Sportsfield Management

November 2020

Vol. 36 No. 11

The Official Publication of the Sports Turf Managers Association

Schools and Parks Sporting Grounds FOY **20** | The *SFM* Interview: Dan Bergstrom, CSFM **30** Equipment and Technology Focus: Tractors **34**

A Virtual Experience Like No Other

The 32nd Annual STMA Conference & Exhibition

Jan. 12-13, 2021 (with bonus continuing education in January, February and March)







"The Aftermath." The full fury of Hurricane Matthew did not really impact the turf at the University of Central Florida in Orlando until November 2016. With three home games rescheduled in cool weather and at least 12 quarters of football to play, the turf team had to come off the ball fast.

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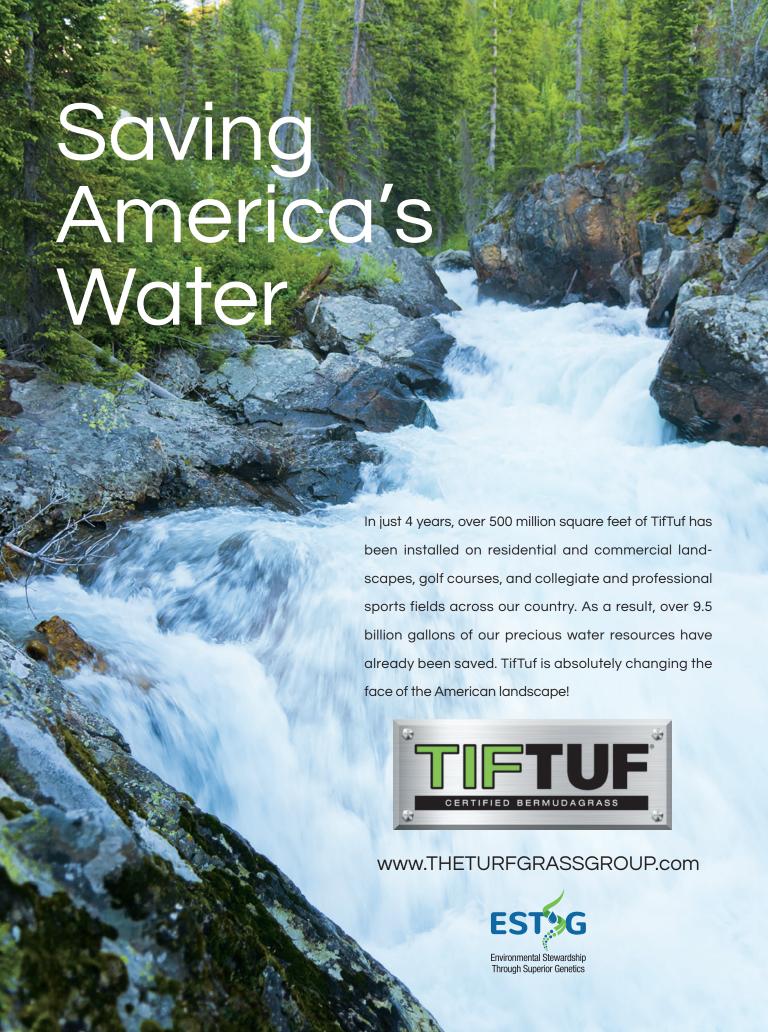
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Editor's Note



John Kmitta
Associate Publisher/
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Welcome to our annual show preview issue, highlighting everything the 32nd Annual STMA Conference & Exhibition has to offer. It is a preview unlike any other we have done before, as it will be an STMA Conference & Exhibition like no other.

As I'm sure you are already aware, the 32nd Annual STMA Conference & Exhibition will be held in a virtual format.

I know we had all hoped and planned to see each other in person this coming January in Palm Springs, Calif. I also know that we all understand the circumstances and considerations that necessitated the change in format.

But necessity has bred ingenuity throughout this year. So many of us have not only learned how to work from home, but how to collaborate, thrive, innovate and share new ideas to be successful. Our children have gone from just learning how to learn in a virtual format, to taking ownership of their schedules and their work, and learning how to advocate for themselves. We have all discovered how to utilize Zoom or Teams or other virtual networking and conferencing platforms to connect with others from through-

out our organizations, throughout the country and even around the world. I have participated in some amazing virtual events, and have seen how companies and organizations are utilizing technology to connect experts and share information, video and more. And we have witnessed firsthand the success of STMA's Town Hall Zoom meetings.

So I have no doubt that STMA and its Conference Education Committee will put on an amazing Conference & Exhibition that will inform, entertain and connect us all.

In addition to the core Conference dates (Jan. 12-14, 2021), the virtual format will allow STMA to continue to provide original Conference education throughout January, February and into March — further strengthening that industry connection, camaraderie and support.

