizer

■ The calculation answer of 4.5 is the number of pounds of fertilizer that would need to be applied per 1,000 sq. ft. to achieve the .9 pounds application rate.

This same method works for any of the three nutrients.

Harris: Soil testing should always be done to determine proper nutrient levels and tailor fertilizer plans to address deficiencies and maintain desired levels. When calculating nitrogen needs, make sure to reference typical yearly plant needs and adjust based on your site-specific requirements.

SFM: What is the best method to convert lbs. per 1,000 sq. ft. to lbs. per acre?

Gray: The most important thing to know for this calculation is how many square feet are in an acre — which is 43,560. Once you have this information, all you need to do is multiply the already known lbs. per 1,000 sq. ft. number by 43.56. Let's use our previous example to demonstrate how it's done.

■ We already know that we need to apply 4.5 lbs. of fertilizer per 1,000 sq. ft., so we simply multiply 4.5×43.56 and come up with 196.02, which is the total pounds of fertilizer needed to cover one acre.

Harris: There are 43,560 sq. ft., in 1 acre, therefore you would multiply the lbs. per 1,000 times 43.56 to determine rate per acre

SFM: What is the best way to determine the area a bag of fertilizer can cover and how many bags are needed to cover large areas?

Gray: There are two of specific things that you need to know to determine how much area one bag of fertilizer will cover. The first item is the weight of the bag itself and the other is the application rate of lbs. per 1,000 sq. ft.

You divide the bag weight by the application rate and then multiply the answer by 1,000 to get the coverage area in total sq. ft. Again, let's use our previous example to illustrate how to do this:

■ Most professional fertilizers come in either 40-lb. or 50-lb. bags. So, let's assume that our 20-5-10 fertilizer comes in a 50-lb. bag for this exercise.

■ We've already determined the application rate as 4.5 lbs. per 1,000 sq. ft.

■ $50 / 4.5 = 11.111$

■ $11.111 \times 1,000 = 11,111$ total sq. ft. coverage — one bag of 20-5-10

Once you have this information, it's easy to determine the total number of bags necessary to cover larger areas. All you need to do is take the total square footage you want to apply the fertilizer to and divide it by the coverage of one bag to figure out how many bags you would need to have.

Let's say you want to treat 84,000 total sq. ft. with our 20-5-10 that we just calculated will treat 11,111 sq. ft. per 50 lb. bag.

■ $84,000 / 11,111 = 7.56$ bags needed

Harris: Determine how much actual product is needed to apply the rate of fertilizer desired, then divide that amount into the volume of the bag (typically 50 lbs.). For example, if your desired rate of actual product is 5# per 1,000 sq. ft., a 50-lb. bag of fertilizer will cover 10,000 sq. ft.

To determine rate, you must decide how much of the nutrient you are looking to put down per 1,000 sq. ft., (most often nitrogen). To do that you must understand the analysis numbers on a bag of fertilizer. For example a bag of 25-5-15 fertilizer means that there is 25 lbs. of nitrogen, 5 lbs. of phosphorus, and 15 lbs. of potassium per 100 lbs. of material. Based on this example, a 50-lb. bag of fertilizer would contain 12.5 lbs. N, 2.5 lbs. P, and 7.5 lbs. K.

■ If the desired application rate of nitrogen is 1 lb. per 1,000 sq. ft., 1 lb. (desired rate) divided by 25% (analysis of fertilizer) times 100 (100 lbs. referenced above) = 4 lbs. of material per 1,000 sq. ft. to apply 1 lb. of nitrogen

■ Rates for actual phosphorus (44% available) and potassium (83% available) need to use a multiplier since not all nutrient is plant available

■ Based on the example above $2.5 \text{ lbs. of P} \times .44 = 1.1$ lbs. of actual P in the bag

■ Based on the example above $7.5 \text{ lbs. of K} \times .83 = 6.6$ lbs. of actual K in the bag

SFM: What other factors should go into determining proper application rates?

Gray: Proper application rates of any nutrients, macro or micro, will vary considerably, and it's always recommended to perform soil tests at regular intervals to determine what the current levels are of each one to help guide the decisions on what's needed and what is not. These reports will clearly tell you what you have an abundance of and what is missing. Ultimately, all fertilizers feed the soil, which, in turn, feed the turf. Knowing what's happening below the surface is always the best way to determine what type of fertilizer is needed and what analysis makes the most sense for your specific site.

Continued on page 28

TAHOMA 31[®]

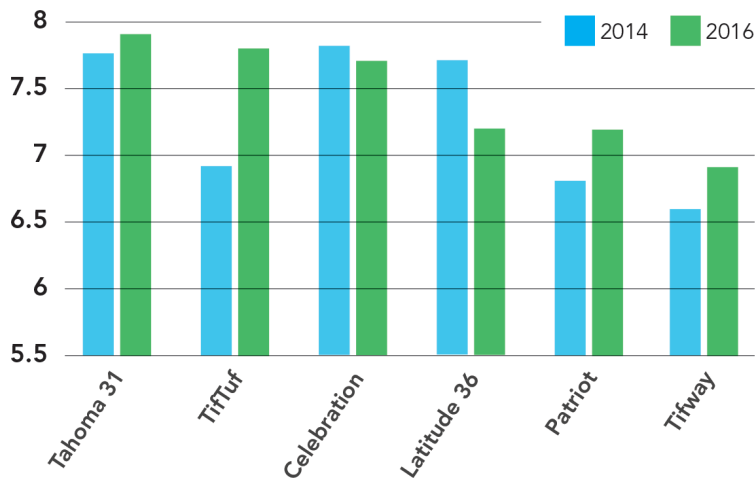
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#1 in Turf Quality

Turf quality ratings in NTETP tests at 17 locations over 5 years show Tahoma 31's exceptional turf quality among bermudagrasses, when tested against both vegetative & seeded varieties.

CULTIVAR	MEAN
Tahoma 31	6.8
TifTuf	6.8 (tied)
Latitude 36	6.6
Patriot	6.4
Tifway 419	6.3
Celebration	6.0



#1 in Traffic Tolerance

Turfgrass quality under traffic in NTEP National Bermudagrass Test at Knoxville, TN

Tahoma 31 exhibits excellent traffic tolerance compared to all other bermudagrass cultivars tested.

Lower Height of Cut

Tahoma 31 adapts to a wide range of HOC from 5 cm (2") to as low as 3.2 mm (0.125"), according to multiple university research data. "The low end of HOC of Tahoma 31 has not been seen on other popular cultivars including Latitude 36, NorthBridge, TifTuf, or Tifway," says Dr. Yanqi Wu.

