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# SportsField

## MANAGEMENT

December 2022

Vol. 38 No. 12

The Official Publication of the Sports Field Management Association

State of the Industry **18** | Innovations **20**  
Seed and Sod **28** | Maintenance Operations **40**

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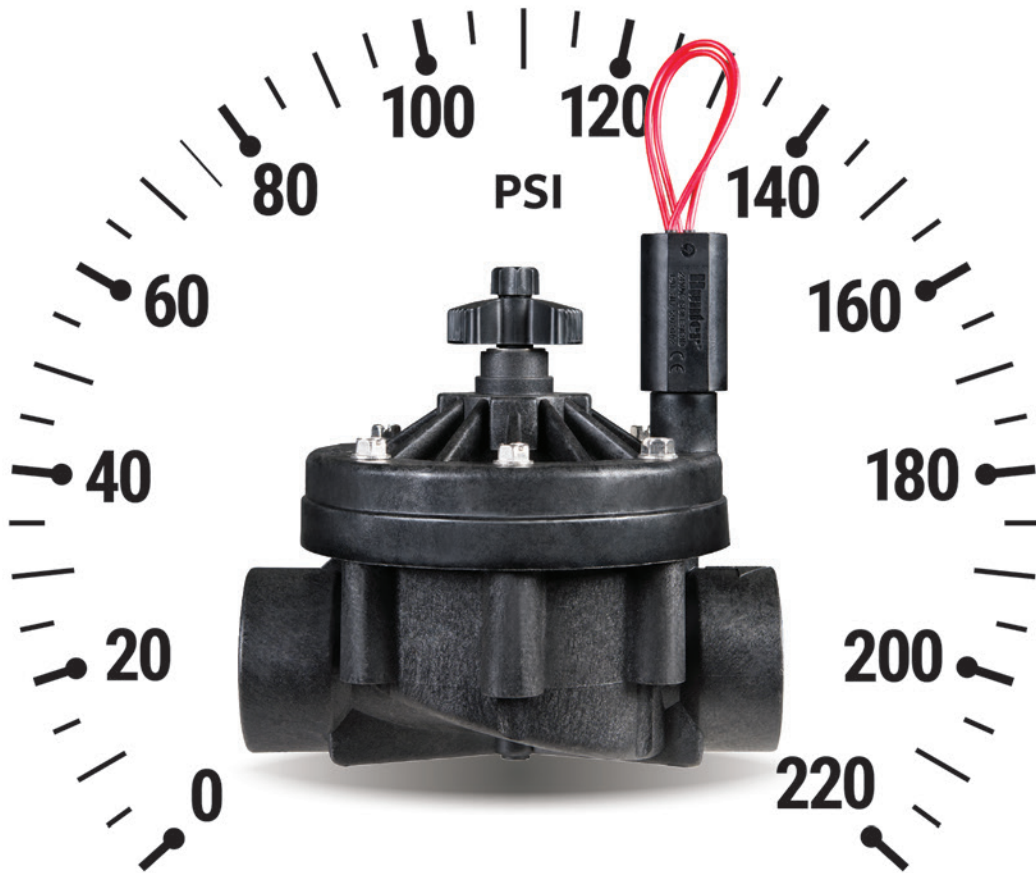


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# Hunter®

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# Editor's Note



**John Kmitta**  
Associate Publisher /  
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It's hard to believe that another calendar year is almost in the books. I'm thrilled with the content we have produced this year, the contacts I have made, and everything I have learned along the way. And I am even more excited about what 2023 has in store.

First off, I look forward to working with SFMA's new CEO, whom we will introduce in the January issue. I also look forward to working with incoming SFMA President, Sun Roesslein, CSFM, whom we will profile in the February issue. The future of the association is bright.

From an editorial standpoint, our recently expanded *SportsField Management* editorial team will allow us to further grow our offerings. For example:

■ We are already hard at work on an expanded social media presence, more in-depth online and digital offerings, and a slate of new industry podcasts.

■ Our team is also developing content to draw attention to the industry and promote sports field management as a career by highlighting colleges and universities that offer programs tied to sports turf, turfgrass management and turfgrass science.

■ We will also be providing more in-depth editorial content on important topics such as mental and physical wellbeing, and diversity, equity and inclusion.

■ In 2023, *SportsField Management* will also highlight professionals who are relatively new to the industry and who are already making a difference. Our Rising Stars program will profile up-and-coming stars in the industry. Stay tuned to *SportsField Management*, *SportsFieldManagementOnline.com* and our newsletters for additional details on how to nominate your peers for recognition.

Last, but not least, I look forward to the upcoming SFMA Conference and Exhibition. We previewed the conference in the November issue of *SportsField Management*, but I just want to take this opportunity to invite you to attend the industry's premier event. It is a great time to network with other industry professionals, learn from the experts, tour some amazing fields and facilities, and grow your professionalism.

I look forward to seeing you in Salt Lake City in January, and I wish all of you a safe and happy holiday season. **SFM**

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# President's Message



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**James Bergdoll, CSFM, CPRP**

SFMA President

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As fall sports turn into winter sports, most activities shift inside. Hopefully, most sports field managers will be able to take some time away from work, recuperate and spend time with family. Some of us might have responsibility for winter weather events and might require long days. Regardless of nasty weather and the indoor sports season there is still work to do to prepare for the following year.

I will be entering our budgeting season soon – the time of year we look at our current budget and try to adjust projections for the remainder of the fiscal year and plan for next year. We usually initially submit our budget requests around the first of the new calendar year. Our fiscal year begins July 1, so we are only half a year in when planning for the next. We track spending and look where we can make improvements. However, we rarely ask for less money.

There is also capital planning. Every year we ask for major capital equipment purchases and keep a running list of field and facility improvements. Sometimes it's hard to anticipate costs for significant items that might require hiring consultants and an open bid process, so be sure to research as much as you can on the front end. Look for comparable projects in your region, and talk to contractors, suppliers and other sports field managers to understand current costs and challenges such as supply chain. Sometimes you might have to break projects out into multiple budget years.

For operational items, this is a great time of the year to reflect back on

the last year and the sports seasons in terms of successes, failures, and learning moments. Identify areas to make improvements based on experiences and calendars from the past year, and start thinking about maintenance planning for the next year. Do you need to plan to order more or fewer materials such as infield conditioner or paint? Do you regularly replace tools or sports equipment like padding, netting, or goals? What about labor – did you budget enough hours, and does that need to go up or down? That might be based on the schedule for next season, but hopefully you have that in place.

The most important thing for budget planning is to be a part of the conversation. Do not hesitate to tell your leadership you would like to learn more about the process and be part of the decision-making process. Every operation and agency is different, and it certainly does not hurt to have these conversations year-round to better prepare for when "budget season" begins.

I wish you all the best in this process and, like Santa Claus, I hope you get everything you ask for. Speaking of which, I wish you all wonderful and happy holidays. Spend some time with your families, and I will see you all in Salt Lake City for the SFMA Conference! **SFM**

*James Bergdoll, CSFM, CPRP*



## Support SAFE at the SFMA Conference and Exhibition

There will be three opportunities to support the SAFE Foundation at the 2023 SFMA Conference and Exhibition.

### SAFE CORNHOLE TOURNAMENT

In lieu of the golf tournament, SFMA will be hosting the SAFE Indoor Backyard Games and Cornhole Tournament. This event will be held Monday, January 16, from 10 a.m.-1 p.m. at the Salt Palace Convention Center and will cost \$50 to participate (with all proceeds benefiting the SAFE Foundation). Along with the tournament there will be a light lunch, drinks, mini golf, backyard games, music and more!

Sign up can be done when you complete your conference registration. If you have already registered for the conference and want to sign up for the tournament you can go to your registration confirmation email and click on “modify your registration.”

SAFE Foundation Indoor backyard Brunch event on Monday will primarily feature a Cornhole Tournament. Signing up for this event with your conference registration makes you eligible to play in the tournament.

- You will need to be a two-person team. Please try to have your teammate prior to the event on Monday. SFMA can try to pair you up with someone that day if you don't have a teammate.

- As soon as you get to the event on Monday, head to the tournament sign-up table first thing.

- It will be bracket play. Single or double elimination depending on how many teams sign up. Time is limited for this tournament.

- Once everyone is signed up and the bracket filled out, participants will start throwing bags! SFMA will announce when it is your time to play.

- While you wait your turn at cornhole there will be other games you can play. There will be a mini golf course set up to practice your putting skills, giant Jenga, and the ladder toss game, along with food and drinks!

- The cornhole tournament will feature prizes for first, second and third place.

For additional information or questions about the SAFE Backyard Games and Brunch or the cornhole tournament specifically, email [SFMAInfo@SportsFieldManagement.org](mailto:SFMAInfo@SportsFieldManagement.org).

### SAFE NIGHT OF BOWLING

The annual SAFE Night of Bowling will take place on January 16 from 6-9 p.m. at All Star Bowling and



Entertainment in Draper, Utah. The cost is \$60 with all proceeds going to the SAFE foundation. Just like the cornhole tournament, sign-up for the event can be done through the conference registration portal. SFMA is looking forward to a fun night of bowling and socializing (food and transportation will be provided).

### SAFE LIVE AUCTION

Get your wallets ready as SFMA will be holding its live auction again this year to benefit the SAFE Foundation. This event will take place directly before the Welcome Reception on Monday evening at 7 p.m. If you have items you would like to donate, please email [wwebber@sportsfieldmanagement.org](mailto:wwebber@sportsfieldmanagement.org)

### HISTORY OF THE SAFE FOUNDATION

The Foundation for Safer Athletic Fields for Everyone (SAFE) was created in December of 2000 to provide research, educational programs and scholarships geared to the sports field profession.

SAFE believes that it has a fundamental responsibility to facilitate safe and environmentally friendly sports and recreational fields for athletes of all ages and ability. Its board of trustees recognizes this potential and has shifted from an internal organization to an externally focused organization.

SAFE's mission is to enrich communities through championing safe, sustainable sports and recreation fields for all athletes.

SAFE generates funding for its programs through member and industry donations, grants from other foundations, and events held at the annual SFMA Conference and Exhibition.

## It's time to renew your 2023 SFMA membership!

SFMA members can renew their memberships online at [sportsfieldmanagement.org](https://sportsfieldmanagement.org) for a quick and seamless process. When you submit your renewal, you will immediately receive a receipt by email. The membership year ends Dec. 31. You do need to be a 2023 member to receive the discounted rate of \$375 to attend the annual conference in Salt Lake City.

Your SFMA membership is an investment for your future, that's why SFMA prides itself on providing a membership that connects you with a network of peers who are willing to share their best practices, provides opportunities for education to help you do your job better and quick access to information and resources to help you save time.

With your membership, you'll receive:

- A monthly electronic newsletter that communicates association and industry information.
- Access to the Member's Only section of [sportsfieldmanagement.org](https://sportsfieldmanagement.org), which has a real-time membership directory and hundreds of technical educational resources that are specific to sports field management.
- Access to Michigan State's Turfgrass Information File, the green industry's greatest resource for up-to-date technical information, a \$100 value.
- Ability to enter your field in the nationally recognized Field of the Year awards program.
- Opportunity to become a Certified Sports Field Manager (CSFM) to showcase your professionalism and to have your facility certified as Environmentally Responsible.
- Significant savings on registration to SFMA's annual and regional conferences, and discounts to other organization's education.
- Opportunity to participate in volunteer leadership positions.
- Opportunity to join one of SFMA's affiliated chapters for a strong local network. (Each chapter sets its own local dues.)
- Purchase SFMA branded apparel.
- *SportsField Management* magazine each month, a \$40 value.
- The ability to apply for scholarships (students only).
- Discounted exhibitor booth at the annual conference (commercial members only).

Make sure to renew your membership before the December 31 deadline to avoid missing out on these great benefits. Renew online by logging into your account and adding your membership to your cart through SFMA's Products page. Any questions about membership or how to renew can be directed toward SFMA HQ at 800-323-3875 or [sfmainfo@sportsfieldmanagement.org](mailto:sfmainfo@sportsfieldmanagement.org).

## Sports field manager advocacy video

In 2021 SFMA completed a video highlighting the sports field management profession. The video also has a great message for students that are considering joining the profession. The full video is close to 5 minutes long, but SFMA has broken it up into smaller sections that are about 30 seconds to 1 minute each.