Sports field managers have come together in so many ways this year to communicate, collaborate and help each other. The 32nd Annual STMA Conference & Exhibition will further showcase those attributes and the strength of this industry. I look forward to seeing you all online very soon, and I hope you enjoy our STMA Conference & Exhibition preview edition. **SFM**



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and Steve Ware

I want to use this opportunity to share what STMA has been working on this year. As you all know, the start of the year kicked off in high gear with an excellent conference and trade show in West Palm Beach, Fla. Almost immediate-

ly after the show we were stopped in our tracks, and a lot of plans for the new year were thrown out the window as we dealt with a national health emergency. We scrambled to help where we could at home and at work. Sports field mangers have always been adaptive to change, and this situation really proved how adaptive we all are.

At the STMA we were no different. We were in the final year of our three-year strategic plan and had grand plans to close out this plan and begin the next 3-year journey. Those plans were obviously set to the side for the time being, and we have now created a one-year bridge plan. We are hoping that this plan will help us with our immediate issues and let us focus on the short term until we can create a longer-ranging plan.

This year has become a focus on the here and now, with STMA continually searching for ways to help our members. Thus, the "Route to Recovery" series was born. With these special edition resource guides, STMA has increased our outreach to groups and people outside of our normal channels so that we can expand our audience



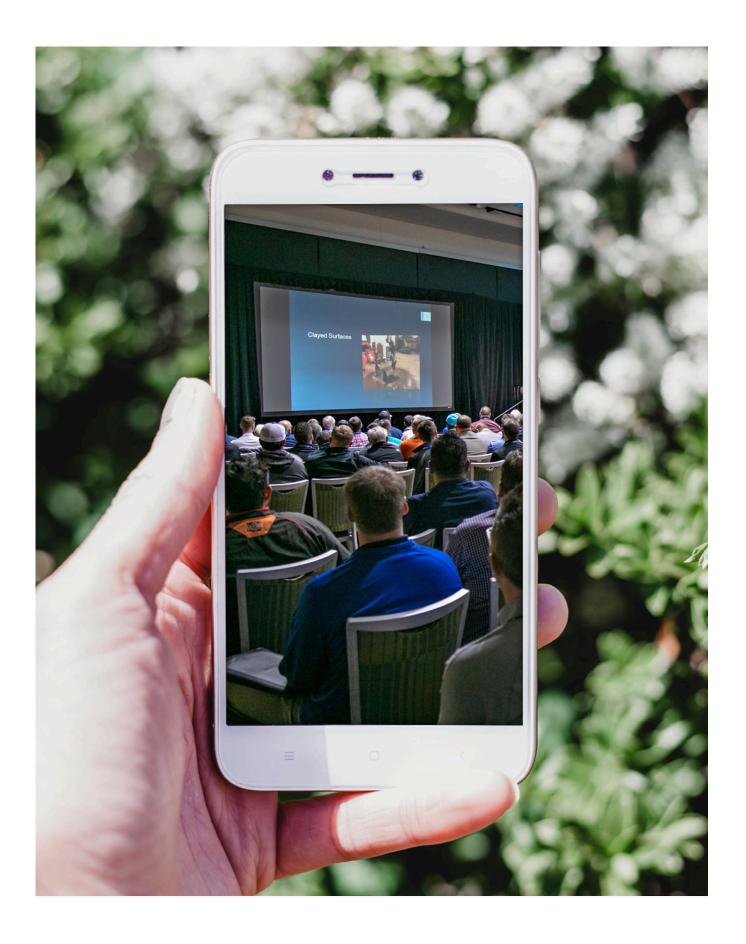
Jimmy Simpson, CSFM STMA President Jimmy.Simpson@townofcary.org

and introduce our profession to as many people as possible. A great example of this can be seen in our blog posts with the NRPA.

Even though our plans were thrown off a bit, the STMA did not abandon our strategic plan. Our committees have been focused: one is working hard on creating a certificate program to drive interest in sports field management, another is developing a comprehensive national best management practices document, and a third is bolstering chapter outreach by eliminating chapter affiliation fees and developing a chapter sustainability model to help with chapter operations.

This work and other new items in the pipeline will continue to drive STMA into relevance in the future. We have a great opportunity to keep growing this industry. I encourage each of you to help continue the mission of this great association and get involved in board or committee service in the future. Let us define the future for the STMA together and not let our future define us.

Collaborating in change together, Jimmy Simpson, CSFM





A VIRTUAL EXPERIENCE LIKE NO OTHER

THE 32ND ANNUAL STMA CONFERENCE & EXHIBITION

Welcome to Sports Turf Managers Association's (STMA's) first-ever virtual conference and exhibition. The 32nd annual STMA Conference & Exhibition will be held virtually, January 12-13, 2021 with bonus conference continuing education being held Jan. 19, Jan. 26, Feb. 2, Feb. 9, Feb. 16, Feb. 23 and March 2

Committed to serving the needs of the sports field industry and its members, this event will be offered FREE to all 2021 STMA members, but registration is required.