Source: Wu, Y.Q., D.L. Martin, J.Q. Moss, C.H. Fontanier, N. Walker, A. Chandra, B. Wherley, K.E. Kenworthy, B. Unruh, P.R. Munoz, B.M. Schwartz, P.L. Raymer, F.C. Waltz, S. Milla-Lewis, and G.L. Miller. 2019. "Tahoma 31 Bermudagrass: A New Cold Hardy, Drought Resistant and Traffic Tolerant Turf Cultivar." ASA-CSSA-SSSA International Annual Meeting. November 10-13, San Antonio, TX.



.125" HOC



2" HOC

CULTIVAR	ET RATE
Tahoma 31	4.06 e
NorthBridge	4.29 cde
Tifway 419	4.54 bcd
Latitude 36	4.59 bc
Celebration	4.77 ab
TifTuf	4.95 a

#1 for Low Water Use

In tests that measured evapotranspiration rates (mm d-1) under non-limiting soil moisture conditions in Oklahoma (Amgain et al., 2018), Tahoma 31 fared best, while TifTuf used the most water. Overall, Tahoma 31 used 18% less water than TifTuf.

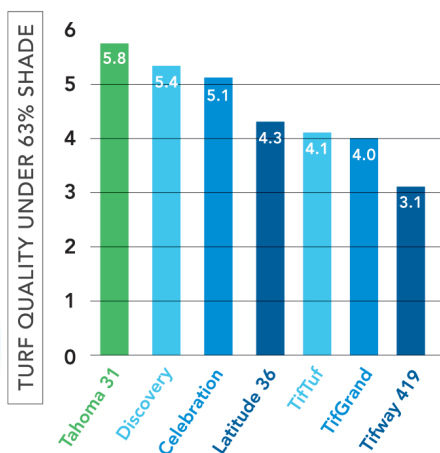
#1 in Early Spring Green-Up

In NTEP tests from 2014 - 2017, Tahoma 31 ranked at the top spot for early spring green-up among all vegetative bermudagrass cultivars tested in 16 states.

CULTIVAR	MEAN SCORE
Tahoma 31	5.7
Iron Cutter	5.3
TifTuf	5.3
Latitude 36	4.9
Tifway 419	4.5
Celebration	4.4

#1 in Shade

Mean turf quality in up to 63% shade.



These values are means across 6 rating dates in 2018 & 2019 and are presented with no statistical analysis. That being the case, it is highly likely several of these grasses are statistically equivalent. Other considerations are that plots received no traffic and were mowed at 1.5-inches once per week. In our opinion, Tahoma 31 is a great choice (among bermudagrasses) for partial shaded locations in the transition zone of the US, although clearly many of the newer grasses are an improvement over the old standard Tifway.

- Analysis of preliminary findings of the Stillwater location SCRI shade trial, Charles Fontanier, Ph.D., Assistant Professor - Turfgrass Science, Dept of Horticulture & Landscape Architecture, Oklahoma State University.

#1 in Cold Tolerance: Winter Survivability

The winter of 2013 - 2014 swept a polar vortex into the Midwest that created record low temperatures. Dr. Cale Bigelow, a professor of turf science and ecology at Purdue University, located in West Lafayette, Indiana, participated in the NTEP study. In a December 2019 article in Golf Course Management magazine, Dr. Bigelow was quoted as saying only 9 of 42 bermudagrasses tested survived with at least 50% ground cover by spring. Some 14 of the grasses completely died.

By the end of the NTEP study, Tahoma 31 was rated by far with the greatest winter survivability in Indiana at only 4% winter kill. Mean scores in two states where winter survivability was measured, Indiana & Kentucky, confirmed Tahoma 31's top status in the three year study period, 2014 - 2017.

CULTIVAR	% WINTER KILL Mean Scores IN & KY, 2014 - 2017
Tahoma 31	14.5
Iron Cutter	48.7
Latitude 36	57.3
TifTuf	88.3

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Continued from page 25

Harris:

- Soil type (sand, clay, loam) should be kept in mind. A sandy soil will not hold nutrients as long as a clay-based soil.

- Drainage (whether the area is typically wet, dry or in between) should be considered. An overly wet area is subject to leaching and run off, resulting in contamination in low areas or creeks, ponds and lakes. Conversely a dry soil will be more difficult to get the nutrients to the plant roots.

- Type of fertilizer, whether the nutrients are all slow-release or if they are a controlled-release technology. Typically all quick-release fertilizers are applied at a lower rate per 1,000 sq. ft., to reduce the risk of burn to the plant. Controlled-release fertilizers can be applied at a higher rate since the release of the nutrient is metered.

- Plant types and time of year. Cool-season vs. warm-season fertilizer application rates and timing are different.

SFM: Is there anything else sports field managers should know regarding fertilizer selection and application?

Gray: It's important to understand that for P (phosphorus) and K (potassium), the values expressed on the bag are Phosphate (P_2O_5) and Potash (K_2O) and not the elemental forms. For many professionals, correctly managing P and K levels in the soil requires doing a little chemistry and math to convert the numbers to the actual amounts of each element. Here's a brief breakdown on how to make these conversions:

Elemental phosphorus

Here's the easy answer of understanding how much elemental phosphorus is contained in phosphate (P_2O_5)...43.7%. This is calculated with some very basic chemistry and looking at the atomic weight of each element of the phosphate compound.

- Atomic weights: P is 31 and O is 16. You can see these on any periodic table.

- There are two units of P in phosphate, so $31 \times 2 = 61$ grams

- There are five units of O in phosphate, so $16 \times 5 = 80$ grams

- $61 \text{ grams} + 80 \text{ grams} = 141$ total grams of phosphate

- The amount of P is calculated as: $61 / 141 = .437$ or 43.7%

With this information, you can now calculate the amount of elemental P in our 50 lb. bag example of 20-5-10 as follows:

- $.437 \times 5 = 2.185$ lbs. of P (initial answer)



- $2.185 \times .5 = 1.0925$ lbs. of P

- It is necessary to multiply the initial answer by .5 because this is a 50-lb. bag because the phosphate compound is expressed as a "percentage" — meaning per 100.

- If this were a 40-lb. bag, you would multiply the initial answer by .4

Elemental potassium

The very same logic is used when calculating elemental potassium. Here's the easy answer of understanding how much elemental potassium is contained in potash (K_2O)...83.0%.

- Atomic weights: K is 39 and O is 16. You can see these on any periodic table.