These shortened videos are perfect to be put on social media, shown at career days, or featured on your website. The video can be accessed at <https://www.youtube.com/watch?v=wkym4ba2xNs>

Contact [sfmainfo@sportsfieldmanagement.org](mailto:sfmainfo@sportsfieldmanagement.org) if you wish to receive the 30-second segments. **SFM**



## GARVEY-ROSENTHAL SOCCER FIELD

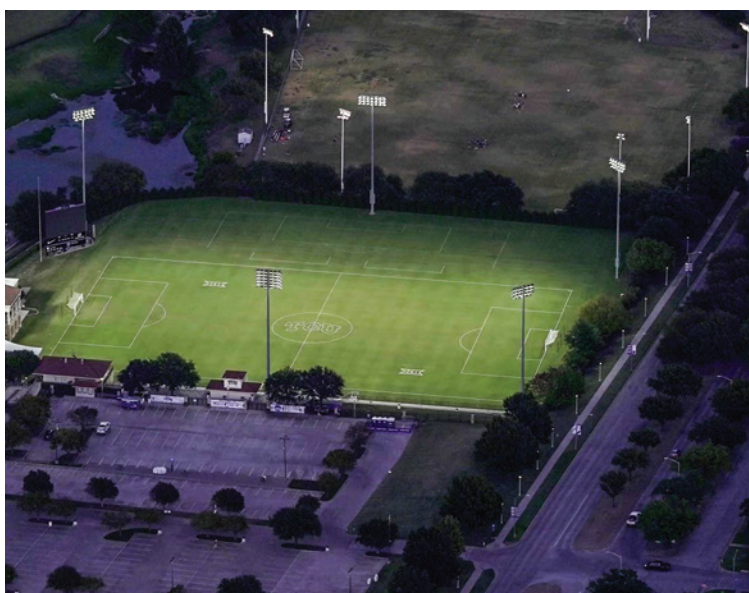
### TCU, FORT WORTH, TEXAS

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The Field of the Year Awards program is made possible by the support of sponsors Carolina Green Corp., Precision Laboratories, and John Deere.

The Garvey-Rosenthal soccer pitch is one of the premier soccer pitches in the NCAA. We had not given much thought to entering [for Field of the Year] until our coaching staff and players started encouraging us to apply.

The soccer team has traveled across the country, east and west, and every time they get home, they are thankful for what our team does. We have learned from their feedback how they want the pitch to play and what their bodies are telling them is needed for recovery. Since coming onboard, we have implemented a more aggressive cultural practice plan, including more solid-tine aeration during the season, as well as core aerification in the spring and summer. In doing so, their joints and muscles do not take the pounding they did previously.



With extensive soil and tissue testing, we can be more precise with our nutrient applications as well. We can feed the plants without pushing too much unnecessary growth. We have instituted a strong biweekly foliar program that provides the needed macro and micronutrients while supplementing with granular applications as needed. This has helped us combat diseases that occur with excess nitrogen, as well as cutting back on our fertilizer budget. Budgets are shrinking while costs are growing, so our goal is squeeze everything we can out of every penny we invest.

We strive to continually provide the safest surface we can while having the fastest surface for a distinct home field advantage.

– Andrew Siegel, sports turf manager



**Level and category of submission:** College Soccer

**Field manager:** Andrew Siegel

**Title:** Sports turf manager

**Education:** : Bachelor of Science, Agronomy

**Experience:** Sports turf manager at TCU, responsible for the four-acre soccer facility, football stadium field, two grass practice fields, baseball field, track complex, two four-acre intramural fields, as well as the common areas surrounding them. Prior to TCU, I began the sports turf program at UT Arlington (UTA) where I ran the baseball and softball fields for five years. Prior to UTA, I spent a year and a half in golf. I had worked at Texas A&M as a student for three years before being hired full time upon graduation.

**Full-time staff:** Rodrigo Martinez, Trevor Austin, Carlos Carcamo, Raul Puebla, Miguel Cardenas, Cenobio Resendiz, Eduardo Cardoza and Gabriel Hernandez

**Original construction:** 2017

**Turfgrass:** TifTuf bermuda

**Overseed:** Futura 2000 treated perennial rye

**Rootzone:** Sand

**Drainage:** USGA

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**SportsField Management (SFM):** Congratulations on winning the College Soccer Field of the Year award for Garvey-Rosenthal Soccer Field. What are you most proud of with this field, and this win?

**Andrew Siegel:** The pandemic year/season was truly a season of unknowns. Much like football, we went into the fall of 2020 not really knowing what to expect. Some conferences were not going to be playing soccer at all in the fall while some decided to play conference games only. The NCAA was not even 100 percent sure how the tournament would be handled. Once things started to fall into place, we worked out a plan going forward. For instance, we choose not to overseed our TifTuf bermuda pitch in most years. In 2020, it was decided the Big 12 would play conference games in the fall and let teams play non-conference games in the spring leading up to the NCAA tournament. We went into the spring thinking we could host games until the decision to play in a “bubble” was made. The pitch was used for an extended time when we normally would have been having spring practice on a dormant surface. The team adjusted to the schedule and shined.

**SFM:** What were the biggest challenges you have faced with Garvey-Rosenthal Soccer Field, and how have you approached those challenges?

**Siegel:** We knew we were going to adjust our schedule for fertilizing, cultural practices, and pest control with an altered season. The 2020-2021 season was spread out, so we decided to overseed. In doing so, we knew we would transition for the first time, while being ready for the 2021 season in August. We made a plan to fraise mow the entire pitch as soon as the team left for North Carolina and the NCAA tournament. On April 29 we began the process and were mowing TifTuf by May 17. On May 26 we pulled cores for the first time.

Another issue we overcame during the season was a week-long arctic plunge that shut down the Dallas-Fort Worth metroplex for a week. Once the roads were cleared and safe to drive, our team came in to clear snow so the soccer team could get back to practice. Needless to say, that is not a normal occurrence for us in north Texas. One of the main issues we fought back from was winterkill because of the storm. Our field is fairly





open and exposed to wind gusts as well. Many of our northern-facing areas lost the snow cover that would have provided us insulation. As soon as we started warming up, we began verticutting the non-overseeded areas so we could push new bermuda growth.

**SFM:** You also won College Football Field of the Year for Moncrief Field at Amon Carter Stadium, which we profiled in the July issue of *SportsField Management*. What does winning two Field of the Year awards in the same year mean to you? And what is the secret to your success?

**Siegel:** The honor of winning two in one calendar year was not lost on us. I did not expect to hear back for one, let alone two knowing how many awesome turf managers are members of this organization that provide exemplary fields for their athletes. The award truly goes to our team and is a testament to their hard work. There is no “secret to our success,” and I doubt any turf manager gets into this profession for accolades. We were encouraged to apply because our soccer staff truly believes we have the best pitch in the country. Once I listened to them, I

thought that it would be a really good honor for our crew as well as our Facilities department at TCU. In order to succeed in any business, you need hardworking and dedicated people, as well as the resources in place to let those people shine. TCU Facilities entrusted me with both, and I am eternally grateful.

**SFM:** We discussed your career and background when we profiled Moncrief Field, so we won't delve into that again here. But is there anything you would like to say about your crew/staff at TCU?

**Siegel:** When I arrived in 2018, the crew was pretty set in their ways of operating. My predecessor did an amazing job setting them up for success. I had the ability to come in, observe, and tweak things to my liking for lack of better words. There wasn't much that was changed, but some operations – for example how we painted – could be improved upon, in my eyes. The crew did a good job adapting to those changes. There were some growing pains, but we worked through them and improved because of it.

I also would be forgetting a key cog in our operation if I did not address our soccer coaching staff. They have entrusted us to care for the pitch and pretty much stay out of our way. We communicate the when, where, why, and how of cultural practices, fertility, etc., and they let us go with it. We have a mutual respect, trust, and friendship that took time to develop. Without that, we would not be able to succeed in helping them compete for championships.

**SFM:** With two Field of the Year award wins in the same year, what advice do you have for other sports field

managers when it comes to creating award-winning playing surfaces?

**Siegel:** I don't have any secret to creating award-winning surfaces. What I do have is two ears to listen, a mouth for asking questions, and a passion for providing safe playing surfaces. Listening to others in this industry – people you work with, and feedback from the end user – is what will set you apart. We can learn so much from our peers' trials and tribulations then apply that to our work. Our employees have many great ideas that lead to better practices while the athlete knows what makes them feel safe and trust the field. Just listen, learn, and the rest will take care of itself. **SFM**



## JOHN MASCARO'S PHOTO QUIZ



### CAN YOU IDENTIFY THIS TURFGRASS PROBLEM?

**PROBLEM:**

Brown area on center field

**TURFGRASS AREA:**

University baseball field

**LOCATION:**

Baltimore, Maryland

**TURFGRASS VARIETY:**

Tahoma 31 bermudagrass

*Answer on page 33*

*John Mascaro is president of Turf-Tec International*



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# The Year In Review

By John Kmitta

Looking back on 2022, it is hard to believe that it was just this year that the association changed its name from the Sports Turf Managers Association (STMA) to the Sports Field Management Association (SFMA).

"This change had been discussed for years leading up to that moment with the primary focus being inclusivity," stated SFMA President James Bergdoll, CSFM, CPRP.

According to Bergdoll, replacing the word "turf" with "field" better captured the work sports field managers do, and helps avoid confusion with the synthetic turf industry.

"We also felt that word 'manager' was restrictive to those working at a higher level, while 'management' encompasses everyone and the work being done at all levels," Bergdoll added. "As we all know, it takes a number of people to maintain sports fields and facilities – from volunteers, coaches, part-timers, full-time staff, and even administrators."

But from challenges to successes, 2022 was much more than just the association name change.

"I would sum up 2022 for sports field managers in one word – resilient," said SFMA Vice President, Commercial, Paula Sliefert, senior manager of commercial business at The Toro Company. "Sports field managers had to successfully overcome many difficult and/or challenging experiences this past year. They demonstrated flexibility to meet both external, and likely internal, demands. They demonstrated tenacity and creativity in getting the job done even when faced with challenges brought on by a supplier community that was affected by the global supply chain constraints. I admire their fortitude, persistency, and perseverance to deliver high-quality playing surfaces despite the numerous new challenges they faced brought on by the pandemic."

According to SFMA Academic Director, Adam Thoms, Ph.D., assistant professor of commercial turfgrass in the Department of Horticulture at Iowa State University, 2022 was challenging but rewarding.

"Between weather and labor, it was a struggle for turfgrass managers this past year," said Thoms. "With that said, as usual turfgrass managers did an amazing job on their fields. When you attend a game or watch one on television the fields have never looked better."



That doesn't just happen, it takes field managers' determination to make this happen, especially when weather doesn't want to cooperate."

According to Bergdoll, one of the biggest challenges SFMA faced in 2022 was the retirement of longtime SFMA CEO Kim Heck.

"Having to be flexible and able to manage changes as they come, the board had to pivot and go work on making sure we had a sound plan to put into action to begin the search for the next CEO and maintain operations in a manner that would not be noticeable to membership," he said. "Immediately, a small group of past, present, and future leaders of the association were assembled to begin working on the transition, search, and selection of our next CEO."

Bergdoll added that the board and SFMA staff stepped up and assumed additional responsibilities to maintain operations as normal as possible.

Thoms added that the biggest challenge faced by the industry as a whole has been finding trained labor. "There are so few turfgrass students in school across the U.S., and many athletic fields have openings that would train people on the spot," he said. "We will have to solve this moving ahead."

Bergdoll echoed that sentiment, stating that it will be important to get younger people interested in the industry, fill gaps in the labor shortage, and recruit potential employees from underrepresented groups who might not know this is a viable career opportunity. He added that the Sports Field Management 101 education program, Apprenticeship and Ambassador programs are all targeting this challenge.

Sliefert said the biggest challenges facing the industry short term are labor, supplier constraints (supply chain)

and budget, and long-term challenges included finding future leaders and an educated/dedicated workforce. “We need to continue to engage younger field managers to be involved in SFMA,” she said.

With regard to the ongoing supply chain issue, Bergdoll said, “We are by nature a very resourceful group of people who find ways to make things happen in the absence of resources.”

He added that increasing environmental issues – from climate change and creating a more resilient landscape to state and local legislative changes – are creating challenges for the industry.

“With the new BMP document and work being done by the Environmental committee, we can try to get ahead of the game, but there is still much work to be done in that we need to have a larger collective voice,” said Bergdoll. “Right now, finding the right partnerships is our best angle for combating legislative issues.”

According to Bergdoll, synthetic turf versus natural grass continues to be a big topic of conversation, as well. “From an injury and safety side, this has been a big topic recently in the NFL, as well as some major soccer organizations,” he said. “There are also things happening in regard to the environmental impact and public health related to materials used in making synthetic turf. While our responsibility is to maintain a safe playing surface regardless of the makeup, these topics will certainly have some implications for how we do this in the years to come.”

Thoms said he is excited to see more players caring about safe playing surfaces, and being vocal about wanting safer playing surfaces.

“It seems like every week you see several different NFL players mention how they prefer natural grass and how it is better for their body,” he said. “Hopefully this will trickle down to other levels of play and action will start to take place.”

Challenges aside, Bergdoll said he was excited to serve as SFMA President this year and begin work on the SFMA’s new 10-year strategic plan, which focuses on growth.

According to Bergdoll, SFMA’s accomplishments include development of a conference education program that includes opportunities for learning soft skills and other professional development, including diversity, equity, and inclusion; a new SAFE scholarship that is diversity focused; development of strategic partnerships with sports governing bodies and related industry associations to communicate the expertise of the sports field professional; and ongoing work to create an Ambassador Outreach

# “I would sum up 2022 for sports field managers in one word – resilient.”

— SFMA VICE PRESIDENT,  
COMMERCIAL, PAULA SLIEFERT

Program where ambassadors speak or participate in career days at local schools and present to leadership groups about safety and the expertise of sports field managers. Also, the SFMA Certification Committee has been working on the creation of an apprenticeship program that is ready to be registered with the federal government, he added.