Visit STMA.org to register. The first 400 registrants will receive a free SWAG bag mailed to them in advance of the conference, so don't miss out!

The Conference Education Committee has developed a rich program. As the premier annual event in the sports field industry, the STMA Conference will bring together the top academics, practitioners and professional speakers for three days of industry education, networking and a virtual exposition hall.

The 32nd Annual STMA Conference & Exhibition will feature:

- **Education:** Presented by top academics and practitioners
- **Entertainment:** Music, cameo appearances and more!
- Events: Keynote, Welcome Reception, Annual Meeting and Awards presentation
- **Engagement:** Virtual trade show hall, networking and chat rooms

EXHIBITORS

4Most Sport Group/ DuraEdge

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Air 2G2/GT Air Inject, Inc.

The Anderson

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Bush Turf

Buy Sod, Inc.

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Carolina Green Corp.
Columbia Seeds

Corteva Agriscience Covermaster, Inc. CoverSports USA

Covia

Dakota Peat & Equipment

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Diamond Pro
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Doosan Bobcat
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EarthWorks

Echo, Inc. Evergreen Turf

Ewing Irrigation & Landscape Supply

Field Wall Pads - Division of Sports

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Harper Turf Equipment

Harrod Sport
Hellas Construction
Horizon Distributors
Hunter Industries

Hydraway Drainage Systems

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Landmark Turf & Native Seed

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Lebanon Turf

Kwik Goal

Mar-Co Clay Products

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PBI-Gordon Corp.

The Perfect Mound

Performance Nutrition
Perry Weather

Pioneer Athletics
Plant Food Co.
Port Industries, Inc.

Precision Laboratories, LLC

Precision Turf, LLC
Propeat Fertilizer

Pro's Choice/Oil Dri Corp. of America

Pro-Tech Turf Pusher

Pure Seed Pursell Agri-Tech

Quality Event Flooring Systems

R&R Products, Inc.

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Sprinturf, LLC
Spyker Spreaders
Stabilizer Solutions, Inc.
Stadium Grow Lighting (SGL)

STEC

Sunbelt Rentals, Inc.

Sustane Natural Fertilizer, Inc.

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Target Specialty Products/Turf Fuel

Textron

The Toro Company

Traqnolgy/ Linemark International

Tri Tex Grass

Trimax Mowing Systems
Turf & Soil Diagnostics
Turf Robotics, LLC

Turf Tank

Turface Athletics
Turfco Manufacturing
The TurfGrass Group, Inc.
Turf-Tec International
TurfTime Equipment
U.S. Specialty Coatings
United Turf and Track

Varicore Technologies Inc. (Multi-Flow)

Vescio's Sports Fields, Inc.

Vivid Life Sciences

University of Georgia

Waupaca Sand & Solutions
Wiedenmann North America, LLC

Winstead Turf Farms, Inc.
Wood Bay Turf Technologies
World Class Athletic Surfaces, Inc.

World Sports USA

SCHEDULE

TUESDAY, JAN. 12

10-11:30 a.m. EST

General Session Town Hall - The State of the Industry

Hosted by Andrew McNitt, Ph.D., Penn State University Panelists: Andy Levy, Arizona Cardinals, George Peters, Penn State University, Marc Moran, CSFM, Atlee High School

STMA's popular Town Hall comes to Conference where industry professionals discuss the current climate of the sports field industry and how we can best prepare to move forward successfully in 2021.

2-3:15 p.m. EST

(Choose from 4 concurrent sessions)

Prioritizing Field Operations with Reduced Labor and Budget

Mike Goatley, Ph.D., Virginia Tech University; Tim VanLoo, CSFM, Iowa State University; Jesse Pritchard, CSFM, University of Virginia Athletic Dept.

This presentation details proven strategies in stretching operating budgets in sports field

management from the perspectives of field managers and university faculty.

Establishing Cool-Season Turfgrasses from Seed: What Went Right? What Went Wrong?

Brad Park, Rutgers University

Will describe case studies concerning the establishment of cool-season turfgrass research trials and sports fields in non-research settings, as well as successful and non-successful case studies with attention paid to the underlying reasons for success or failure.

The Mathematics of Tank Mixing for Sports Field Management

Nick Christians, Ph.D., Iowa State University; Ben Pease, Iowa State University

Will cover the basics of the mathematics involved in tank mixing fertilizers and pesticides for use on sports field areas.

MLB Field Operations in 2020 and 2021

Bill Deacon, New York Mets - Citi Field

This presentation will discuss where we can





expect MLB field maintenance to head as we move into the 2020s, with a focus on growing grass in a high-stress, event-filled environment, as well as how to combat employee burnout, overwork and how to retain good employees.