- There are two units of K in potash, so $39 \times 2 = 78$ grams

- There are one units of O in potash, so $16 \times 1 = 16$ grams

- $78 \text{ grams} + 16 \text{ grams} = 94$ total grams of phosphate

- The amount of K is calculated as: $78 / 94 = .830$ or 83.0%

With this information, you can now calculate the amount of elemental K in our 50 lb. bag example of 20-5-10 as follows:

- $.830 \times 10 = 8.30$ lbs. of K (initial answer)

- $8.30 \times .5 = 4.15$ lbs. of P

- It is necessary to multiply the initial answer by .5 because this is a 50 lb. bag because the phosphate compound is expressed as a "percentage"...meaning per 100.

- If this were a 40 lb. bag, you would multiply the initial answer by .4 **SFM**

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- Acceptable or better turf quality for each of the two years in at least two locations.
- Have been entered into an NTEP trial for the species. For new cultivars that have met the approval standards for performance in A-LIST trials, final approval will be withheld until the cultivar(s) have been entered into an NTEP trial.

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Members



Self Care

How complete body health can lead to improved leadership, mentorship and relationships

By Tim VanLoo, CSFM

January is the time when many people join gyms and start fad diets that seem to rarely change to a lifestyle that leads to complete health. I also know I am not necessarily the person who should be talking about how eating healthy and exercising leads to improved leadership, mentorship and relationships. I am a turf professional in every sense of the phrase. Lucky for you, my beautiful bride, Amber, has immersed herself into learning about what food does to our body and how that affects everything the body does. Unlucky for me, she has forced me to contemplate what I eat and how it affects my body with every bite.

Please don't think that this is an article on how I do everything I should and how I live this perfectly healthy lifestyle. That simply isn't true. Also, we are all created differently with bodies that don't all work the same. My hope is to shed some light on some things that may spur some thought on how small changes to how you approach each day can make big differences to your overall health. When your mind and body are working well together, then you may find yourself having more energy, fewer aches, and a clear mind to attack each day. This, in turn, could help you professionally.

The term "metabolic health" is being used very often these days. It's basically a holistic approach to health that includes time-restricted eating, optimizing sleep patterns, and eliminating or limiting processed carbohydrates, sugars, grains and vegetable oils. In today's COVID-19 world, complete health has never been more in the news and media, and your health has been something you have likely thought about in the past year because of what's going on around you.

If you are getting enough sleep, but still feel fatigued and lack motivation, then your diet might be something to look into. Do you have too much sugar, caffeine, alcohol or high carbohydrate in your diet? Anyone who knows me well knows I struggle with moderating my sugar and carbohydrate intake. I love cookies, pizza and bread!

It wasn't until I learned the effects of my food intake on my body that I felt compelled to change. Let's be honest, most of us can't withhold everything that is "not good" for us, but we can limit or have built-in cheat days. Having built-in times or days that allow for you

to enjoy some of life's finer foods will make limiting yourself easier. Moderation is the key. How you reach that point is going to take an honest look at how your mind works with limitations. For example; I can go days, months, or even a year without sweets; but when I decide to eat a cookie, it will not be one — it will likely will be three, four, or however many are available. I need to be very specific in how I am going to limit my intake, or it doesn't go well for me. Every year I give up something for Lent. It used to be Mountain Dew until I stopped drinking pop about five years ago because consuming four to six bottles a day seemed like a bad idea. Limiting myself to one never seemed to work. Lately, it has been sweets and high-carbohydrate foods. When I do this, it's amazing how much better my body feels. This usually forces me to say, "Honey, you were right." You see, Amber is much more disciplined than I am. I watch her eat healthy and prepare meals for our family that have our health in the forefront of her mind. It is nothing I would ever prepare for myself or order from a menu, but it typically tastes wonderful, and leaves each of us in a better spot. There have been some meals that have not been requested again — not because of her cooking, but because the chosen ingredients were less than desirable for our Midwestern flavor pallets.

Much of our bodies' inflammation is caused by our diets. When you eat fewer sugars, your body functions better, which leads to you feeling better and less sore. This



allows you to be more active and motivated to do more with each day.

Eating sugar or “feel good” foods makes you happy, but only for a short time. It leaves you craving more, because your body is craving the dopamine. The long-term effects of this is a net loss on the path to full-body wellness — not to mention your aches and pains are exaggerated because of the added inflammation from your diet.

Time-restricted eating or intermittent fasting is something that is a very interesting concept. Sure, it takes some discipline, but once I read the science behind the concept, I was sold. It simply means eat

for six to eight hours and don't eat for 16 to 18 hours. What this does for your body is very simple. During the fasting period, your metabolic system can fully digest and recalibrate all your systems to reach a balancing point. It typically takes 14 hours to reach that balance point. After the 14 hours, your body will start to want fuel. If you don't eat, then it will tap into its stored food, fat. Allowing your body to feed itself for a time period allows it to be very efficient and burn fat. This will lead to weight loss in a very healthy and sustainable manner. The health benefits are well researched and well documented. In short, your body and mind will thank you and respond in only positive ways.

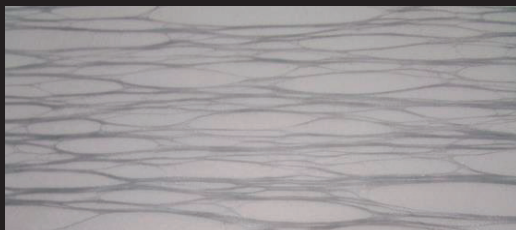


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Eating your meals for the day within six to eight hours is obviously the easy part. For most people, the struggle is basically skipping a meal. Most people that are committed to this eating habit tend to stop eating around 7:30 to 8 p.m. and not eat until lunchtime the next day. For me, skipping breakfast was an easy change. The challenge was not eating, drinking (other than water) or snacking while relaxing in the evening once my kids were in bed. Allow yourself a cheat day or two if needed.

Speaking from experience, the mind clarity in the morning while my body has reached its equilibrium has been the biggest benefit. The few pounds I have shaved off are the motivation to keep going.

Before I stop pleading with you to consider metabolic health, stress release is a huge part of equation. Stress is a huge health concern for many sports field management professionals. We put a ton of pressure on ourselves to have fields that play safe, look perfect and perform flawlessly. This obsession can lead to burnout and a bitter taste toward work for seasons of our career. Figuring out a healthy outlet can be key to sustained success in your career. This is likely the most personal aspect and an area that you will have to figure out for yourself. My advice, try something that you enjoy that is also physical in nature. Take golf, for example — walk the course if you are able. If you aren't physically able, walk as much of the course as you can.

Complete body health will allow you to live your best life. Restrictions on your diet, creating healthy sleep habits, and reducing stress while being active is something we can all do. This holistic approach will help you steady your moods, think positively, and have more energy to accomplish your goals. This, in turn, will improve your leadership, allow you to be more available for mentorship, and enrich all your relationships. **SFM**

Tim VanLoo, CSFM, is a sales consultant for D&K Turf Products. He recently served as director of facilities and grounds at Iowa State University. VanLoo received his B.S. and M.S. at Michigan State University in Crop and Soil Science with an emphasis on Turfgrass. He is a past president of the Sports Turf Managers Association. He has also served on many other boards of directors in the turfgrass industry. VanLoo has taught sports turf and irrigation classes at Iowa State University and Des Moines Community College.