Thoms added that the future of the sports field management industry in 2023 and beyond is bright.

“The pandemic showed us that sports are a chance to get away from the crazy world and enjoy the simple things, as well as the importance to get outside and be active,” he said. “There are tons of opportunities in this industry, and they are waiting to be taken.”

Sliefert said she excited about the advancement of women in the industry; and, from a technology/manufacturing standpoint, the advancement of electric and autonomous solutions.

Said Bergdoll, “As we begin to onboard the new CEO, there are a lot of opportunities for growth and improvement already identified as priorities.

“As an industry, we certainly have some challenges ahead,” he added. “However, one thing that we as a group have that will keep driving us forward is passion. We are, without a doubt, some of the most passionate people who care deeply about what we do, providing the safest and best-playing surfaces for all users. Knowing that gives me hope, and working alongside so many passionate people to move us all forward is not only gratifying, it turns hope into reality.” **SFM**

*John Kmitta is associate publisher and editorial brand director of SportsField Management magazine.*



Photos by John Kmitta

# Equip Expo 2022

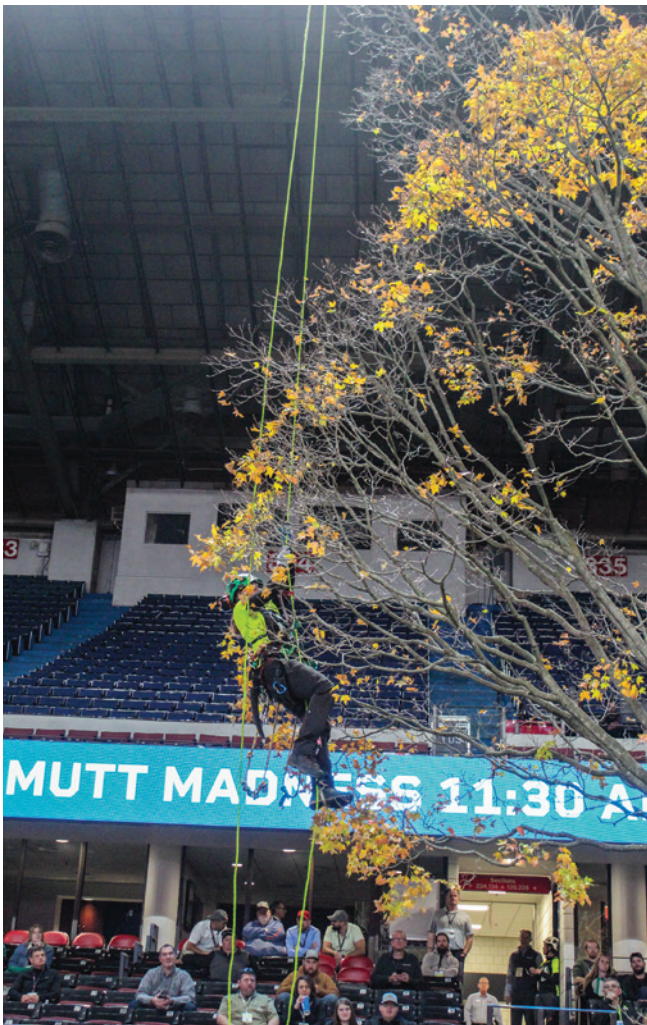


Photo by John Kmitta

Equip Exposition (formerly GIE+EXPO) set a new record by welcoming more than 25,000 attendees and exhibitors. The 2022 show debuted a new brand and new experiences for its participants, and all indoor and outdoor exhibit space available was sold-out for both Equip Exposition and Hardscape North America, which co-locates with Equip Expo.

“The trade show remains the industry’s family reunion,” said Kris Kiser, president and CEO of the Equip Exposition and the Outdoor Power Equipment Institute (OPEI), which owns the trade show. “This year we shook up the programming a bit and introduced lots of new ideas from an opening welcome reception and new, interactive educational sessions to Mulligan’s 5K Fun Run & Walk, a coffee bar, and an expanded Outdoor Demo Yard.

“This year’s numbers show the industry is strong and optimistic about 2023,” Kiser added. “The industry continues to innovate and bring new technologies to markets evidenced by the major product announcements, education, networking that went on.”

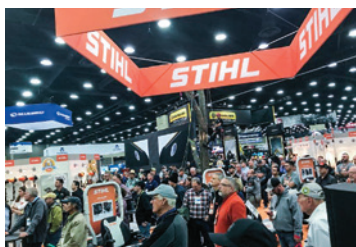
Expo attendees hailed from all 50 states and 49 countries, with the furthest traveling attendees journeying from Guam, New Zealand and Australia.

More than 4,000 people turned out at the first-ever Welcome Reception at Louisville Slugger Field. Nearly 250 braved the cold morning at the inaugural Mulligan’s 5K Fun Run & Walk over the Big Four Pedestrian Bridge. The benefit run and walk, sponsored by Ariens, raised funds for the Kentucky Humane Society.

The following is a recap of some of the highlights and announcements from the show.

**STIHL**

Stihl introduced several new products for professional users – including the Stihl 700 Series and Stihl 900 Series zero-turn mowers, Stihl MSA 220 TC-O chain saw, and Stihl MSA 300 C-O battery-powered chain saw.



*Photo by John Kmitta*

“Since 1974, our strength has been the relationship between Stihl Inc. and our servicing dealers,” said Stihl Inc. President Terry Horan. “And we are very proud of the role we have played in helping small businesses across America flourish and grow.

“We don’t rest on our laurels,” Horan told Equip Exposition attendees. “We know the market is changing and adapting. Our company will be adapting as well. We are committed to continuously expanding our battery product offering and doing so with speed to market in order to compete and win in today’s marketplace. And we are going to share with you today some exciting new products.”

**STIHL 700 SERIES AND STIHL 900 SERIES**

Stihl 700 Series and Stihl 900 Series zero-turn mowers provide professional users with the ultimate range of mowing solutions, boasting efficient operation, smooth cuts, durable components, and a comfortable ride designed to get the job done with less fatigue. Offering a total of 12 new models within the 700 and 900 Series, pros can choose from varying deck widths from 52"-72" across the range, as well as diverse high-performing engine options from fuel-efficient EFI engines to carbureted engines.



*Photo provided by Stihl*

Both the Stihl 700 and 900 Series include an advanced four-wheel suspension system with mowing deck height compensation, independent front suspension with upper and lower control arms, and rear suspension with shock absorbers. Powerful Hydro-Gear ZT transaxles deliver an efficient top-forward ground speed of 10 mph in the 700 Series and 12 mph in the 900 Series. Both professional series have a reverse speed of 5 mph, allowing the user maneuverability.

To help keep pros comfortable on the job, the 700 Series features a deluxe seat with armrests. However, the 900

Series offers superior comfort with a premium suspension seat providing an adjustable backrest, armrests and padding for comfort during longer professional jobs.

“Stihl is thrilled to launch the two professional series of zero-turn mowers,” said Brian Manke, Stihl Inc. product manager. “With three distinct engine options and various mowing deck sizes, professionals can choose the ideal mower for even the most demanding landscaping jobs.”

**STIHL MSA-220 TC-O**

The Stihl MSA 220 TC-O is the most powerful top-handle chain saw in the Stihl battery lineup, boasting performance comparable to professional gasoline-powered top-handle chain saws. With a high chain speed and durable parts, such as a magnesium motor housing and a brushless motor, this saw can be counted on by in-tree professionals to hold up to a heavy workload. Convenient LED display lights allow pros to quickly see the status of their saw to keep moving on the job. The MSA 220 TC-O provides the power and dependability pros trust from Stihl. The weather-resistant design is low maintenance and easy-to-service and offers replaceable parts.

“In addition to the robust features of the MSA 220 TC-O, the saw utilizes the same 3/8" OILOMATIC Stihl Picco Super 3 chain and 12" Rollomatic E-and-E Light guide bars as its gas-powered counterparts, helping pros seamlessly make the switch from gas to battery,” said Paul Beblowski, product manager at Stihl Inc.

The Oilomatic Stihl Picco Super 3 (63 PS3) is ideal for pairing with chain saws with power between 1.5kW and 2.0 kW (2.0 bhp and 2.6 bhp). Examples of this include MSA 220 T, MSA 220 C-B, MSA 200 C-B, MS 194 C-E, MS 194 T, MS 201 C-E and the MS 201 T.



*Photo provided by Stihl*

### STIHL MSA 300 C-O

The Stihl MSA 300 C-O sets the benchmark in performance as the most powerful battery chain saw in the Stihl lineup. Certified by the American Green Zone Alliance (AGZA), this battery saw offers a wide range of applications, from felling and delimbing trees to bucking and storm cleanup. Its lightweight design, rubberized soft touch handles and anti-vibration technology help minimize fatigue. A truly professional-grade battery chain saw, the MSA 300 C-O also features a lightweight magnesium motor housing that provides added durability to this powerful tool.

“Not only does the MSA 300 C-O give pros the benefits of battery in a chain saw that delivers professional-grade performance,” said Beblowski, “But it’s also the first of its kind to utilize the power laminate cell technology in the AP 500 S, which increases the life of the battery compared to the previous battery model, thus maximizing product performance.”

### KRESS COMMERCIAL

Kress unveiled its inaugural line of commercial-grade outdoor power equipment (OPE) at the Equip Expo. Kress presented the CyberSystem battery platform, while enticing Equip attendees to imagine a future free from the gas pump with all the power and performance necessary for professional landscapers and facilities managers.

The new Kress CyberSystem features both 4Ah and 11Ah battery packs with the ability to recharge each 60v battery to 100% in only eight minutes.

Additionally, each 60v CyberPack battery is capable of producing up to twice the power output and lasting up to 10 times longer than standard lithium-ion batteries.

“While we know how revolutionary the Kress CyberSystem is, we have been thrilled with the level of interest at Equip – these professionals really understand the future of OPE,” said Todd Zimmerman, VP of product development. “Dealers throughout North America, including strong representation in Canada, are clamoring to get their hands on the new Kress equipment for their customers as they look toward a

viable battery-powered, commercial-grade solution that frees them from the hassles of gas.”

Set for Q1 2023 availability, the new line-up of Kress commercial OPE — all of which is fully compatible with the 8-minute CyberSystem — includes:

- 60V 876cfm Commercial backpack blower
- 60V 21" Commercial self-propelled mower
- 60V 16.5" Commercial cordless grass trimmer
- 60V 16" Commercial brushless chainsaw
- Family of RTK robotic mowers with no boundary wire or local antenna

### BRIGGS & STRATTON

This was the first year that Briggs & Stratton brought all of its businesses and brands together as one booth at Equip Exposition.

“The reason we did so is because all of those brands represent Briggs & Stratton’s ability to power applications for all of our end customers,” said Steve Andrews, president and CEO of Briggs & Stratton. “And that’s what we are – we are a provider of power.”

Andrews added that one thing apparent to everyone at Equip Exposition is that more and more products and technology built around electrification. “Two years ago, when Briggs & Stratton got a new owner and I stepped in as CEO, one of the first things we said we were going to do was lean into the electrification trend.”

Briggs & Stratton brought a bolt of energy to Equip Expo with a newly established Vanguard electrification business unit and an expanded lineup of battery products. This comes as off-highway equipment industries, like the turf market, are embracing the many benefits of electrification including lower emissions, less maintenance and reduced noise levels. Vanguard is introducing three new commercial battery options — the 3.5kWh Diecast Commercial Battery, 5kWh\* Diecast Commercial Battery and the 7kWh Diecast Commercial Battery.

“For other power providers, electrification may still be a buzz term or a conversation point, but Vanguard has been steadily investing in and growing our offerings in battery power for years,” said David Frank, vice president of electrification at Briggs & Stratton. “We continue to use our proven application expertise to push the boundaries of what’s



Photo by John Kmitta



Photo by John Kmitta

possible for electrified equipment while working to make our batteries the toughest, safest and most reliable solution on the market. With the newly established electrification business unit and the launch of these latest battery products, we are solidifying our role as a leader in off-highway electrification and the power solutions provider of choice for OEMs around the world.”

Equip Exposition attendees also had the opportunity to view innovative solutions powered by Vanguard commercial battery packs. Visitors of the Briggs & Stratton booth will see the Swappable Battery Pack in two concept units from Billy Goat— a Force-e Blower and a KV-e Vacuum — and the 3.5 kWh Diecast Commercial Battery in the new Simplicity BlueVolt CZ1 zero turn mower.

### FERRIS

Ferris Mowers is taking the four-point suspension that made them a favorite among lawn contractors and making it available in an entry-level zero turn mower, the new Ferris 300S.