4-4:45 p.m. EST

Welcome Reception and Student Challenge Winner Recognition

WEDNESDAY, JAN. 13

10-11:15 a.m. EST

(Choose from 4 concurrent sessions)

What Do All These Numbers Mean? Soil Tests!

Beth Guertal, Ph.D., Auburn University

This talk will cover the basics of soil testing, and how that process is used to make correct fertilizer and lime selections, as well as assist with diagnosing soil issues.

Cutting Unit Setup and After-cut Appearance Troubleshooting

Trent Manning, Ansley Golf Club

Will cover proper cutting unit setup for various turfgrass types, cutting unit maintenance, how to identify quality of cut, and after-cut appearance issues with possible solutions.

Maps Lead the Way: Mapping Pests for Targeted Pest Management

David McCall, Ph.D., Virginia Tech University

An overview of tools available to sports field managers that allow them to map various pest outbreaks for precision turfgrass management, reducing both environmental impact and economic inputs.



Communicating in Your Organization – Advocating Your Needs to Higher-Level Management

James Bergdoll, CSFM, City of Chattanooga Public Works; Jody Gill, CSFM, Blue Valley School District; Josh Koss, CSFM, San Diego State University; Brad Thedens, CSFM, City of Sioux Falls

This interactive panel discussion will discuss tactics for effective communication to higher-level management regarding your needs for budget items and staffing solutions.

2-3:15 p.m. EST

Keynote Address

Dare to Matter: How Sports Field Professionals Rise to Significance

Pete Smith, leadership trainer for SmithImpact (See sidebar on page 14)

Annual Meeting and Awards

Meet your new STMA Board of Directors and your award winners!

Weekly Conference Education Program

(Included with registration)

TUESDAY, JAN. 19

2-3 p.m. EST

Fraise Mowing - Recovery and its Effects on Soil Physical Properties

Ray McCauley, North Carolina State University

The objective of this presentation is to remove some of the apprehension surrounding fraise mowing while showing its background, ideal timing and settings, regrowth strategies and effects on field playability.

3:15-4:15 p.m. EST

Self Care...Can Improve Leadership, Mentorship, and Relationships

Tim VanLoo, CSFM, Iowa State University; Amber VanLoo, Bella Homes

Practical advice on healthy eating, maintaining an active lifestyle and stress relief so you can have a fuller life than you are currently living.

TUESDAY, JAN. 26

2-3 p.m. EST

Irrigation: Grass Health, Surface Quality, and Sustainability

Bryan Hopkins, Ph.D., Brigham Young University; Neil Hansen, Ph.D., Brigham Young University; Colin Campbell, Ph.D., Meter Group

An overview of irrigation principles and management with an in-depth discussion of sophisticated, cutting-edge technologies available to better manage turfgrass for improved health to provide functional surfaces while conserving water and other inputs.



3:15-4:15 p.m. EST

Protecting Your Emotional Health

Lisa Goatley, LPC - The Cascade Group

This presentation will help you become more aware of the role of your mental health in your life, identify any areas for improvement, and develop strategies to manage stress.



KEYNOTE PRESENTER

The keynote presenter for STMA's 2021 Conference & Exhibition will be Pete Smith, one of America's leading personal and professional development coaches. He will be presenting "Dare to Matter: How Sports Field Professionals Rise to Significance."

2020 has forced us, willingly or not, to become adaptable, stay hopeful, and remain diligent in fulfilling our commitments. This year has made some question their desires, reevaluate their motivators, and become more resourceful than ever.

Those who have been successful have done so because they've been able to answer one simple question: What's the Point?

Society claims that success and happiness should be our most desired end goals. Yet, even prior to the COVID quarantine, people were recognizing higher levels of success but felt more isolated, disconnected, and unfulfilled than even before. During the quarantine, people have reevaluated what they've always known deep down: that what they truly desire is to know with certainty that who they are and what they do matters.

A common question in the mind of every person is this: Where do I go from here? This keynote answers that question.

Success is good. Significance is best. It's time for you to Matter More.

Surviving a stroke at an early age, and after years of research, interviews, trainings, and observation, Smith reveals the Significance framework outlined in his best-selling book, Dare to Matter. This framework reveals the six major pillars of significance and how they can be incorporated into our daily lives.

You don't need to survive a stroke to learn how to live a significant life. You just get the benefit of gaining the insight from someone who has.



At the conclusion of this presentation, the attendees will:

- Increase ownership, accountability and responsibility of self and others
- Implement a behavioral model that builds trust, impacts hiring and strengthens relationships
- Identify why "guts and grind" are keys to success in calm and chaos

About Pete Smith:

Enjoying a successful career over the past 24 years, Pete Smith is an international speaker and coach in the fields of leadership, management, personal growth and development. His experience, concepts and tools have helped organizations improve their leadership effectiveness, elevate engagement at all levels, transform company cultures, and consistently perform at high levels.