VanLoo and his wife, Amber, will host an education session on this topic as part of the STMA Conference education sessions, Tuesday, January 19, from 3:15-4:15 p.m. EST. For more information, visit <https://www.stma.org/conference/>

JOHN MASCARO'S PHOTO QUIZ

ANSWER

From page 17

Although fields remained closed during the COVID-19 pandemic, park staff noticed a consistent wear pattern in the area along the soccer field sideline. Playing fields, comfort stations and playgrounds were closed until the stay-at-home order was lifted. Organized activities were prohibited — with signage posted — so what could be causing the damage? Could it be grubs, a fertilizer burn, temporary soccer goal mouth wear? As they say, timing is everything. The sports field manager was working late one afternoon and noticed a three-foot-high cloud of dust coming from this soccer field. Upon investigation, he found a 6'3"-tall, 300-pound high school lineman performing a daily ladder drill on the field's sideline. He applauded the player's work ethic and explained about the wear issue. The lineman agreed to move to another area off the playing surface and rotate his drill area. Problem solved!

Photo submitted by Dan Miller, director of parks & recreation for North Huntingdon Township, Pittsburgh, Pa.

John Mascaro is president of Turf-Tec International



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 e-mail to john@turf-tec.com. If your photograph is selected, you will receive full credit. All photos submitted will become property of *SportsField Management* and the Sports Turf Managers Association.

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New sod installed along base paths, home plate circle and pitching mound. Existing infield turf was aerated and overseeded to improved density and uniformity.

Close the Field?

Standley Lake High School Baseball, Westminster, Colorado

By Cody Witham, CSFM

Maintaining athletic fields begins with sound cultural practices. A simple approach to irrigation, fertility, mowing, infield grooming and aeration may be all that is needed to keep a field safe and playable. However, the level of field use or renewed expectations can require changes in the maintenance program, or possibly complete closure to renovate.

The Site Maintenance Department of Jefferson County Public Schools (Jeffco), in Lakewood, Colo., maintains nearly 80 natural grass high school athletic fields. A year ago, one of those fields — Standley Lake High School Baseball — was singled out as candidate for closure and renovation. The athletic administration of the school had expressed concern over a sloping area of right field, as well as worn high-traffic areas. Player safety and playability of the field served as justification to close the field. Work to correct the unsafe slope began in the fall, and the other items would have to wait until the growing season and after spring baseball.

The field was originally constructed with a three-foot drop between the right field foul line and fence. The majority of this fall occurred in the first 15 feet off the fence.

Players entering foul territory faced a significant change in grade while fielding live balls. To correct the issue, a retaining wall was needed along the fence line. Then backfill would solve the slope problem while still maintaining adequate drainage.

Members of the Site Maintenance Paving and Equipment group constructed the concrete wall and rebuilt the fence. The field was built without warning track along the first and third foul lines; therefore, as the wall was constructed, irrigation staff worked to modify the system along the fence. Adding warning track would be part of the summer work, so components were relocated at this time. Once completed, the area received a topdressing of warning track material and was ready for the spring season.

Athletic field crews began to address the infield shortly after the conclusion of the baseball season. Primarily, worn turf and inconsistent edges led to the need for grading, cleanup and sodding. This work gave the opportunity to reset the proper field dimensions for base paths, home plate circle, pitching mound, etc. Minor modifications and adjustments were made to the irrigation system at this time. As mentioned, the warning



Worn and inconsistent infield conditions.



Poor infield drainage



Base paths following renovation



Infield graded and toppedressed to correct drainage

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tracks along first and third were also completed at this time. Following a three-week grow-in period, the field was released for play.

Closing a field is often a difficult decision — especially a baseball field that sees use from March to October. At Standley Lake High School, coaching and administrative staff played a key role in the closure of the field — primarily by helping to establish the timing of the work and defining clear expectations (When would the field close? For how long? How will safety and playability concerns be addressed? What measures will be taken to prevent another closure?).

Communication between school staff, coaches and maintenance personnel was essential to complete the work. If a field is to be closed, all parties need to be in agreement with the decision to close, and then work together to complete the work.

Finally, a thorough review of the completed work needs to take place prior to the field reopening.

Hats off to all Jeffco Site Maintenance team members who played a role in repairing the field. A lot of hard work went into the renovation, and, in the end, the baseball team received a safe and playable field to use for fall baseball. **SFM**

Cody Witham, CSFM, is the manager of site maintenance for Jefferson County Public Schools (Jeffco) in Lakewood, Colo. The department maintains more than 150 sites, including 18 high schools. Prior to joining



Existing condition before renovation. Poor fence condition and sloping right field without warning track



New wall and fence completed with warning track.

Jeffco, Witham was the assistant turf manager at Dick's Sporting Goods Park in Commerce City, Colo. He also spent 10 years in the landscape construction and

maintenance business. Witham received his Bachelor of Science degree in Landscape Horticulture from Montana State University.

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ECHO PB-9010

Echo Incorporated launched the world's most powerful backpack blower, the PB-9010, featuring 18

percent more power than its closest competitor.

The PB-9010 is part of Echo's X Series lineup, and is ideal for heavy debris cleanup, and clearing large open areas. The PB-9010 features:

- 2-stroke technology for easy maintenance
- 3.6-inch-diameter blower pipes for maximum airflow
- 2-stage commercial air filtration system with heavy-duty pleated paper air filter for maxi-

mum performance

- Tool-less air filter access for easy in-field cleaning or replacement
- 83.8-fluid-ounce fuel tank for extended runtimes



Heavy-duty backpack straps for all-day comfort

- Ergonomic, rubber overmolded throttle handle (T model only) for maximum comfort
- Strap connection keeps straps securely situated on the user's shoulders for all-day comfort

■ MSRP: \$599.99

■ Two-year commercial warranty and five-year consumer warranty.



HARPER TURF SWEEPERS

Harper Turf Equipment released the new self-propelled Harper Hawk turf sweepers. From an extra-wide footprint to tackle slopes or slippery terrain, to clearing cores in a single pass, the Harper Hawk is tough on challenging debris, yet easy on the turf. The Hawk utilizes a two-stage system for pickup. This brush rotor and paddle setup eliminates common clogging transitions to keep the flow of material running smoothly into the hopper. The absence of a vacuum fan also improves operator confidence when backing the unit to a truck or utility trailer to empty the 3.5-cubic-yard hopper. The 6-foot high-lift dumping feature offers a clear line of sight while the sweeper is moving in reverse to the waste container. The HK4400 (4-wheel drive) and HK4200 (2-wheel drive) are pow-

ered by a 24.8-hp. Kubota engine. The new models are available for spring order.