What makes the Ferris 300S a standout offering in the entry-level zero turn category is its coil-over shocks suspension, available on the rear for the 42-inch deck option and stepping up to four-point suspension in the 48-inch and 52-inch deck options. This patented suspension system eases the impact on the operator of uneven terrain.

The new addition to the Ferris line-up features a fully fabricated steel mower deck. The durable mower deck combines with a pivoting front axle, and ball bearings in the castor spindle to ensure durability and a quality cut for years to come. The Ferris 300S is powered by a Briggs & Stratton PXi OHV V-twin engine.

“The Ferris 300S is a fantastic option for users looking for a zero-turn at an accessible price point that doesn’t skimp on commercial-grade features and offers the suspension found on our higher-priced models,” said Christin Wam, senior director of marketing, Briggs & Stratton. “We’re confident that users will appreciate both the cut quality and comfort of the unit not found on competitive models in this range.”

### BILLY GOAT

Billy Goat, a brand of Briggs & Stratton, released a new leaf loader, the DL3700VETR Leaf Dragon. The unit offers a fuel efficient 37 gross hp., EFI Vanguard 933cc engine that is coupled to a 25-inch diameter shredding impeller with a long span belt for increased life and

generates 6,900 cpm of high-volume leaf suction. The engine features electric start with automotive style cold weather starting that is ideal for late fall cleanups and is up to 25% more fuel efficient than the carbureted models, helping to save valuable time and money during the season.

In addition, the unit features true curbside intake with a large 16-in. diameter x 10-ft long intake hose that is ergonomically supported with a three-position locking boom, allowing for 45 sq. feet of clean-up coverage before moving the unit. This is double the curbside reach of most other units on the market, offering large jumps in crew productivity. The design also eliminates wear on the rear intake for increased durability. The unit’s double-loop hose handle provides three unique operator positions for added operator ergonomics.

For quick impeller and liner inspection, the Leaf Dragon features a no-tool, two-pin door closure that is safety interlocked and eliminates the time and effort it takes to remove over 15 bolts for impeller access on other units on the market, encouraging preventative maintenance for longer life of the loader. A unique 12-inch wide, 10-gauge soft angle steel discharge chute eliminates the twists found on other units to more effectively spread the load, reduce wear, and improve service.

The road-ready DOT trailer is integral to the unit and is fully wired with LED lights for smooth and safe operation. It features wide leaf-spring axles and an adjustable hitch that accepts a standard 2-5/16” ball. The unit also comes complete with wheel chocks, a cone and cone holder, as well as convenient rake holders.

### SITEONE / LESCO

SiteOne Landscape Supply launched its Lesco 300 Truck Mounted Tank Sprayer, offering increased profitability for green industry professionals. The new unit features a 300-gallon tank, all electric start and 6.5 horsepower Vanguard engine.

“With an unknown economic outlook in 2023, we recognize it’s crucial for turf maintenance teams to be as productive as possible,” said Nick Schomer, SiteOne director of category management, equipment. “We’re excited to introduce our newest innovation at Equip



Photo provided by Billy Goat



Photos provided by SiteOne/Lesco

Expo and offer unbeatable Lesco financing options. This is the perfect time for customers to elevate their business for next year.”

The truck-mounted design offers alternative efficiencies compared to a stand-on unit, such as easy towability and space savings. Featuring a Hydra-Cell pump engineered to be trouble free and low maintenance, providing users a lifetime cost savings of up to \$6,500 compared to traditional double diaphragm and piston pumps.

The tank sprayer is resistant to corrosive chemicals and features molded, peel-resistant measurement labels for easy reading. It also includes a waterproof, lockable storage compartment. The unit attaches to most truck models and covers a large application area.

#### **STANLEY BLACK & DECKER (DEWALT / HUSTLER / CUB CADET)**

Stanley Black & Decker (NYSE: SWK) together with its brands, including DeWalt, Hustler and Cub Cadet previewed their latest ranges of outdoor power equipment at the 2022 Equip Exposition in Louisville, Kentucky. DeWalt unveiled its newest solution to professional battery power while Hustler and Cub Cadet also shared advancements in autonomy and operator comfort.

“Stanley Black & Decker Outdoor is helping to

revolutionize the outdoor power equipment industry with advancements in electrification and autonomous mowing options,” said Christine Potter, president of Outdoor, Stanley Black & Decker.

As landscapers consider how electric fits within their business, **DeWalt** unveiled a platform and battery solution – the Ascent Series mowers. DeWalt also previewed its Cordless Pruning Chainsaw at the exposition. Lightweight and compact, the 20V MAX 8 in. Cordless Pruning Chainsaw (DCCS623B) has a high-efficiency brushless motor designed to maximize runtime and motor life with up to 70 cuts per charge. Weighing just 4.6 pounds (tool only), the Pruning Chainsaw is 61% lighter and 3x more compact, designed to reduce fatigue while cutting, trimming and pruning. The integrated tip guard is also designed to provide stability during upcuts.

**Hustler** released its new model designs for 2023 at this year’s Equip Exposition. Constructed for ultimate performance and operator comfort, the redesigned X-ONE, Super Z and Hyperdrive commercial mowers will feature new seat styling, an adapted steering arm profile, a reconfigured VX deck to add reinforcement to the discharge area and more. The advancements made to X-ONE, Super Z and Hyperdrive will increase operator comfort of these mowers, while maintaining the exceptional cut quality Hustler users have long trusted.

**Cub Cadet** showcased its full line-up of Pro Series commercial mowers. Built with true innovation to help solve landscaper problems, the lineup includes semi-autonomous technology, slope-conquering designs, exclusive zero-turn steering systems and award-winning stand-ons. Attendees will have the opportunity to demo a range of mowers at the event, including Pro Z SurePath mowers with GPS-assisted Auto Steer technology designed to minimize unnecessary overlap and guide landscapers to an efficient cut.

#### **EXMARK**

Exmark redesigned its popular Radius zero-turn mower family for 2023. The new Radius models provide commercial cut quality, durability, and reliability, combined with increased comfort courtesy of upgraded operator seats and revised side pod controls. According to Exmark Product Manager, Mike Mayfield, the updated Radius models are a great choice for a wide range of commercial and residential customers.

“Radius models will appeal to entry-level landscape professionals, as well as homeowners with an acreage



**Photo provided by Exmark**

to maintain,” Mayfield said. “They deliver Exmark’s signature quality of cut and productivity, along with operator comfort that lasts until the mowing is done.”

A heavy-duty fabricated steel frame is at the heart of every Radius machine.

The Radius frame design places the heaviest components, including the engine and hydro drive

system, low and centralized in the frame for a low center of gravity. When combined with larger drive and caster tires, Radius provides enhanced stability and confident handling on varied terrain.

Radius E-Series and Radius S-Series models are available with a choice of 48-, 52- or 60-inch UltraCut Series 3 cutting decks. Radius X-Series models upgrade to the 5.5-inch deep UltraCut Series 4 cutting decks, in a choice of 52-inch or 60-inch widths.

Exmark also launched its first electric commercial walk-behind mower -- the Commercial 21 V-Series. The new model offers the commercial cut quality and durability landscape professionals demand, with low sound output and zero engine exhaust emissions, from an electric machine.

Exmark Director of Marketing, Jamie Briggs, said the new machine leverages the company’s cutting deck and blade design expertise to maximize cut quality and efficiency.

“The Commercial 21 V-Series makes it easier for landscape contractors to work in zero engine exhaust emission areas, or HOA quiet zones,” Briggs said. “It gives these professionals a true commercial mower that delivers Exmark’s signature cut quality and durability, with the low sound output and zero engine exhaust emissions they need to operate.”

At just under 81dB of measured sound output, the Commercial 21 V-Series operates well below the OSHA 85dB threshold for hearing protection.

The electric powertrain also eliminates service items typically associated with gas-powered mowers, including oil changes and air filter maintenance. The dramatic

reduction in service-related downtime ensures the Commercial 21 V-Series is ready to work whenever it’s needed.

The Commercial 21 V-Series is powered by a rechargeable 60 Volt 7.5Ah lithium-ion Professional Power System that provides up to 40 minutes of runtime per charge, depending on conditions. The 5.5A rapid charger provides 90% charge in 75 minutes. Two 60V 7.5 Ah batteries and a rapid charger are included with each Commercial 21 V-Series machine, giving contractors unmatched runtime and flexibility in the field.

## **TORO**

Toro introduced several new pieces of durable and innovative outdoor power equipment to meet the rugged demands of landscape professionals at Equip Expo 2022.

“We’re excited to introduce an impressive lineup of battery- and gas-powered tools that will immediately improve productivity for professional landscape contractors,” said Chris Vogtman, director of marketing at Toro. “Our Revolution series of handheld tools increase our battery offerings and integrate with our powerful Flex-Force Power System, while our new Z Master 2000 in both gas and battery options offers an impressive, high-quality cut. Operators can also now get additional horsepower with the new Grandstand HDX, a high-powered version of our popular stand-on commercial mower. Best of all, the new equipment comes Horizon360 capable, which is a real advantage for creating business efficiencies and managing fleets.”

## **60V MAX REVOLUTION SERIES HANDHELD TOOLS**

Designed with input from professional landscape contractors, the new 60V Max Revolution Series Handheld tools were built to perform in demanding work conditions and environments all day long. Powered by Toro’s Flex-Force Power System, the new line includes a dual-battery backpack that can hold two 10 Ah batteries — which is designed for comfort and available as a power source for the leaf blower or string and hedge trimmers to keep jobs moving all day.

Operators can easily swap batteries out, so when one battery is done, the workday doesn’t have to be. Outpacing the charging speed of larger, lower-voltage batteries, the 60V power comes to you fast — taking just 50 minutes to fully charge Toro’s largest battery in the all-new six-pod rapid charger. Plus, the batteries are versatile, powering both Revolution Series handheld

tools and the Toro 60V Max 21" Heavy Duty mower.

No matter what the challenge, the Toro integrated 60V battery platform ensures professionals always have a Revolution tool ready. That level of accessibility is an industry first, as many leading competitors are incompatible with tools that require their backpack.

### **SPRAYMASTER**

Toro's new stand-on spreader sprayers make treating turf a whole lot easier. The SprayMaster features enhanced center of gravity tanks for less turf tear, an industry-first flip up hopper for ease of maintenance and materials management, and larger wheels for a more comfortable ride. A patented caster lock remains for straight-line tracking and precision spreading and spraying.

The new SprayMaster 60, SprayMaster 40 and SprayMaster 20 models feature smart enhancements for increased comfort and usability and decreased maintenance. Improved stability and balance translate to better chemical application at higher machine speed, while larger 24-inch tires on the 60 and 40 models, and 22-inch tires on the SprayMaster 20 model mean a smoother ride and better visibility.

### **Z MASTER 2000**

With a rugged frame and deck modeled after the award-winning Z Master 4000, the new Z Master 2000 has a commanding spirit and the will to cut for years to come. Just like its heritage, this machine delivers high-quality performance and has bullish attitude built into its DNA.

Its beefy Turbo Force deck looks and acts tough — the new Z Master 2000 will cut through the toughest elements Mother Nature can throw at it. The Turbo Force deck is a 50 KSI 7-gauge high-strength steel deck, complemented with an extra-strength tubular chassis and durably rugged I-beam front-end. Add on Toro's patented MyRide suspension system for go-all-day comfort.

Never go without the tools you need as the new 2000 features several attachments to carry a multitude of tools and accessories on the go. And if that's not enough utility, easily increase your carrying capacity with the new two-inch hitch receiver. Designed



*Photo provided by Toro*

for professionals who want to make the new mower their own, there are several options to accessorize the new Z Master 2000.

### **Z MASTER 2000 REVOLUTION**

When Toro introduced its Z Master 4000 Revolution zero-turn mower in 2021, the industry took notice. Now, professional landscape contractors looking for more heavy-duty, customizable battery-power mowing options can turn to the new Z Master 2000 Revolution zero-turn mower. With a sharp look and increased battery pack versatility, operators can customize the power of the new 2000 Revolution based on mowing conditions.

The Z Master 2000 Revolution is built on Toro's commercial-grade Z Master 2000 Series frame and legendary Turbo Force deck. The newest member of the Toro Z Master Revolution family offers robust battery-powered go-all-day comfort with Toro's patented MyRide suspension system. The suspended operator platform and easy to adjust, personalized ride settings maximize comfort, and every Revolution machine is equipped with patent-pending software in the controls that enables smooth operation.

The Revolution Series mowers are powered by Toro's HyperCell Power System, which was specifically designed with the same innovative spirit Toro has applied for more than a century to its equipment and delivers all-day power and reliability. The Battery Management System (BMS) allows for impressive run times and quick charging to maximize productivity. HyperCell is built to run cooler than other power systems, so it can last as long as the sunlight. Ultimately, operators gain efficiencies, eliminate engine exhaust emissions, and can complete more jobs with less hassle.

### **GRANDSTAND HDX**

Designed for high performance and professional lawncare, the new Toro GrandStand HDX offers the same ride you've come to trust with its space-saving, flip-up platform — now with more power from the 31-hp. Kawasaki or 37-hp. Vanguard engine.