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



TUESDAY, FEB. 2

2-3 p.m. EST

Managing High-Traffic Fields

Pamela Sherratt, Ohio State University; John Sorochan, Ph.D., University of Tennessee

This presentation will look at ways sports field managers can use sound agronomic practices, new technologies and the most efficient turfgrass care



products to maintain turfgrass prior to and during periods of heavy use.

3:15-4:15 p.m. EST

I Speak Agronomy, My Coach Speaks Athletics - What Now? Marc Moran, CSFM, Atlee High School; John Corbin, Atlee High School

Learn how to work successfully with coaches to help understand their perspective on surface expectations





and effectively communicate agronomic principles that can lead to a better sports field.

TUESDAY, FEB. 9

2-3 p.m. EST

Sustainable Sand-Based Turfgrass; 11 Seasons at Target Field

Larry DiVito, Minnesota Twins

This discussion will examine how to plan, build and maintain a turfgrass surface that can be viable for 10 years or more at the professional level.

3:15-4:15 p.m. EST

It's Only Fair if it's Hit Between First and Third

Jeffrey Fowler, Penn State University Extension

Will help empower you to overcome your biggest obstacles on your field and in your life by assisting in strengthening personal leadership and fortitude.

TUESDAY, FEB. 16

2-3 p.m. EST

How to Find and be a Part of Successful Internships

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

This panel of industry leaders will discuss what makes a successful internship program, as well as provide advice to students to help them find and select an internship that will assist them in reaching their professional aspirations.



3:15-4:15 p.m. EST

Where is the Future of our Industry?

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

Will discuss the shortage of skilled labor workers and how current sports field managers can help engage youth in their communities and increase awareness of careers in sports field management.

TUESDAY, FEB. 23

2-3 p.m. EST

Bluemuda for Beginners

Gregg Munshaw, Ph.D., MountainView Seeds; Brian Winka, CSFM, Advanced Turf Solutions

This presentation will describe the history of Bluemuda, how it works, the major strengths and weaknesses of this concept, and how to implement it on fields across the transition zone.

3:15-4:15 p.m. EST

2021 Weed Management Update

Jim Brosnan, Ph.D., University of Tennessee; Gerald Henry, Ph.D., University of Georgia

An update on strategies for controlling key weeds of warm and cool-season turfgrass sports fields including crabgrass, goosegrass, sedges, and *Poa annua*.

TUESDAY, MARCH 2

2-3 p.m. EST

Field Testing Synthetic Fields: The Basics and Beyond

Kyley Dickson, Ph.D., University of Tennessee; John Sorochan, Ph.D., University of Tennessee

Attendees will learn about the value of field testing, the basics of field-testing devices for improved athletic

JOHN MASCARO'S PHOTO QUIZ

CAN YOU IDENTIFY THIS TURFGRASS PROBLEM?

PROBLEM:

Discolored area of turf

TURFGRASS AREA:

Little League baseball field

LOCATION:

Knightdale, N.C.

TURFGRASS VARIETY:

419 bermudagrass and perennial ryegrass blend

Answer on page 33

John Mascaro is president of Turf-Tec International







performance, as well as advances in field testing and how that could improve athletic fields in the future.

3:15-4:15 p.m. EST

Introducing STMA's "Best Practices" Document and Promoting Environmental Certification

Zachary Holm, CSFM, New York Red Bulls; Victoria Wallace, University of Connecticut

Pressure from introduced environmental legislation has prompted STMA to develop best management practices (BMPs) that support sports field management practices. This presentation will introduce the Best Practices document and discuss how this document supports STMA's Environmental Certification.

SPECIAL CHAT ROOMS

Meet up with colleagues who share some of your challenges. STMA will have special chat rooms for:

- Women's Forum
- International Attendees
- CSFMs
- First Timers

Times that the rooms will be open will be posted in the virtual platform. $\,$

SEMINAR ON WHEELS

Look for a year-round program of seeing sports venues! STMA committees will be finalizing locations soon.

SAFE GOLF TOURNAMENT

The Foundation for Safer Athletic Environments for Everyone (SAFE) is hosting a golf tournament! The tournament will be held in your location of choice for



anyone who wishes to participate in this competition. It will be live in early spring until May 31. There will be a chapter challenge, too.

Gather a foursome (non-members welcome, too) and golf locally, paying your cart and greens fees. SAFE is asking for a \$15 donation from each golfer. Enter the tournament as many times as you wish to try to improve your standing! There will be a leaderboard of the top teams on the website, and, at the conclusion of the tournament, join our Tournament Party and get the real scoop on these golfers! Many prizes and other recognition will be given at the party.

Look for more information soon. SAFE will be piloting this concept this fall for a flawless SAFE springtime event.