HONDA POWER EQUIPMENT VERSATTACH MULTI-PURPOSE SYSTEM

Featuring two powerhead options and six different attachments, the Honda VersAttach Multi-Purpose System combines the power and reliability of Honda 4-stroke engines with a robust lineup of tools to fit a wide range of needs. The Honda 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. The design of the Honda Mini 4-stroke engine provides for full, 360-degree operation, allowing the VersAttach to be used (and stored) upright, sideways or even upside down, and eliminates the need to mix fuel and oil. 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.



MIGHTY MAC VACUUMS

Mighty Mac vacuums make debris cleanup easy. Yards, driveways, patios, sidewalks and parking lots are no obstacle for Mighty Mac's push or self-propelled walk-behind machines. The tremendous vacuum suction is created by a 17-pound heavy-duty commercial steel impeller, and the 11.50 ft. lbs. gross torque of the Briggs & Stratton XR Professional Series 250cc engine. The high discharge design and top-loading collection bag mean more productive debris collection between bag dumps. The 25-inch-wide vac path and the 4-bushel collection bag combine to make quick work of your clean-up needs. Six height adjustment settings allow users to position the vac snout at the perfect height for any condition or application. The optional 8-foot vac hose kit is a great accessory for getting to hard-to-reach areas.

SCAG WINDSTORM

The Windstorm stand-on blower features the exclusive Nozzle Direction System (NDS), providing unprecedented control of the air discharge tilt and rotation. Quick and easy adjustment via fingertip controls: 1) A mechanical lever

provides 16-degrees of vertical tilt adjustment; 2) Two electric switches allow for automatic left/right horizontal rotation or manual rotation adjustment. Massive air output of up to 6,000 effective cfm paired with ground drive speeds up to 10.5 mph deliver optimum productivity. Windstorm's spacious operator platform with coil-spring suspension ensures a smooth ride, whether you're



preparing asphalt for sealcoating or cleaning up leaves in the fall. A 37-hp. Briggs & Stratton Vanguard Big Block EFI engine delivers huge power and exceptional efficiency. The Scag Windstorm features a 2-year commercial warranty. Visit your dealer today.



STEINER TURBINE BLOWER

The Steiner turbine power blower features a powerful, axial-flow

turbine design that runs quietly and produces wind speeds up to 114 mph. Also, its hydraulically controlled nozzle rotates 360 degrees to blow debris in the desired direction. And, for ease of operation, it mounts to the front of the Steiner 450 tractor so operators won't have to keep looking back to check on the work. It also has a blower-mounted kickstand to keep the attachment upright for simplified mounting and attaching.

STIHL BGA 86

With 50 percent more blowing force than its predecessor, the Stihl BGA



86 battery-powered handheld blower gives end users the power they need to take on tough blowing tasks. A brushless motor allows for quiet operation and an excellent power-to-weight ratio. Its well balanced design and optimized controls make it easy to use for right- and left-handed users. The BGA 86 is also rain resistant. MSRP: \$239.951

TORO PRO FORCE DEBRIS BLOWER

The Toro Pro Force debris blower provides greater air volume flow than any single nozzle turbine-type debris blower currently available. A wireless RF remote provides the capability to start and stop the engine, adjust engine throttle up and down for low to high rpm range of operation, and rotate the nozzle 360 degrees — all



from the operator's seat in a Toro Workman or similar utility vehicle. This blower delivers superior productivity and greater efficiency in jobs ranging from cleaning cart paths and other maintained paved areas, to blowing grass clippings, aeration cores or chaff, or other organic debris.

TURFCO TRACTOR-MOUNTED TORRENT 2 PTO BLOWER

Golf course superintendents and sports turf managers looking to reduce the amount of work time spent on debris management can hitch their hopes to the new Turfco Torrent 2 PTO debris blower. By substituting on-board engine power with tractor-mounted PTO hydraulic power, the Torrent 2 PTO blower weighs in at less than 340 pounds

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— about 150 pounds lighter than its self-powered sibling. That makes it a lightweight, agile turf performer that's also quiet, stingy on fuel consumption, and easy to maintain. Connect the PTO version to a standard turf tractor — minimum 20-hp. engine to run the blower hydraulics — and hit the turf. The supplied handheld controller enables operators to change nozzle direction fast and on the fly, without having to slow down and wait for the nozzle to swivel around. For even greater productivity, Turfco's optional patented MagnaPoint technology eliminates guesswork.



TURF TEQ POWER BROOM

Brush pressure, brush speed and pivot angle (left/right) can all be adjusted easily from the operator position on the Turf Teq Power

Broom. The Power Broom features a hydrostatic transmission, differential lock and a Honda commercial-grade GXV390 engine. The multi-use capability of the Power Broom allows the operator to sweep debris, move snow or de-thatch lawns. The Power Broom attachment can also be removed, allowing the operator to mount a Power Edger, Power Rake, Brush Cutter or Plow attachment.

WIEDENMANN SUPER 600

The Wiedenmann Super 600 is a heavy-duty sweeper, verticutter, flail and fraise mower that collects clippings and debris with a multi-purpose head. It collects clippings into



a 5.9-cubic-yard hopper with a high dump reach up to 83 inches, and has special flotation tires with a large contact area and low ground pressure to protect the surface. It includes a golf course kit for following undulations. Options include a super contour kit, core pulverizing kit, and several blade options. **SFM**



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The following are some industry Tweets from the past month:



@Clintsman_STM

That's a wrap on the 2020 irrigation season, it's been one full of a lot of irritation. The positive is we took complete ownership in our system this season and have a good grasp on where we are headed with it!

DECEMBER 1, 2020



@BereaGrounds

Caught a glimpse of the Christmas tree @bereacollege all lit up this morning while also getting the sunrise in the background.