Increased efficiency is at your fingertips with ground speeds up to 12 mph and 52-, 60-, and 72-inch deck options. Not only do these machines have the horsepower to bull through tough conditions, but they also have the size and durability to ensure operator comfort day in and day out.

Pros who choose the Vanguard engine will benefit from the Electronic Throttle Control (ETC) and Vanguard

Oil Guard System — an innovation that extends the life of the oil and better protects the engine. Featuring a 500-hour oil change interval and up to 60 percent savings on maintenance costs, the Oil Guard System drastically increases efficiency and costs-savings.



Photo provided by Toro

Built on the contractor-proven Turbo Force 2 cutting deck, operators can adjust the deck baffle on the new GrandStand HDX to get a pristine cut even in rough conditions. It also features enhanced dual-capture anti-scalp roller supports to ensure the highest quality of cut in the harshest terrain. Discharge and disperse clippings with the industry's highest IQ system — the rubber discharge chute clears obstacles, while debris dispersion is second to none.

## HUSQVARNA

Husqvarna Group showcased the latest innovations in its diverse portfolio of forest, garden, and outdoor power equipment at Equip Exposition.

“Innovation and customer-centricity are at the heart of everything we do at Husqvarna, and the trailblazing products we will showcase at Equip Expo perfectly encapsulate our vision for the future,” said Robert McCutcheon, president of Husqvarna North America. “Our vision for Equip Expo and beyond is to meet and exceed our customers’ desire for battery and robotic solutions by pioneering state-of-the-art products that they can rely on. We are excited to connect with our customers at Equip Expo to learn more about their needs as we shape the future of landscaping.”

Attendees had the opportunity to get a sneak preview of Husqvarna’s zero-turn



Photo by John Kmitta

riding mower, set to be released in early spring 2023. Husqvarna also showcased an all-new Automower model that provides high-performance autonomous mowing, as well as the cutting-edge CEORA commercial solution.

CEORA is a robotic mower that operates through virtual boundaries with Husqvarna’s Exact Positioning Operating System. It is designed to handle up to 18 acres of grass. It is ideal for cutting sports turf, campuses, and municipalities. CEORA will be available nationally in 2023.

Commercial users can look forward to a game-changing semi-autonomous stand-on mower, battery rail charger and high-performance chainsaws, helping them create strategic solutions and efficiencies for every part of their business.

## JOHN DEERE

John Deere announced at Equip Expo that it is pursuing battery-electric vehicle technology because of growing customer demand.

John Deere will offer an electric option in each Turf and Compact Utility Tractor product category by 2026.

With John Deere electrification products, customers can expect powerful performance, quieter and more intuitive operation, easier maintenance, reduced emissions, and improved cost of operation.

The John Deere battery electric vehicle portfolio will be one of the key contributors to the 30% reduction of its fleet emissions by 2030.

Next year’s Equip Exposition will be held October 18-20, 2023, in Louisville, Ky. **SFM**

Recap compiled by Robert Augsdorfer, assistant editor, SportsField Management.



Photo by John Kmitta



# 2023 Trends and the Importance of Seed Certification

By Dan Coleman and Troy Smith, CSFM

*Article and photos provided by SiteOne.*

As we head into a new year, understanding the available seed and sod options, applications, timing and maintenance is crucial to remain efficient as sports field experts — especially amidst unpredictable environmental challenges and an unknown economic outlook.

## THE STATUS OF SEED AND SOD

As you know, sports fields are held to high expectations for athletes and spectators alike. There is a standard of safety needed, along with a maintained aesthetic quality throughout active sport seasons. Athletic fields encounter

a high volume of traffic and damage throughout practices and games – therefore, a sustainable turf selection is vital for seed or sod. In 2022, the cool-season turf seed industry had an exceptional harvest, meaning availability of most products has improved. This is great news for our industry as supply outlook for 2023 will likely rebound from historical challenges. Our industry partners in sports field management will have less stress tracking down their desired products for spring of 2023 and hopefully beyond.

For seed, use trial data to anticipate the turf performance of the product you are using. Also, keep in mind the value of the pure live seed on your tag. In professional brands, the purity and germination are held



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at a very high standard. Sod products that are planted from triple tested seed (purity, sod quality, crop and weed exam) have a higher level of quality assurance.

### CHOOSING YOUR 2023 SEED

Choosing a seed can be overwhelming. When interseeding into existing turf, identify that turf to match species of your seed. Reliable research trial data is available from trusted entities such as the National Turfgrass Evaluation Program, university turf research programs and breeder trials. Collaborate with other sports field managers in your area to find out what works well and what does not.

We highly recommend avoiding cheap seed and sod products. There is usually a good reason a product is cheap. Do your research to learn about seed and speak to industry experts if you are unsure of what to look for. Planning ahead is always the recommendation. Be sure to place an order as soon as you can anticipate your needs. This will reserve your product and ensure it gets to where it needs to be on time. Also, take advantage of early order programs to achieve big savings on your bottom line.

Geographical location is crucial when it comes to species selection. Each region and athletic field will need to be evaluated for the best seed products. Each

part of the country is unique in temperature, rainfall, humidity, disease pressure and pests. Be aware of your zone — know what to expect and which turfgrass species will thrive the best.

### SEED CERTIFICATION

Seed certification validates varietal integrity on a seed tag. The planting process for production allows for barriers to reduce the likelihood of cross pollination of a potential neighboring field. Certified seed can give a customer confidence of varietal integrity due to third-party verification. Testing for certified lots can only be completed at lab locations approved through the seed certification process. Performance of certified seed products will vary in comparison to uncertified products. The key takeaway in reading a seed tag is the pure live seed value. It is important to know that each tag is different whether certified or uncertified; the value lies within the purity and germination results.

### INSTALLATION AND MAINTENANCE

Once your turf products are chosen, ordered and delivered, it's time to install. The most ideal conditions for seed or sod installation windows will vary by species. Warm-season grasses establish best in late spring or early summer with warmer soil temperatures



and an extended outlook of warm weather to mature fully. Cool-season grasses establish best in the fall season when soil temperatures are warm and air temperatures begin to cool. Spring is also a great time for planting cool-season turf; however, there is typically higher competition with weeds, and timing can be challenging with herbicide usage.

As a sports field manager, you should absolutely be aware of soil temperatures and standard germination timing. This will set the realistic expectation for maintenance timing and allowed athletic use. Consider plant optimization products to help encourage stronger germination and faster establishment. These products can also reduce operational costs by decreasing time spent treating turf stress. You are often working on tight windows, so anything that can be done to fill in areas faster in season is ideal.

Maintaining a grow-in should always include an irrigation strategy using updated technology. Light, frequent watering is ideal in the beginning phase until germination occurs. Following germination, transition to more deep and infrequent watering to encourage healthy root development. Mowing can occur once grass has reached the desired mowing height — this will promote tillering to increase turf density. Be cautious of herbicide use throughout the initial phases and always read labels accordingly.

### MAXIMIZING PERFORMANCE AND EFFICIENCY

As much as you possibly can, map out your season ahead of time. Look at the schedule where your field will encounter the most use, then look for windows of opportunity to capitalize on seed establishment when not in use.

Success in this industry is all about efficiency. That includes investing in products and equipment that will allow you to be as productive as possible. Consider a ride-on aerator that can be operated by one individual to accomplish a vital cultural practice and drop seed at the same time. Also consider putting down products that promote moisture management, thus reducing watering needs and required labor. These products come in handy when watering through high disease pressure and, if your region implements tight watering restrictions, reduce water waste.

### TIME TO GET TO WORK

You are ready to take on your 2023 seed game. Remember that collaboration is vital in this industry. Don't hesitate

to reach out to local experts and fellow sports field managers, and use the above recommendations as a guide throughout each step of your planning process — from selection to maintenance. **SFM**

*Dan Coleman is the category manager of seed at SiteOne Landscape Supply; and Troy Smith, CSFM, is the segment manager of sports fields at SiteOne Landscape Supply. SiteOne offers a wide selection of irrigation, lighting, turf and landscape maintenance, hardscapes, nursery and pest management supplies. Plus, with more than 600 locations, SiteOne is within reach of virtually any job. For more information, visit [www.SiteOne.com](http://www.SiteOne.com).*



# Two-way Radios for Effective Communication

By Stewart McClintic

Effective communication is key to the success of any operation. Instant and efficient communication creates better job outcomes and allows team members to promptly respond to on-the-job emergencies. One of the best tools for improving on-the-job communication is two-way radios.

Two-way radios allow for quick and clear communication that guarantees you and your team can work with each other even when you are not in close proximity.

Two-way radios are easy to use, last a long time, require no fees, and allow instant push-to-talk communication with your team.

Two-way radios are very helpful when working large jobs or in large complexes. When working a large job site, it is important to have constant communication. Your team needs to inform each other about any successes or issues that come up during a job. Using two-way radios means workers only have to push a button to let the team know what is going on with a job.

Two-way radios are also a safety benefit as well since they do not require the constant use of your hands like cell phones do. Crew members can quickly radio the team for an update and get back to work. Workers are always focused on the job.

Radios are also extremely durable tools that are perfect for workers working on tough jobs. Standard two-way radios also do not require a fee or monthly payments to use them, which helps avoid the cost of an

expensive business phone plan.

The best type of two-way radio for green industry professionals is a standard UHF radio. A majority of workers use UHF radios because they operate at a higher frequency, which makes them better for communicating in large, localized areas. Landscape and grounds managers also need a more durable radio that meets IP54/55 and military specifications 810 C, D, E and F. These specifications make the two-way

radio resistant against shock, rain, humidity, salt, fog, vibrations, sand, dust and temperature. I would recommend digital UHF radios over analog radios. Digital radios will give you better audio quality and better reception.

Landscape and grounds managers could also benefit from the use of a shoulder microphone. This puts the microphone at the top of your shoulder meaning you don't have to reach down to start push-to-talk.

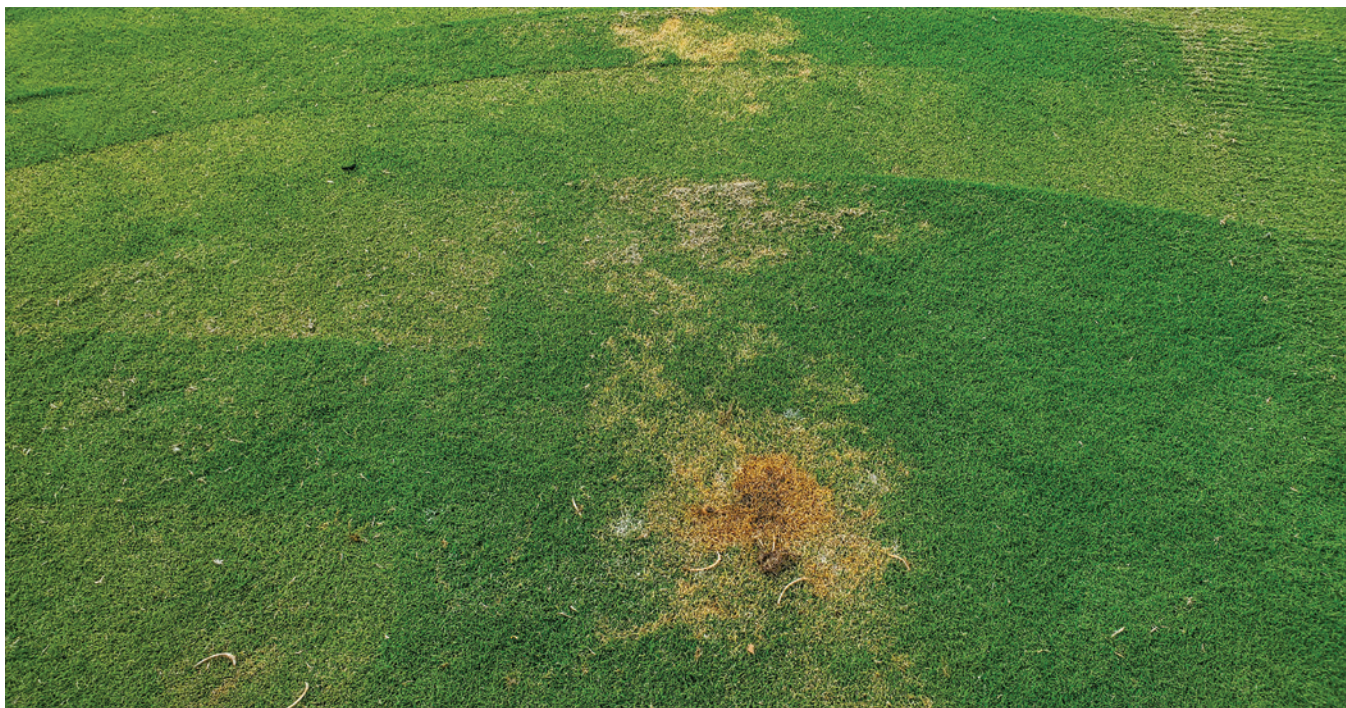
Two-way radios can be a boon to any operation looking to improve its communication processes. They are a simple and reliable tool for your crew to be better prepared and ready to collaborate. **SFM**

*Stewart McClintic is owner of HQ98.com, a two-way radio retailer in Phoenix, Ariz., that specializes in supplying contractors with an effective means of communication.*

*This article originally appeared on Landscape-Business.com a sister production to SportsField Management.*



# JOHN MASCARO'S PHOTO QUIZ



## ANSWER

*From page 17*

These brown marks on this university baseball outfield were a surprise to the sports field manager, but he immediately knew what had caused it. Over a hot August weekend in Baltimore, the sports field manager was driving on the baseball field's warning track, and noticed something laying in center field. He drove over to investigate. As he approached, he realized it was a groundhog carcass. He reported that groundhogs aren't a major problem for the school, but sometimes they can be a nuisance – especially when they dig holes close to or under buildings and sheds. Most likely, this one met its demise at the jaws of a fox or the talons of a bird of prey. There are a lot of woods and hills surrounding the athletic facilities, so there is a lot of wildlife activity. The sports field manager went to mow the softball field, and when he returned to mow the baseball field, the carcass had been moved. That is when he saw the dead grass where the carcass had previously been laying. The carcass had been moved by vultures that were scampering and flying around the remains having another meal. Since no games were scheduled on the field, he let the area recover on its own.