CEU/PESTICIDE RECERTIFICATION CREDITS

STMA is increasing the value of your attendance by working with other green industry organizations to provide continuing education units:

- American Sports Builders Association (ASBA)
- National Recreation and Park Association (NRPA)
- Golf Course Superintendents Association of America (GCSAA)
- Professional Grounds Management Society (PGMS)
- National Association of Landscape Professionals (NALP)
- California Pesticide Recertification Credits*
 *Pesticide Recertification credits will only be available for California. If you are attending from



another state and are in need of pesticide recertification credits, you are responsible for contacting your state's Department of Agriculture for approval.

VIRTUAL TRADE SHOW

The trade show will be open during the two-day educational event, Jan. 12-13. Attendees can view products



and equipment, meet with booth staff, and get their questions answered — just like in the in-person exhibit hall. How you enter and interact with exhibitors is very intuitive. STMA's virtual platform makes it easy!

For more information about the 32nd Annual STMA Conference & Exhibition, or to register, visit STMA.org.









LINDA REEVES FIELD AT CHRIST CHURCH EPISCOPAL SCHOOL GREENVILLE, S.C.

Lacrosse is a growing sport in our area, and there is a lot of excitement around it. Even during the offseason, the field is usually being used for a lacrosse event. We constantly have to move goals off the field to do our job, as well as move them to manage wear on the field. This past year, the school decided to overseed the field with ruegrass. We have dealt with ryegrass on other fields before, but the amount of play and style of play was going to be a new challenge for our staff. The field stayed in great condition until late January, the start of the lacrosse season. Girls and boys junior varsity and varsity — a total of four full lacrosse squads — started using the same field for practice. At first the field handled it well. Coaches tried to practice away from the game creases as much as possible; but as the season progressed, games and game-like practices followed. The need to practice in game time simulations proved to be very destructive to the field. In years past at this point, the goalmouths were dirt, and we had to bring in a clay and sand mixture weekly to stabilize the

area. This year was different — we constantly had to re-seed the crease areas, but the dormant bermudagrass in these areas seemed to be holding up. We would try to re-seed the crease when we knew there were several away games in a row. However, the seed would never fill back in fully. By the time the seed germinated and grew a little, it would get wiped out by another home game or two, and the process started all over. Even though the ryegrass never filled back in fully, it was enough to keep the base of the field solid. Although Linda Reeves Field was not picture perfect, it was a safer field than in years past. Also, because we never lost the bermudagrass base, there was no sodding that needed to be done this season. Once lacrosse was over, the school was able to use the facility without any delay. We adapted to our new challenges and, in doing so, we found solutions to an old problem. We produced a safer playing surface for the lacrosse teams, and also gave the school a field that did not need any summer renovations.

— Brian Dossett, head turf manager

The Field of the Year Awards program is made possible by the support of sponsors Carolina Green Corp., Precision Laboratories, and World Class Athletic Services.



Category of submission: Schools/Parks Sporting

Grounds

Field manager: Brian Dossett

Title: Head turf manager

Education: BS Turfgrass Management, Clemson

University

Experience: For the past 13 years, I have worked for Oxner Landscape. Oxner Landscape is contracted to maintain the fields and landscape of Christ Church Episcopal School. Along with serving the turf needs of other residential and commercial costumers, I oversee all aspects of maintenance on the fields at Christ Church, with the exception of painting.

Students, interns, part-time and seasonal staff: Jake Haynes, Matthew Conroy, Daniel Burch, Larry Frost, Travis Frost and Zach Dees

Original construction: 2000

Turfgrass: 419 bermudagrass

Rootzone: Clay





SportsField Management (SFM): Congratulations again on the winning field. What are you most proud of with this win, and/or what do you think stands out most about the winning field?

DOSSETT: The thing I think stands out about this field the most is the way our turf team produced a great surface for two separate sports, which included overseeding of rue and transitioning back to a bermuda surface. This was only our second year overseeding a field that was used for two sport seasons. The first year we learned a lot about our techniques to accomplish this goal, and the second year we implemented what we learned. Both sports, as well as the summer camps, had a safe playing surface that was aesthetically pleasing whenever it was needed throughout the entire year.

SFM: What attracted you to a career in sports field management?

DOSSETT: The truth is, I did not find a career in sports field management — it found me. Upon graduation from Clemson University, I went to work for a landscape maintenance company as their turf specialist. After interning for a golf course while in school, I gained valuable knowledge and experience, but I knew that was not where I belonged. Landscape maintenance was where my roots were, so I decided to go down that path. I had no experience at sports field maintenance, but the company I went to work for had a contract with a private school in the area for their ground's maintenance, which included their sports complex. That is when my love for this part of the turf industry began.