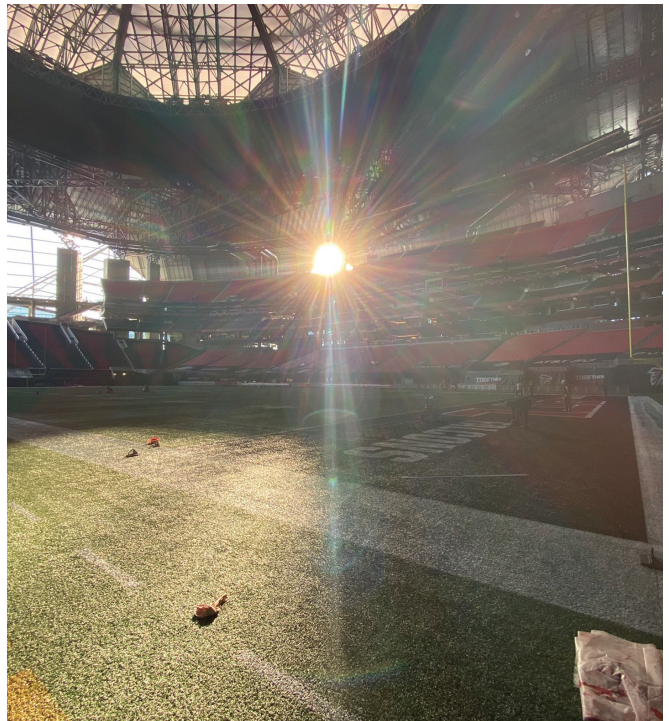
NOVEMBER 25, 2020



@TurfSpartanLord

Final haircut before Thanksgiving. #FreshCut #Bluegrass Still growing strong here in the #QueenCity #RootedInRedsCountry

NOVEMBER 24, 2020



@NPappas23

Good morning. Let's get it. Time for a fresh coat.

NOVEMBER 24, 2020



@campbet004

Going into last 5 days of fall ball. What a fall it's been.

NOVEMBER 20, 2020



@Griggs_m5

What a year 2020 has been. Being a 20-year-old kid taking care of a ball field has been challenging but I've loved every step of it. I have learned so much and still have a lot of learning to do. Thank you to the @BGHotRods for having trust in me to take care of this field.

NOVEMBER 20, 2020



@CWebb757

My favorite part of the irrigation year - winterization!

NOVEMBER 18, 2020



@OSUgrounds_crew

Love our blankets. Down for 10 days now @OSUBaseball

NOVEMBER 12, 2020



Kioti Tractor CS models

Kioti Tractor added two all new models to its CS Series. The CS2220 and CS2520, now available at Kioti dealers across North America, are easy to operate, yet powerful enough to meet customer demands, making them perfect for a wide variety of tasks. The all-new models boast an ergonomic operator station, with standard features including a tilt wheel with power steering, a joystick valve with quick attach and detach loaders, and a precision-built Kioti diesel engine.

"We at Kioti know that sometimes big things come in small packages, and our two all-new sub-compact CS models do just that," said Peter Dong-Kyun Kim, president and CEO of Daedong-USA, Inc. Kioti Tractor Division. "With an ergonomically designed work station, plus the power and versatility to get the job done, the CS2220 and CS2520 are hard to beat. We're excited to see these models get to work across North America."

The CS2220 and CS2520 are compatible with Kioti's new SB2420 backhoe and SL2420 front end loader. The SL2420 offers quick attach and

detach and dual bucket cylinders, with a maximum lift height of 73.7 inches and lift capacity at full height to pivot pins of 1,062.3 lbs. The new "pinless" design enables the operator to quickly and efficiently remove or install the loader in minutes, without having to remove or install loader pins to secure it to the tractor, and the additional quick-attach system on the front makes switching attachments a breeze. The CS2220 and CS2520 come standard with a joystick valve to give operators convenient, comfortable and precise control over the loader to lift, lower and carry loads anywhere. The new models are also compatible with Kioti's SM2454 and SM2460 mid-mount mowers, both of which include drive-over decks for easy attach and detach.

A 21- or 24.5-hp. precision-built Kioti diesel engine boasts a large power output with low fuel consumption. And, engaged by a single lever, four-wheel drive is standard across these two new CS Series models.

The rear PTO and high-capacity three-point hitch can accommodate a variety of implements. Plus, the standard mid PTO (2,200 rpm) provides the ability to operate implements.

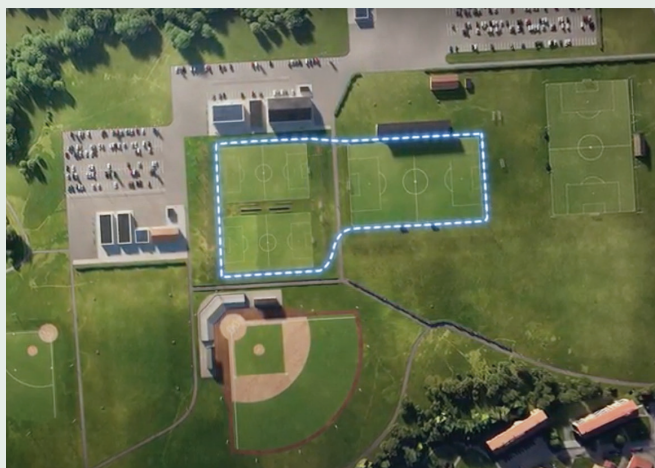
Husqvarna announces new 50,000m² robotic solution for commercial turf care

Husqvarna is launching a robotic solution for commercial turf care management. The new Husqvarna CEORA platform is an autonomous turf care solution for grass areas of up to 50,000m². The high-performing, low-noise and zero-emission* Husqvarna CEORA mows autonomously and systematically within virtual boundaries.

With Husqvarna CEORA, public and commercial landowners, sports field managers and golf course owners can automate lawnmowing while staff can be redeployed to focus on more value-adding tasks.

"This is an industry game changer marking the start of a new era in commercial turf care management", said Valentin Dahlhaus, vice president at Husqvarna.

Husqvarna CEORA operates fully independent within a defined area. The systematic mowing technology offers cuts in parallel paths. One machine can cover areas up to 50,000m². Utilizing the leading-edge Husqvarna EPOS technology, a high-precision satellite navigation system that delivers an accuracy of 2-3 centimeters, the new Husqvarna CEORA gives the user a new level of flexibility and performance. The EPOS technology allows operation without physical wires enabling quick digital redefinitions of the work area to accommodate industry leading flexible use of the lawn and aerating and scarifying without risking to damage wires.



The new Husqvarna CEORA is Husqvarna's first step addressing fast, large-scale systematic mowing but it is a future-proof, scalable platform. In the future, it can be further tailored to specific needs by adding accessories such as, for example, lawn striper, fairway deck or line painter, and can be paired with other robotic mowers allowing the operator instant and continuous digital monitoring and control of multiple units. This is simply a holistic solution for green space professionals who want to systematize mowing to deliver exceptional turf quality while freeing up time for other tasks. More details about the new Husqvarna CEORA will be presented during summer 2021 and mowers will start shipping to customers in early 2022.

"We are transforming turf care with this innovative, high performance and reliable turf care solution," said Valentin Dahlhaus, vice president, Husqvarna. "The entire 55-acre Great Lawn in Central Park can be managed by five Husqvarna CEORA, working 24/7. Everything is digitally monitored and controlled at your fingertips."