**Photo Submitted by Clint Steele, CSFM, at the University of Maryland Baltimore County**

*John Mascaro is president of Turf-Tec International*

If you would like to submit a photograph for John Mascaro's Photo Quiz, please send a high-resolution digital photo to John Mascaro via email at [john@turf-tec.com](mailto:john@turf-tec.com). If your photograph is selected, you will receive full credit. All photos submitted will become property of *SportsField Management* magazine and the Sports Field Management Association.

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# GEODIS Park

*An inside look at Nashville SC's new stadium*



*Photo provided by Sod Solutions*

**Editor's Note:** This article was provided by Sod Solutions, and was written by Cecilia Brown, media and content manager.

Most people take old desk supplies or some new ideas with them from one job to the next. But Nashville Soccer Club (SC) Groundskeeper Adam Portenier took much more when he left FC Dallas in September 2019.

Portenier, who'd been at FC Dallas for five years brought his love for a turfgrass variety from one Major League Soccer (MLS) stadium to another. Both teams play on Latitude 36 bermudagrass, a fine-textured and cold-hardy bermudagrass developed by Oklahoma State University.

"Actually, at FC Dallas, we tore out 419 and put Latitude 36 bermudagrass in during my first week. So, I got to get hands-on experience with it at Dallas, which is one of the busiest fields in the U.S.," said Portenier. During his time there, in addition to the MLS schedule, Toyota Stadium also hosted three to four concerts per year, 15 to 19 high school football games each fall, the Frisco Bowl, the FCS Championship game, and 22 to 25 high school soccer matches in the winter.

"After going through that schedule with that grass, and some years we didn't have to re-sod at all, I knew this was a grass that would be able to handle the workload here. It's kind of the same setup," Portenier



*Photo provided by Sod Solutions*



said. “The maintenance plan and cultural practice that Allen Reed set up there (Dallas FC) and that I learned under, we were pretty much able to get through anything and everything that they threw at us.”

Before he worked in soccer, Portenier worked in baseball at Haymarket Park where the Nebraska Cornhuskers and a semi-pro team played. From there he worked for the Texas Rangers, which led him to a position at Dallas FC.

“I really didn’t know much about soccer at all, I was just looking for a change of scenery and to move up in my profession.” He also said he was fortunate for the referrals that helped him get his position in the MLS and enjoys the sport now that he’s learned more about soccer.

Nashville SC has created a buzz among sports fans in Tennessee. Bringing an MLS team within five minutes of downtown is new and exciting. This season, they opened the largest soccer-specific stadium in the United States and Canada with 30,000 seats. They played their first two seasons in the league at nearby Nissan Stadium.

Their new stadium, recently named GEODIS Park, overlooks the historic Nashville Fairgrounds. Portenier explained that, due to its location, the stadium had a six-month delay in the opening, but the ownership pushed through, and the team held its first home game in May 2022. The stadium was privately funded by owner John Ingram, a businessman and philanthropist. GEODIS Park features a 360-degree canopy roof, lower, mid and upper-level seating, club seating areas on the main concourse, club and press seating on the top level as well as suites on the west side of the stadium.

“It’s a massive stadium, but once you’re in there it’s very intimate, it’s a very steep stadium. The farthest seats from the touchline are only 150 feet,” Portenier said.

According to Portenier, there were a lot of eyes on his team during the season home opener this spring with 30,000 fans attending and high expectations coming in.

“I have very high expectations for the facilities and fields I manage,” he said. “As soccer keeps getting bigger and bigger, there are so many good turf managers in this league and the standards get raised year in and year out. We’re all very proud of our work, we take our work seriously and keep



*Photos by Nashville SC*



*Photos by Nashville SC*

pushing each other to meet those expectations and pressures to keep up with the league.

"We've definitely come in and made our mark in the city where we're starting to compete with the Titans and Predators as we've already sold over 20,000 season tickets. So, the energy and excitement has grown in the first three years, and a lot of people in this town are behind us," he added.

### **TURFGRASS SELECTION**

Nashville FC used Sod Solutions Professionals from the early stages of planning the pitch for the new stadium. They first considered using other turfgrass varieties they had on in the team's temporary training facility.

"But overall, I went through with what I



*Photo by Nashville SC*



*Photo by Nashville SC*

was comfortable with and what we'd had great success within Dallas," said Portenier. "I didn't see the need to change from a grass that has been proven day-to-day."

According to Portenier, he knew that the quick recovery of Latitude 36 was one reason he wanted it in Nashville.

"It's just a very aggressive grass. It has a good color, which is not the most important thing, but aesthetics usually have a big factor for people above me that look at the field. The ability to handle wear was my highest priority," he said. "Stadiums aren't slowing down. They're just getting busier and busier with events, whether it's soccer or concerts and I'm sure down the road we'll host football games after the season."

Just before the season started, while it was overseeded with ryegrass, Portenier adjusted the mowing heights to get the grass low and tight, to ensure fast playability. "Every player has been really impressed with how the ball rolled, the smoothness of it and the consistency of the pitch. So far everybody's very impressed with this field," he said. "Precision Turf who built this and grew the grass did a phenomenal job. Then we've taken over and really dialed it in and we've gotten nothing but compliments on it."

According to Portenier, they did everything in-house and didn't contract out the subgrade drainage, the rootzone irrigation or any of the work. "It was a very good experience and after that they've actually started to build our training fields. It'll be two full-size fields with a goal area and then one artificial field. One thing about Precision Turf is every guy that works out there has a turf background and has come from some kind of management of a facility, so they know not only how to build fields, but they know how to manage them and are really good throughout the whole process at finding things and offering suggestions," he said.

Portenier first visited Atlanta-based Precision Farms

in May 2020 with representatives from Mortenson, the head superintendent building the stadium, as well as with the turf consultant, Dr. John Trey Rogers from Michigan State. They walked a field of Latitude 36 that had just been harvested and was starting to regenerate.

"We actually ended up selecting that plot because we had time for that to mature because we knew we weren't going to harvest this until 2021," he said. "Latitude is a very aggressive grass, so we were going to limit our patch that we brought from the field to the sod on plastic. Then we topdressed the field-grown sod with our sand spec so when we cut it out, we were bringing all compatible materials to the sod on plastic."

According to Portenier, when the grass arrived from Georgia, it was in phenomenal condition. Within two weeks, they were pushing 4.5-5-inch roots.

### NATURAL GRASS FOR MLS

"My opinion is there shouldn't be artificial grass in professional sports," said Portenier. "I think we have the technology now with grow lights, with data we're pulling to grow grass if the climate and zone is right. It's always worth trying to go grass first and push through because in my opinion even a grass field that maybe not be 100% is still safer than an artificial field."

Portenier said he is eager for the FIFA break when they will dive in, pull cores, verticut, drop the height and focus on the look of field. "I just love the look of a full bermudagrass field and how low and tight you can get it. It's just a phenomenal grass." **SFM**

*\* Note: In addition to Dallas FC and Nashville SC, Orlando City SC, Inter Miami CF and Los Angeles FC all use Latitude 36.*



Photo by Nashville SC

## GEODIS PARK RAILING

As the largest soccer-specific stadium in the United States, GEODIS Park in Nashville, Tenn., was designed with soccer supporters in mind. The \$335M home to Major League Soccer's Nashville SC features 30,000 seats, a 360-degree canopy, a 65-foot-wide shared concourse and just 150 feet of space separating fans from the field.

It also is outfitted with more than 22,000 linear feet of Trex Commercial railing, including cable rail, aisle rail and grip rail, adding style and safety throughout the venue. Among the highlights is a dedicated supporter section with 5,000 linear feet of custom engineered Standing Rail. This innovative system features ergonomic lean rail and integrated flip-down bench seats that allow avid fans to comfortably stand or sit while cheering on their favorite team, enhancing the electric match day atmosphere.

Anodized aluminum rail and stainless-steel clad glass guardrail can be found within the Southeast and Southwest terraces, while drink rail in key areas offers convenient, "hands-free" support for beverages and belongings. Continuous corners at ADA locations allow for ultimate fan comfort and accessibility. Exceeding standards for longevity and performance, Trex Commercial leveraged 3-D laser scanning and tube lasers to engineer all aisle railings, ensuring precision and perfection and elevating the safety and design of this premier sports and entertainment destination.

– Sidebar provided by Trex Commercial



Photo provided by Trex

# Topdressers

## EARTH & TURF 415 SP

Earth & Turf Products introduced the first-ever stand-on topdresser – the 415 SP. Though there are a variety of uses, this unit targets compost and sand spreading to manage soil health. During recent years, Earth and Turf customers asked for a stand-on version – one that can cover ground faster than walking, doesn't require a towing vehicle, and spreads evenly. For two years, the Earth & Turf engineering team sought out the ideal spreader system and came up with the 415 SP. This unit is self-propelled, with a stand-on plate on the back. It has a four-wheel hydrostatic drive system, which means you have a motor on each wheel, allowing for four wheels to drive if need be. The spreader boasts a 15-cubic-foot hopper that can be heaped to one yard of light material and spreads 48 inches wide at a top speed of 7 mph. The expeller brush spins fast enough to propel material into the grass canopy ahead of you, while stiff bristles regulate the spread.



## GKB FROM STEC

The GKB SP100 Sandspreader has a capacity ranging from 1.3 cubic yards all the way up to the SP400 and a capacity of 5 cubic yards. The SP100 comes as a tow-behind or Gator-, Truckster- or Workman-compatible model. The Sandspreader's hydraulically driven conveyor belt speed is adjustable and so are the spreading discs to help you dial in where you are distributing your sand or infill material.

The GKB TopDrop, a pull behind material spreader, can spread your material as thick as you need by simply adjusting the rear gate and brush speed. With its unique design, it can cover anywhere from 54 to 78 inches wide, depending on the model you use. TopDrops have

capacities from 1.3 cubic yards to 4.3 cubic yards. The GKB TopDrop is a tow behind, hydraulically driven, material delivering workhorse that puts the material exactly where you want it.

The GKB SPM series can operate as a sand spreader, topdresser, and material handler all in one. The hydraulically controlled arm makes for easy work. The capacity of the SPM ranges from 3 to 5.2 cubic yards, which means less downtime filling the machine.



## JOHN DEERE TD100



Designed for the John Deere ProGator heavy-duty utility vehicles, the TD100 topdresser is ideal for use on athletic fields and other areas where efficient topdressing is needed. The hopper on the TD100 topdresser has a capacity of 12 cubic

feet level-full or 19 cubic feet heaped, a rated capacity of 1,500 pounds, and is made of galvanized steel and supported by steel members to reduce corrosion and increase strength. The fixed-speed, nylon/polyester cord endless conveyor belt on the TD100 efficiently moves material under the metering gate and through a rotating brush for even distribution. The full-width metering gate opening can be adjusted from zero to three inches, with a two-lever system allowing the operator to adjust the gate height and lock the gate into position. The TD100 is attached with three pins, making installation and removal of the unit from a ProGator easy.

## REDEXIM RINK DS 800

The Rink DS 800 is a topdresser with dual spinners with a spread pattern variable up to 33 feet. The operation of the belt and spinners can be done from the tractor seat, by switching the hydraulic lever. No unnecessary drop of material takes place between stopping and operation,

since the material release gate automatically closes when the belt is stopped. The spinner disks have been designed in a way that they will handle wet material very well. The Redexim Rink DS 800 comes as a towable unit or as a mounted unit for all popular utility vehicles. The towable option comes with pivoting axles that ensure stability on undulating ground.



### TORO PROPASS 200 SERIES

The Toro ProPass 200 broadcast-style topdresser delivers extremely accurate spread patterns — from ultra-light dustings to ultra-heavy aeration hole filling applications — without any guesswork.