Judge's Comments

Linda Reeves Field at Christ Church Episcopal School is almost 20 years old with no renovation. The sport of lacrosse is their main sport, for games and practice, and is tough on turf in clay soil to maintain. They told of the trials and tribulations of managing a sports field during a season, and of adding clay, sand and seed to try to maintain a safe playing surface (our number one priority in my opinion). They are also working with coaches, and did everything in their power to make the field the priority with player safety first. They operate on a small budget, and have a well laid out fertility and maintenance program. The photos tell the story. They don't just show the beauty — they tell the journey along the way.

— Rob Walls, foreman, parks and recreation, City of Westminster, Colo.

Editor's Note: A panel of 11 judges independently scored Field of the Year entries based on playability, appearance of surfaces, utilization of innovative solutions, effective use of budget and implementation of a comprehensive agronomic program. We have asked the judging panel to provide insight into why each winning field was selected, and we will share those comments with the corresponding field profiles.

SFM: Who would say are your mentors in the industry, and/or what is the best piece of advice you have received?

DOSSETT: It would be hard to single out a mentor for me or even two or three. Just about every turf professional, professor or presenter I have had a relationship with or talked with has probably mentored me in some way whether they (or myself at the time) knew it or not. It's a family in this industry; we look out for one another.

SFM: What are the biggest challenges you face in providing excellent playing surfaces, and how do you approach those challenges?

DOSSETT: My biggest challenge lies with the way our relationship exists with our customer. Being a vendor providing a service, we have a different way of operating than other facilities. Our customer treats us like family, and we have a great relationship, but being a vendor and not a direct employee of the facility presents scheduling conflicts at times. Things can change quickly, and just because we want to spray a field, for example, that was supposed to be available, does not mean we always get too. I approach these challenges by trying to maintain great relationships with as many people as I can at the facility. This includes the facility manager, business manager, coaches, athletic director, PE teachers, school division heads, and anyone else that might need field space or knows of anyone that might need field space on a given day. We try to set a firm schedule for general maintenance activities, but, when planning an application or a non-general activity, I try to notify as many people as I can in advance.

SFM: What's the greatest pleasure you derive from your job?

DOSSETT: Seeing a finished product. When looking over a field ready for a game, I visualize in my head everything it took to get to this point. It takes a lot of work to get to that point, and we should all take a few seconds to stop and appreciate what we have accomplished.

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

DOSSETT: Knowledge and relationships. The STMA provides wonderful and useful information, seminars and conferences. Also, the people you meet at these events and the relationships

you build with those people are priceless. As I said before, this industry is a family, and the STMA provides a place to meet your brothers and sisters of turf.

SFM: What advice do you have for other sports field managers?

DOSSETT: Have as good of a relationship with your client as possible. Whether that is a coach, athletic director, general manager or all the above. Do not just talk to them about it, show them. Take them out to the facility, show them exactly what you are talking about — good or bad. Make them a part of the field, and lead them to have the same appreciation for your work as you do. **SFM**



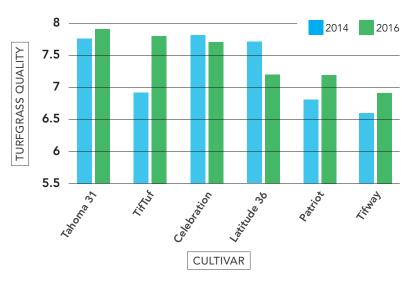


Developed by the turfgrass experts at Oklahoma State University

#1 in Turf Quality

quality among bermudagrasses, when tested

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



#1 in Traffic Tolerance

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

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

Lower Height of Cut

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

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









.125" HOC

2" HOC

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

#1 for Low Water Use

In tests that measured evapotranspiration (ET) rates (mm d-1) under non-limiting soil moisture conditions in Oklahoma (Amgain et al., 2018, Crop Sci. 58:1409), Tahoma 31 fared best, while TifTuf used the most water. Overall, Tahoma 31 used 18% less water than TifTuf.

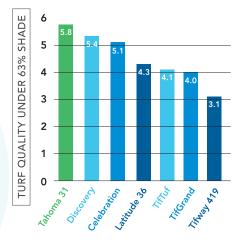
#1	in		
Ea	rly S	Spring	3
Gr	een	-Up	

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

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

#1 in Shade

Mean turf quality in up to 63% shade.



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

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

#1 in Cold Tolerance: Winter Survivability

The winter of 2013 - 2014 swept a polar vortex into the Midwest that created record low temperatures. Dr. Cale Bigelow, a professor of turf science and ecology at Purdue University, located in West Lafayette, Indiana, participated in the NTEP study. In a December 2019 article in Golf Course Management magazine,

Dr. Bigelow was quoted as saying only 9 of 42 bermudagrasses tested survived with at least 50% ground cover by spring. Some 14 of the grasses completely died.