* Zero emission means no direct emissions during use.

Echo launches 13 new products for the 2021 season

On Dec. 2, Echo Incorporated held a virtual media event, "The Game Has Changed," where it announced the launch of 13 new products for the 2021 season. During the media event, participants got a first look at the 13 new products through a factory tour, product demos, presentations by product managers and a media Q&A session.

The 13 new products for the 2021 season include:

- PB-9010T and PB-9010H: The world's most powerful backpack blower. Its class-leading 79.9cc professional-grade 2-stroke engine allows it to produce 1,110 cfm of air volume at a speed of 220 mph at the nozzle, which equates to 48 Newtons of blowing performance.
- CS-7310P: Echo's most powerful chain saw ever sold in North America, featuring a high-power 73.5cc 2-stroke commercial-grade engine.
- CS-2511P: The lightest gas-powered rear-handle chain saw in the world,

weighing only 5.7 lbs. (without bar and chain).

- CS-4910: The lightest 50cc chain saw in North America, weighing 10.4 lbs. (without bar and chain).
- HCA-2620S: Echo's newest reduced length shafted hedge trimmer, featuring a 25.4 cc professional-grade 2-stroke engine.
- SRM-410X: Echo's most powerful trimmer in North America (coming spring 2021).
- EGi-3600LN: A low-noise inverter generator providing 3,600 watts of portable power with an electric start
- FP-2126: Echo's first high-pressure fire pump
- CSG-Water Kit: A universal pressurized water tank for use with concrete cut-off saws.
- Red Armor Pump Guard: Protects pressure washer pumps, pistons and seals.
- Red Armor 4-Stroke Oil: 100% full-synthetic oil that keep engines clean while promoting long-term engine durability.
- Pressure Washer Accessories: Nine of the most popular universal gas-powered pressure washer cleaning accessories. **SFM**

Volunteer for Committee Service 2021

STMA is seeking volunteers for committee service in 2021. The sign-up process will end Feb. 12, and most committees will be set, notified, and begin their work in early March.

This year, STMA is asking members to indicate their interest overall in committee service, and not specifically select a committee on which to serve; rather allow incoming President McKenna to place volunteers as needed.

To sign up for a committee, visit *STMA.org*. For a list of the committees on which you have the opportunity to serve, visit *STMA.org*, select the "About STMA" drop-down box and select "STMA Committees."

Don't Miss the Top Educational Opportunity – Post Conference!

STMA's annual conference is Jan. 12-13, and it continues with two hours of virtual education each week, post-conference, through March 2. All registrants for the two-day virtual annual conference will automatically have their registration extended to attend these free sessions. For those who did not register for the annual event, these sessions will be available if you join or renew your 2021 STMA membership and then register for this education.

The session dates and its featured educators include:

Tuesday, January 19

2-3 p.m. EST: Fraise Mowing Effects, Uses, and Recovery
Ray McCauley, Ph.D., North Carolina State University

3:15-4:15 p.m. EST: Self Care...Can Improve Leadership, Mentorship, and Relationships
Tim VanLoo, CSFM, Iowa State University; and Amber VanLoo, Bella Homes

Tuesday, January 26

2-3 p.m. EST: Irrigation: Grass Health, Surface Quality, and Sustainability
Bryan Hopkins, Ph.D., Brigham Young University; Neil Hansen, Ph.D., Brigham Young University; and Colin Campbell, Ph.D., Meter Group

3:15-4:15 p.m. EST: Let's Talk About Our Mental Health: Managing Stress in Difficult Times
Lisa Goatley, LPC, The Cascade Group

Tuesday, February 2

2-3 p.m. EST: Managing High Traffic Fields
Pamela Sherratt, Ohio State University; John Sorochan, Ph.D., University of Tennessee

3:15-4:15 p.m. EST: I Speak Agronomy, My Coach Speaks Athletics - What Now?

Marc Moran, CSFM, Atlee High School; John Corbin, Atlee High School

Tuesday, February 9

2-3 p.m. EST: Sustainable Sand-Based Turfgrass; 11 Seasons at Target Field

Larry DiVito, Minnesota Twins

3:15-4:15 p.m. EST: It's Only Fair if it's Hit Between First and Third

Jeffrey Fowler, Penn State University Extension

Tuesday, February 16

2-3 p.m. EST: How to Find and be a Part of Successful Internships

Adam Thoms, Ph.D., Iowa State University; Steve Lord, CSFM, Cincinnati Reds; Weston Appelfeller, CSFM, Austin FC

3:15-4:15 p.m. EST: Where is the Future of our Industry?

Drew Miller, Brentsville Turfgrass Management Program; Dan Sandor, Ph.D., Virginia Tech University

Tuesday, February 23

2-3 p.m. EST: Bluemuda for Beginners
Gregg Munshaw, Ph.D., MountainView Seeds; and Brian Winka, CSFM, Advanced Turf Solutions

3:15-4:15 p.m. EST: 2021 Weed Management Update
Jim Brosnan, Ph.D., University of Tennessee; and Gerald Henry, Ph.D., University of Georgia

Tuesday, March 2

2-3 p.m. EST: Field Testing Synthetic Fields: The Basics and Beyond

Kyle Dickson, Ph.D., University of Tennessee; and John Sorochan, Ph.D., University of Tennessee

3:15-4:15 p.m. EST: Introducing STMA's "Best Practices" Document and Promoting Environmental Certification
Zachary Holm, CSFM, New York Red Bulls; and Victoria Wallace, University of Connecticut

STMA Board Approves a 1-year Bridge Strategic Plan

The STMA Board of Directors creates and implements a strategic plan, usually every three years. At the end of 2020, the association's most recent strategic plan concluded. In a typical cycle, the board would hire a facilitator and spend one-plus days creating the next three-year plan during the summer prior to the new year. Because in-person is so critical to the plan's development and the pandemic excluded that option, the board elected to move ahead with a one-year "bridge" plan that builds on the current plan. During 2021, the board plans to hold an in-person meeting with a facilitator to develop the 2022-2024 plan.

STMA board members rotate off the board at a fairly brisk pace; the plan is the constant that provides the roadmap for each board's major focus and subsequent work.

2021 Plan Goal

1 - Strengthen STMA by Growing Membership, Creating Strategic Global Partnerships, Collaborating with Local Chapters, and Developing Internal Capabilities

- Obj. 1 - Retain 75% of 2020 members.
- Obj. 2 - Strengthen and partner with chapters.
- Obj. 3 - Leverage comprehensive, virtual international collaborations.
- Obj. 4 - Seek new partnerships with aligned organizations and strengthen existing relationships.
- Obj. 5 - Develop and implement a Diversity, Equity and Inclusion plan.