Evenly apply materials to the turf from 9 to 30 feet with the patented sliding adjustment for positioning of the twin spinners. This unique drop zone system adjusts where material lands on the spinner



disks, resulting in an even pattern across the entire spread width. The ProPass 200 series also features a wireless controller that allows for fast settings and adjustments to all spread functions.

Plus, you can store settings for future use. The ProPass is available in a utility vehicle mount style, such as for mounting on a Toro Workman vehicle, or can be ordered in a tow version.

### TURFCO METE-R-MATIC IV

Turfco's battle-tested topdressers make life easier and more productive. Handle all of your topdressing jobs, from routine turf maintenance to renovating an entire playing field, with the Turfco Mete-R-Matic IV topdresser. It provides the proven spread of all Turfco

topdressers, with the added efficiency of a one-cubic-meter galvanized steel hopper. The patented Chevron belt assures uniform application of all types of wet or dry materials including sand, compost, peat and humus, grass seed, crumb rubber, gypsum, lime and clays. The hopper can be filled with a front-end loader. Spread application is always uniform and consistent due to the patented ground-driven operating system. The spreader rides on six tires, so it easily adjusts to changing turf conditions. The spread rate is easily adjusted. Top speed is 8 mph at load, 16 mph unloaded. Just hook the Mete-R-Matic IV up to a truck utility tractor and go — no engine, no hydraulics.



### TURFTIME EQUIPMENT

TurfTime Equipment has six topdresser models to choose from ranging from .75-cubic-yard to 7.5-cubic-yard capacity. Material handler and utility vehicle mount options available. Choose the size that is the best fit for your business or complex. The long hopper of the Advantage topdresser allows faster loading without spilling. Select the right topdressing spreader for speed and maneuverability to spread compost, apply soil amendments and topdress with sand. The

TurfTime Equipment topdresser can be used anywhere — golf course, sports field, clay court, or arena, horse track, polo field, open spaces and naturalized areas.



TurfTime Equipment offers topdressers/material handlers to fill bunkers, sand-dress greens, apply compost and bio fertilizers, repair washouts, apply mulch to control erosion, level low spots, maintain paths and even grass runways and airstrips. **SFM**

# Maintenance Operations BMPs

The following maintenance operations best management practices are excerpted from SFMA's National BMP guide, *Best Management Practices for the Sports Field Manager: A Professional Guide for Sports Field Management*. The full guide, as well as a customizable BMP template, is available at [https://www.sportsfieldmanagement.org/knowledge\\_center/bmps/](https://www.sportsfieldmanagement.org/knowledge_center/bmps/)

## STORAGE FACILITIES

Well designed, maintained and ventilated storage facilities protect human health and environmental quality. Storage areas should be secure and provide containment features. Such facilities protect personnel from exposure to chemicals, protect chemicals from extreme temperatures and excess moisture, and reduce liability concerns and potential environmental risk. In addition, having a climate-controlled storage facility can prevent some storage issues. For example, some dry fertilizers can be prone to caking in non-climate-controlled storage.

Any leaks and spills of chemicals in the storage area must be responded to promptly and adequately to prevent a release that extends beyond the storage area, using the same methods and equipment as described in the Emergency Preparedness chapter of SFMA's National BMP guide. Local Extension offices can be consulted for detailed information on regulatory requirements and guidance on storage facilities.

Safety Data Sheets for all chemicals stored in a storage facility should be always readily available to employees, employers, and any emergency personnel. Safety Data Sheets provide important information on hazardous chemicals, including PPE requirements.



## EQUIPMENT STORAGE AND MAINTENANCE

Equipment storage and maintenance facilities should be designed to prevent the accidental discharge of chemicals, fuels or contaminated washwater from reaching water sources. Properly storing and maintaining equipment also extends the useful life of machines and reduces repairs.

## EQUIPMENT CLEANING

Equipment cleaning guidelines and restrictions should be established that reduce the potential for pollutants to reach surface water or groundwater. Proper cleaning of equipment helps prevent residues (grass clippings, soil, soap, oil, fertilizer and pesticide) from reaching surface waters, groundwater, drainage pipes, or storm sewers.

If possible, equipment cleaning should be conducted under controlled conditions in an appropriate contained area.

The nitrogen and phosphorus nutrients in grass clippings can increase the nutrient loading to surface waters through washwater drainage. Using compressed air or a leaf blower to blow clippings off mowers before washing can help reduce the amount of nutrients that enter drains via washwater.

The use of high-powered air is also recommended for those areas of the machine that water should not be used. Always follow manufacturer's recommended cleaning processes.

The best practice is to have a dedicated cleaning area with a catch basin to collect remaining grass clippings. Clippings can be collected, then composted or removed to a designated debris area. When formal cleaning areas are not available, using a short, portable hose to wash off the grass at random locations, away from surface waters, wells or storm drains is an option.

For equipment with possible pesticide residue, BMPs should be followed to ensure that washwater does not become a pollution source. Captured washwater can be used as a dilute pesticide per label, or it may be pumped into a rinsate storage tank for use in the next application and used as a dilute pesticide per the label.

## PAINTS

Best management practices related to the handling and storage of paint used on sports fields with respect to protecting environmental quality prevent paint and paint residue from becoming a water quality contaminant and reduce the amount of paint wasted.

### PAINT SELECTION

Water-based paints adhere to turfgrass without impeding photosynthesis and therefore are the preferred choice for natural grass fields. Chalk, typically limestone or marble, builds up over time and slows down water movement into the soil. Chalk should only be used on the skinned infield surfaces of baseball or softball diamonds, applied lightly and dragged into the base infield material after games or removed with a shovel. Chalk can be avoided altogether by spray painting baselines and batter's boxes. For paint to adhere cleanly to soil or clay, the ground must first be wetted down.

When using turfgrass paints, two ingredients in the paint are of importance: titanium oxide (pigment) and calcium carbonate (filler). Paints containing low amounts of titanium oxide typically contain higher concentrations of calcium carbonate ( $\text{CaCO}_2$ ); colored paints typically have the highest concentrations of  $\text{CaCO}_2$ . If applied frequently enough in the same area,  $\text{CaCO}_2$  can harden the soil and weaken the turfgrass.

### PAINT MIXING AND CLEANING

To prevent any paint or paint residue from reaching surface waters, paint should be prevented from reaching a storm drain or any other kind of drain that does not go to a water treatment facility. Try to always mix and clean paint machines over a water recycling station or a sanitary sewer inlet. Any time paint is handled or stored, or paint equipment cleaned, the paint should be prevented from getting into a storm drain or any other kind of drain that does not go to a water treatment facility.



Photo by Z. Holm

### PAINT MANAGEMENT AND STORAGE

The paint inventory should be managed to avoid having paint stored for an extended period. This will help lessen the potential for waste; fresh paint also performs better for field marking. When stored, paint should not be exposed to extreme heat or freezing cold. If possible, paint should be stored inside. If stored outside, it should be covered with a tarp.

### FUELING FACILITIES

Designated fueling areas should be sited on impervious surfaces and located away from surface waters and



water wells. Catch basins in fueling areas should be directed toward an oil/water separator or sump to prevent petroleum from moving outside any containment structure. Floor drains in fueling areas should be eliminated unless they drain to containment pits or storage tanks.

Various fuel storage methods may be employed by different-sized facilities. Newer facilities may utilize aboveground storage tanks (AST) to store fuel. ASTs are easy to monitor for leaks and are a preferred storage method. Older facilities may utilize underground storage tanks (UST). Because of the potential for groundwater contamination from leaking USTs, leak detection monitoring is a critical aspect of UST compliance. Finally, smaller facilities often use gas cans to store fuel. These fuel cans must be properly labeled. The containment methods must be adequate in case of any spill or leak. A spill kit or a bucket of “oil dry” should be in the immediate vicinity. Any leaks or spills must be contained and cleaned immediately.

## WASTE HANDLING

Facilities need to regularly review how they handle the disposal of unwanted, expired or accumulated items, including chemicals, paints, pesticides, tires, batteries, used oils, solvents, paper products, plastic or glass containers and aluminum cans. Developing recycling programs reduces waste and minimizes the quantity of waste reaching landfills. In some cases, recycling of some wastes may be required locally, and sports field managers should be aware of these requirements.

All packaging from chemicals, their containers, and other wastes should be properly disposed of. Pesticide-specific waste handling requirements are identified on the pesticide label and are discussed in more detail in the Pesticide Management chapter of SFMA's National BMP guide.

## BMP CHECKLISTS

### FACILITIES BMPS

- Storage facilities should not be in areas with high probability of flooding.
- Unless stored in a totally enclosed building, all nonliquid fertilizer materials should be covered and stored within an appropriate secondary containment storage structure.
- Construct liquid fertilizer secondary containment capable of holding 125% of the volume of the largest container, plus the volume all other containers inside the liquid containment area.
- Construct dry storage for secondary containment that is of sufficient thickness and strength to withstand loading conditions.
- Design loading areas to prevent spills onto



Photo by S. Kingsbury

unprotected areas and create a proper cleanup area by installing curbed containment.

- Post warning signs on chemical storage buildings, especially near entry or exit areas.
- Storage facilities should be secured and allow access only to authorized staff.
- Install backflow prevention devices or use air gap separation on water supply lines used for fertilizer mixing or equipment rinsing.
- Lock valves and shutoff devices while storage containers and facilities are not in use.
- Follow hazard safety rules, worker protection laws and fire prevention rules while handling and storing fertilizer.
- Apply appropriate sealant to seams and cracks in all storage facilities and load/wash/rinse pad areas.
- Use approved containers designed for and compatible with the fertilizer being stored.
- Shelves should be made of plastic or reinforced metal. Metal shelving should be coated with paint to avoid corrosion. Wood shelving should not be used due to its ability to absorb spilled chemicals.
- Exhaust fans and an emergency wash station should be provided.
- Light and fan switches should be located on the exterior of the storage facility.
- Store liquid materials below dry materials to prevent contamination from a leak.



- Train staff and other management on how to access and use SDS information.

- Complete a chemical inventory annually and keep SDS of each chemical on site. A duplicate set of SDS should be kept in a location away from the chemicals but easily reached in an emergency.

### EQUIPMENT CLEANING BMPS

- Brush or blow off accumulated grass clippings from equipment using compressed air before washing.

- Clean equipment on a concrete pad or asphalt pad that collects the water, if possible. After the collected material dries, collect and dispose of it properly.

- Cleaning areas for equipment not contaminated with pesticide residues should drain into oil/water separators before draining into sanitary sewers or holding tanks.

- Do not wash pesticide-application equipment on pads with oil/water separators. Do not wash near wells, surface water, or storm drains.

- Minimize the use of detergents. Use only biodegradable, non-phosphate detergents.

- Use non-containment washwater for irrigation.

- Do not discharge non-contaminated greywater during or immediately after a rainstorm since the added flow may exceed the permitted storage volume of the stormwater system.

- Do not discharge washwater to surface water, groundwater, or susceptible/leachable soils either directly or indirectly through ditches, storm drains, or canals.

- Never discharge to a sanitary sewer system without written approval from the appropriate entity.

- Never discharge to a septic tank.

- Do not wash equipment on a pesticide mixing and loading pad. This keeps grass clippings and other debris from becoming contaminated with pesticides.

- Solvents and degreasers should be used over a collection basin or pad that collects all used material.

### EQUIPMENT STORAGE AND MAINTENANCE BMPS

- Store equipment in areas protected from rainfall. Rain can wash residues from equipment and potentially contaminate the surrounding soil or water.

- Perform equipment maintenance activities in a completely covered area with sealed impervious surfaces.

- Follow the manufactures recommended maintenance intervals for equipment.

- Drains should either be sealed or connected to sanitary sewer systems with the approval of local greywater treatment plants.

- Solvents and degreasers should be stored in locked metal cabinets away from any sources of open flame.

- Complete a chemical inventory and keep SDS of each on site. A duplicate set of SDS should be kept in locations away from the chemicals, but easily reached in an emergency.

- Use PPE when working with solvents.

- Use containers with dates and contents clearly marked when collecting used solvents and degreasers.

### PAINT BMPS

- Avoid using a product that has a large amount of calcium carbonate or chalk to avoid buildup.

- Manage inventory to avoid storing paint for extended periods of time.

- Store paint properly so as not to be exposed to extreme heat or freezing temperatures.

### FUELING FACILITIES BMPS

- Aboveground fuel tanks are preferred as they are more easily monitored for leaks as compared with underground tanks.

- Fueling stations should be located under roofed areas with concrete pavement whenever possible.

- Develop a record-keeping process to monitor and detect leakage in USTs and ASTs.

- Visually inspect any AST for leaks and structural integrity.

- Secure fuel storage facilities and allow access only to authorized and properly trained staff.

- Fuel stored in gas canisters should be properly labeled and have adequate containment in case of leak or spill.

- Spill kits should be located near any stored fuel.

### WASTE HANDLING BMPS

- Label containers for collecting used solvents, lubricants, and degreasers.

- Recycle lead-acid batteries. If not recycled, batteries are classified as hazardous waste.