2 - Enhance our Educational Services by extending our reach to new audiences and adopting new technologies.

- Obj. 1 - Use innovation and technology to create and deliver relevant, timely and affordable continuing education to members.
- Obj. 2 - Broaden the reach of our education to youth and the public through the Introduction to Sports Field Management course to drive interest in SFM as a career and address the industry labor shortage.

3 - Increase the value of STMA to its members by promoting professionalism within our industry and advancing STMA Brand Awareness.

- Obj. 1 - Utilize technology to improve market impact.
- Obj. 2 - Develop and implement a comprehensive

marketing strategy around the importance of the sports field manager.

- Obj. 3 - Complete the Environmental BMPs, distribute to members and develop a plan to have members track, document and report progress.
- Obj. 4 - Use the virtual conference to elevate our brand.
- Obj. 5 - Evaluate the cost/value proposition of PR bi-annually.
- Obj. 6 - Explore the process to begin a name change for STMA.

4 - Diversify and Grow Revenue for Long-term Sustainability of STMA

- Obj. 1 - Identify sponsor/revenue liabilities/risk.
- Obj. 2 - Generate more non-conference revenue.
- Obj. 3 - Examine cost/loss programs and assess viability.

STMA Announces 2020 Field of the Year Winners

STMA announced its 2020 Field of the Year winners. They are as follows:

Professional Baseball – Smokies Stadium (Sevierville, Tenn.): Eric Taylor, Head Groundskeeper

Professional Soccer – New York Red Bulls Academy Field (Whippany, N.J.): Zach Holm, CSFM, Manager, RBTF Operations

College and University Football – Bobby Bowden Field at Florida State University (Tallahassee, Fla.): Chris Denson, CSFM, Athletic Turf Superintendent

Schools and Parks Baseball – Ray Cipperly Field at Middlesex County Vo-Tech School District (East Brunswick, N.J.): Keith Fisher, Grounds Foreman

Schools and Parks Baseball – Walsh Field at Pace Academy Riverview Sports Complex (Mableton, Ga.): Daniel Prince, Sports Complex Facility Manager

"2020 has been a trying year for everyone, and sports field managers were forced to adapt and find innovative ways to ensure high-quality field conditions for all athletes," said Kim Heck, CAE, CEO of STMA. "Each of our winners displayed a commitment to excellence while upholding the unwavering commitment of STMA members to field safety and playability."

The 2020 Field of the Year winners will be profiled in *SportsField Management* magazine during 2021. **SFM**



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STMA Affiliated Chapters Contact Information

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

Colorado Sports Turf Managers Association: www.cstma.org

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

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

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

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

Georgia Sports Turf Managers Association: www.gstma.org

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

Illinois Chapter STMA: www.ILSTMA.org

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

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

Iowa Sports Turf Managers Association:
www.iowaturfgrass.org

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

Mid-Atlantic STMA: www.mastma.org

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

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

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

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

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

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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Q&A WITH DR. GRADY MILLER

[Note: This month's column is a bit different, and will not have the typical "Q:" and "A:" lead-in to the first two paragraphs. It's just a straight column without a specific question.]

In a recent conversation with a sports field manager, I made the comment that people have more "worrying questions" now than ever before, but that I am not getting asked many questions. He thought it was an odd comment, but let me explain.

I think everyone agrees that, since March 2020, most of the news surrounding our lives has been dominated by COVID-19. The virus occupied our daily thoughts while influencing our work and home life. For many, the virus has been devastating in terms of health and finances. While the fear and worry are not over yet, there is great hope for 2021 with news of successful vaccines on the way.

I believe one of the greatest skills a person can possess is the willingness to ask questions. There are certainly questions for which the answers are not attainable in the short term. We have asked our government leaders many questions related to what it will take to end the grip this virus has on our world. Many medical experts have offered their opinions and many more scientists are working on the answers. Let's all hope we have those answers soon.

Unfortunately, the virus changed the way we most often interact with each other professionally. Sports field managers are a close-knit group that enjoys each other's company. The NC-STMA chapter normally has three or four regional meetings and a large annual meeting. Attendance at those events was very high before 2020, and gave everyone associated with sports field management a great opportunity to shake hands, meet new people, share stories and ask questions. It is also where many of the questions for this column originate. Of course, those meetings could not be held in person after March 2020.

It was great that STMA chapters and national STMA quickly adapted and went to virtual meetings. The Town Hall meetings were a great way to present new ideas, but, in general, they did not seem to generate the interaction that face-to-face meetings have in the past.

In my own extension programs, I felt that most people were just not as comfortable asking questions using the computer interface.

But the problem goes beyond participation in virtual meetings. As the pandemic moved into fall, our university tried to have face-to-face classes. After a few weeks, all undergraduate classes went online, but graduate classes were given an option to remain face to face. My group of 14 graduate students spread out in a room large enough to hold 75 students and we continued with instruction with physical distancing and facemasks in place. I normally have a very interactive class with a lot of open discussion — but not this time. I just could not get the students to engage with each other or with me. I attributed the silence to the physical distance among students and the fact that people are not very comfortable talking while wearing masks. Without their questions, no answers were presented for thought and discussion. Ultimately, with less interaction, there was less learning.

Experts predict that remote interaction will stay with us at a much higher level than prior to the pandemic. So, remote working, remote education and remote medicine will likely still be a part of our future. Expect to see permanent changes in some services that previously required personal interaction.

Experts have commented that 2020 will be remembered as a turning point in our history in many ways — socially, culturally and economically. No person has all the answers in how this will shape the sports field management industry. But I encourage you all to stay engaged, ask questions, be prepared to adapt, and use your experiences to help others. Be ready, and we will all get through this together. **SFM**



Grady Miller, Ph.D.

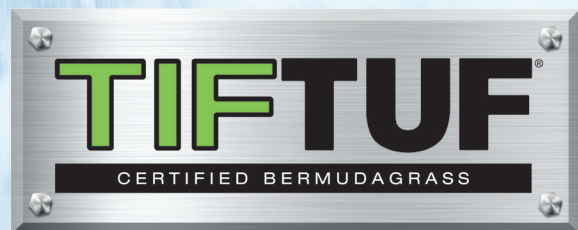
Professor and Extension Turf Specialist
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Questions?

Send them to Grady Miller at North Carolina State University, Box 7620, Raleigh, NC 27695-7620, or e-mail grady_miller@ncsu.edu
Or, send your question to Pamela Sherratt at 202 Kottman Hall, 2001 Coffey Road, Columbus, OH 43210 or sherratt.1@osu.edu

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