- Store old batteries on impervious surfaces in areas protected from rainfall.

- Recycle used tires, paper products, plastic or glass containers, aluminum cans, and used solvents, lubricants, and degreasers.

- Provide a secure and specifically designated storage for the collection of recyclable waste products.

- Recycle or properly dispose of light bulbs and fluorescent tubes. **SFM**



The following are some industry Tweets from the past month.



@BTHS\_Turf

Tonight, we faded to black #GoBears

**NOVEMBER 11**



@mowdaddy53

Not too bad for November 10th. Possibly the last mowing of 2022. #GOBlue @michigangrounds @UMichFootball @MichiganSFMA @FieldExperts @ToroGrounds

**NOVEMBER 10**



@cjmiller86

Things are as ready for the first round of the NCAA Women's Soccer tournament tomorrow against the University of Nebraska Omaha. Hopefully the snow stays away.

**NOVEMBER 11**



@Clintzman\_STM

The season didn't end the way we wanted but I couldn't be more proud and thankful for Jimmy and @Areagan\_22 for their efforts all season. Season 5 as the head in the bag and more and more it's been proven it's about the team around you!

**NOVEMBER 11**



**@NYJetsTurf**

Stopped by @TuckahoeTurf today to check on our new fields for next year's install. Look even better in person!

**NOVEMBER 10**



**@NPappas23**

Wembley 2022 @jaguars vs. @broncos @nfl @nfluk #NFLUK #NFL @jaguarsuk #JagsUK @wembleystadium #WembleyStadium

**OCTOBER 30**



**@UKsportsturf**

Game 27 of the fall SunBelt semi finals tonight at 7. Field is holding up quite well for middle of November.

**NOVEMBER 9**



**@Tar\_Heels\_Turf**

Non-overseeded Latitude is holding some good color heading into week 11.

**NOVEMBER 9**



**@jeffrogmusco**

Hanging lights at Wrigley...

GO MUSCO

**NOVEMBER 10**



**@NFedewaturf**

Week 9, back on 419 with some light rye. Last of 5 in a row. Thanks to the crew for pushing through it!

@BrianKowalski6 @esalmon3 @LouisLr46 @DuuuvalTurf

**NOVEMBER 5**



**@DelValTurf**

Thanks @nsherry2 for giving a tour of Camden Yards to @ASA\_CSSA\_SSSA C5 turf scientists, and for doing it on your day off. @gjrinehart

**NOVEMBER 6**



**@FieldExperts**

SFMA Member, Dr. John Soroohan had to see the scene for himself following @Vol\_Football's dramatic win over Alabama. This @espn feature details how the crew in Knoxville got the Vols field ready for play just one week later.

**OCTOBER 26**



## 2022 Irrigation Show and Education Week

Join the irrigation industry in Las Vegas, December 5-9, for the 2022 Irrigation Show and Education Week. This year's show will offer even more opportunities to explore the latest products and technologies, connect with peers, and learn from industry experts.

The IA University courses during the 2022 Irrigation Show and Education Week offer the perfect opportunity to grow your knowledge and improve your skills. These courses teach the fundamental and practical skills necessary to design, install or maintain an irrigation system, as well as the business skills to manage a small irrigation company.

All IA University classes will be held in person Dec. 5-7 during the show, giving you the opportunity to choose from 26 different courses (plus a free math tutorial), while also browsing the show floor and earning CEUs — all during one week.

Choose from beginner, intermediate and advanced classes covering all areas of irrigation: Agriculture, Landscape and Golf, Landscape Business Basics, Pumps and Soils.

In addition to IA University courses, landscape irrigation designers interested in improving their efficiency and accuracy can take advantage of the CAD learning lab sessions offered on Dec. 6.

For more information, visit <https://www.irrigation.org/2022show/>.



## SFMA Conference & Exhibition

The 34th SFMA Conference & Exhibition will be held at the Salt Palace Convention Center in Salt Lake City, Utah, January 16-19, 2023. It will feature seven education tracks, a full trade show/exhibition, networking opportunities, Keynote address, SAFE fundraisers, the SFMA Student Challenge, Seminar on Wheels, and much more.

The Monday Seminar on Wheels will Visit athletic facilities at Brigham Young University, including LaVell



Photo by Sean Buckley

Edwards Stadium, Miller Park, the football practice facility, South Field, and the indoor practice facility. In the afternoon, attendees will visit Rio Tinto Stadium, home of MLS club Real Salt Lake followed by Smith's Ballpark, home of the Salt Lake Bees. Transportation and lunch provided.

Pre-Conference Education will serve as a refresher in the basics of turfgrass management.

The General Session will focus on transitioning from 2022 FIFA World Cup to 2026. Conference education will include tracks on Turfgrass Management; Water; Research and Technology; Diversity, Equity & Inclusion; Professional Development; Baseball; and Synthetic.

Keynote speaker DeMaurice Smith will present "A Safer Field of Play? The NFLPA and Its Advocacy for Player Health and Safety."

The SFMA Student Challenge will take place Wednesday, January 18, from 2-4:30 p.m. at the Salt Palace Convention Center.

The exhibition hall will be open Wed., January 18, 1:30 - 6:30 p.m., and Thursday, January 19, 10 a.m. - 1 p.m.

The Thursday Half Day Seminar on Wheels will visit Zions Bank Real Academy & Training Center, training facility for MLS club Real Salt Lake, followed by University of Utah. Transportation provided.

Conference education sessions will also continue for four weeks post-conference, with eight virtual sessions from January 24 - February 14 all included with a full conference registration. Visit [sportsfieldmanagement.org/Conference](https://sportsfieldmanagement.org/Conference) for details.

## TPI International Education Conference 2023

The Turfgrass Producers International (TPI) Education Conference 2023 will be held February 20-22, 2023, at the Gaylord Opryland Resort and Convention Center in Nashville, Tenn. More information will be available soon. **SFM**



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MANAGEMENT

## STMA Affiliated Chapters Contact Information

**Sports Turf Managers Association of Arizona:** [www.azstma.org](http://www.azstma.org)

**Colorado Sports Turf Managers Association:** [www.cstma.org](http://www.cstma.org)

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

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

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

**Gateway Chapter Sports Turf Managers Association:**  
[www.gatewaystma.org](http://www.gatewaystma.org)

**Georgia Sports Turf Managers Association:** [www.gstma.org](http://www.gstma.org)

**Greater L.A. Basin Chapter of the Sports Turf Managers Association:**  
[www.stmalabasin.com](http://www.stmalabasin.com)

**Illinois Chapter STMA:** [www.ILSTMA.org](http://www.ILSTMA.org)

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

**Indiana:** Contact Clayton Dame,  
[Claytondame@hotmail.com](mailto:Claytondame@hotmail.com) or  
Brian Bornino, [bornino@purdue.edu](mailto:bornino@purdue.edu)  
or Contact Joey Stevenson,  
[jstevenson@indyindians.com](mailto:jstevenson@indyindians.com)

**Iowa Sports Turf Managers Association:**  
[www.iowaturfgrass.org](http://www.iowaturfgrass.org)

**Keystone Athletic Field Managers Org. (KAFMO/STMA):** [www.kafmo.org](http://www.kafmo.org)

**Mid-Atlantic STMA:** [www.mastma.org](http://www.mastma.org)

**Michigan Sports Turf Managers Association (MiSTMA):** [www.mistma.org](http://www.mistma.org)

**Minnesota Park and Sports Turf Managers Association:** [www.mpstma.org](http://www.mpstma.org)

**MO-KAN Sports Turf Managers Association:** [www.mokanstma.com](http://www.mokanstma.com)

**New England STMA (NESTMA):**  
[www.nestma.org](http://www.nestma.org)

**Sports Field Managers Association of New Jersey:** [www.sfmanj.org](http://www.sfmanj.org)

**North Carolina Chapter of STMA:**  
[www.ncsportsturf.org](http://www.ncsportsturf.org)

**Northern California STMA:**  
[www.norcalstma.org](http://www.norcalstma.org)

**Ohio Sports Turf Managers Association (OSTMA):** [www.ostma.org](http://www.ostma.org)

**Oklahoma Chapter STMA:**  
405-744-5729; Contact:  
Dr. Justin Moss [okstma@gmail.com](mailto:okstma@gmail.com)

**Oregon STMA Chapter:**  
[www.oregonsportsturfmanagers.org](http://www.oregonsportsturfmanagers.org)  
[oregonstma@gmail.com](mailto:oregonstma@gmail.com)

**Ozarks STMA:** [www.ozarksstma.org](http://www.ozarksstma.org)

**Pacific Northwest Sports Turf Managers Association:** [www.pnwstma.org](http://www.pnwstma.org)

**Southern California Chapter:**  
[www.socalstma.com](http://www.socalstma.com)

**South Carolina Chapter of STMA:**  
[www.scstma.org](http://www.scstma.org)

**Tennessee Valley Sports Turf Managers Association (TVSTMA):** [www.tvstma.org](http://www.tvstma.org)

**Texas Sports Turf Managers Association:**  
[www.txstma.org](http://www.txstma.org)

**Virginia Sports Turf Managers Association:** [www.vstma.org](http://www.vstma.org)

**Wisconsin Sports Turf Managers Association:** [www.wstma.org](http://www.wstma.org)

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## JOHN DEERE

# Artificial Turf Maintenance

**Q:** Can you suggest some tips for artificial turf maintenance, grooming frequency, basic repairs? Thank you.

– Stephen F.

**A:** First, check manufacturer recommendations to make sure you will not void the warranty. Each manufacturer will have guidelines to make sure that the integrity of the playing surface is preserved. Make a copy of the manufacturer's guidelines, and plan your maintenance program around it.

Be proactive in your approach to taking care of the field. Use signage to communicate your expectations to field users. For example, prohibit smoking, carrying food and drinks onto the field, and chewing gum. Prohibit fireworks and open flames. Don't store equipment on the field or allow athletes to wear long metal-spiked shoes. Make sure equipment is within certain load limits, that turf tires are used, and the equipment operator takes slow, wide turns to avoid damaging the surface. Field protection systems such as mats could be used in high-wear areas. Rotate traffic during practice sessions if possible. Setting some boundaries is a good place to start.

Regarding maintenance, grooming/brushing is the most common maintenance practice. A typical guideline is to groom the field once every 40 hours of field use. Grooming will stand the fibers up and maintain uniform infill distribution. Checking infill depth with an infill depth gauge when grooming the field is good practice. The infill material does not break down, but gets redistributed during play. Grooming keeps infill distributed evenly. Any low area needs to be topdressed with the same material that was used at installation (never introduce another infill type). Fields are generally groomed in the same direction as the seams, not perpendicular to them, to prevent seam snagging and tearing. Be careful not to snag the sidelines.

Safety of the athlete is paramount, so regularly check for metal and other deleterious debris. Grooming can help to remove leaves and debris such as athletic tape. If debris is not picked up during the grooming process, a lawn sweeper should be used. A magnet will pick up metal debris. Removing bodily fluids such as vomit is done by flushing with water and using a mild detergent that's turf specific. Removing gum is harder and requires the use of an aerosol freezing agent. The process of removing snow is the same

as natural grass, with a few exceptions – notably, not using any darkening agents or getting too close to the surface with the snowplow, potentially rippling the turf, tearing seams, and causing ruts under the carpet.

Synthetic turf surfaces can get very hot in the summer. One misconception about synthetic turf maintenance is that irrigation can be used to cool the surface. The cooling effect from irrigation only lasts about 20 minutes, so it isn't really an effective cooling method. A better approach is to monitor the heat index and limit use of the fields during the hottest parts of the day, especially for younger athletes. It is still helpful to have a water source at the field for cleaning and sanitation purposes.

Chemical applications on the field should follow warranty guidelines. It was originally thought that outdoor synthetic fields needed to be sanitized with a disinfectant material to prevent the buildup of organisms like the bacterium *Staphylococcus aureus*. Research at Penn State showed that ultraviolet radiation in sunlight and high surface temperatures were the most effective natural disinfectant against *S. aureus* on outdoor fields. Fabric softeners and anti-static products are sometimes applied to new fields if static electricity and infill splash is an issue. Weeds are more likely to occur on fields that have a natural organic infill material. If weeds become a problem, non-selective herbicides can be used to control them. Check to make sure no prohibited chemical applications are made, and never add bulky organic materials/granular products to the field that can clog up fibers and inhibit drainage.

The manufacturer will train you how to make minor repairs, such as a ripped seam or replacement of a small spot. Typically, infill material is sucked out with a handheld vacuum, glue is used to make the repair, and the infill is reapplied. **SFM**



**Pamela Sherratt**

Sports turf extension specialist  
The Ohio State University

## Questions?

Send them to Pamela Sherratt at 202D Kottman Hall, 2001 Coffey Road, Columbus, OH 43210 or [sherratt.1@osu.edu](mailto:sherratt.1@osu.edu)

Or send your question to Dr. Grady Miller, North Carolina State University, Box 7620, Raleigh, NC 27695-7620, or [grady\\_miller@ncsu.edu](mailto:grady_miller@ncsu.edu)

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