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

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



Find a Licenced Tahoma 31 Producer near you:

757.345.1120 Tahoma31Bermudagrass.com







Data-driven Sports Field Management Practices

[Editor's Note: The following was provided by Soil Scout, and was written by Soil Scout VP of Global Sales, Adam Sedgwick. From turf and amenity to precision farming, machine control, machine automation and GPS, Sedgwick has spent his career at the forefront of agricultural technology and processes.]

It seems every article you read these days begins with a somber announcement about the latest sector of society to feel the impacts of COVID-19. Sports field managers around the world are facing difficult decisions on what expenses they need to cut, and many are facing the possibility of new rounds of layoffs and budget reductions.

Turfgrass is not a commodity where cuts can be made if standards are to be maintained. If things stay as they are,

smaller sports field management teams will have to work longer hours just to maintain the standards they have, let alone make improvements.

In exceptional times, it is those willing to try new things that are more likely to find a lasting solution. Sports field managers around the world know they need to understand what's happening underground if they want to provide a safe, durable, and high-performing surface for players.

As sub-soil conditions can vary greatly from area to area, this usually means using handheld sampling devices to take readings on underground moisture, temperature, and salinity levels. These readings are then used to guide the distribution of resources such as water and fertilizer.

Even so, an understaffed team will find it difficult to consistently take samples from the exact same measuring spots, reducing the consistency of manually collected data. As a result, optimal turf conditions cannot be achieved, water is wasted, and repetitive maintenance activities will increase costs.

Using sub-soil data to gain a true picture

If the problem is logistics, then the solution needs to reverse the flow of information. Instead of driving out



to specific locations to sporadically collect sample data, one solution could be to permanently position sub-soil monitoring devices that stream readings from multiple key locations in real-time.

If a reading deviates from normal parameters, the team gets alerted and work can be prioritized. This way, sports field management teams will always have up-to-date knowledge of their fields' underground moisture and salinity levels, as well as the temperature needed to support optimal conditions across all soil variations. With guesswork out of the way, field managers can smartly allocate resources, cut costs, and spend less time on redundant work

Old problems, new data-driven solutions

Water consumption is a sensitive issue in many markets, and "too much is better than not enough" is not good enough anymore. Field managers who have a detailed view of the in-field variation of their fields can accurately irrigate exactly where needed according to live current levels. Optimal irrigation helps reduce the risk of compaction and has positive knock-on effects for soil aeration.

Over irrigation can also lead to increased salinity levels, making it more challenging for plants to take up

moisture. Sub-soil salinity data provides the opportunity to proactively alleviate this potential issue. More precise irrigation will, in turn, lead to reduced fertilizer leaching by preventing overwatering. Real-time soil temperature data will also help sports field managers decide when to best apply fertilizer to ensure better plant uptake.

Ensuring consistent playing surfaces is challenging when the soil's growth potential and current conditions are unknown. When data is streamed in real-time, proactive agronomic turf improvement can be achieved as predictions can be made for plant nutrient and moisture requirements. This will also help reduce disease incidence as peak turf disease activity can be forecasted.

Low-cut, fine-turf areas walk a fine line between pristine quality and breeding grounds for black thatch. Saturated soils with low oxygen levels are the culprits, so accurate aeration and topdressing regimes are essential. Permanently positioned underground soil monitoring devices will allow sports field managers to ensure their surfaces are supported by optimal sub-soil conditions.

Real-time data also allows you to improve work efficiency in maintenance, reduce labor costs, finish those tasks that never get done, and devote more time to

proactive turf development. This sub-soil data can also automate irrigation and sub-surface air systems, thus providing more accurate and timely usage and potential labor-saving benefits. This information – combined with other sub-soil monitoring information – leads to an evidence-based approach to management that can be used to justify the applications of costly resources.

Underground soil sensors can also lead to reduced energy consumption. By optimizing irrigation, you can reduce pumping time, and consume less energy. Better management practices can reduce the number of above surface operations, including mowing, aeration, and the application of fertilizers and pesticides.

Data-driven sports field management is a real option for those looking to adapt to today's world. Yet it is not a compromise. Tighter conditions tend to create efficiency improvements that can have long-lasting benefits. For instance, a sports field manager who has collected several years of historical data will have a clearer view of overall trends and the tendencies of each area's soils. Instead of reacting to changes, the field manager will be able to proactively work toward even greater efficiencies and improvements that will compound with each new year.



The *SportsField Management* Interview: Dan Bergstrom, CSFM

In this installment of The SportsField Management Interview, we meet Dan Bergstrom, CSFM, director of turf and grounds at BBVA Stadium in Houston, Texas. Over a long career in the sports field management industry, he has worked in multiple cities including Cleveland (Browns), Lexington, Ky. (University of Kentucky), Lincoln, Neb. (Haymarket Park), and Houston (Minute Maid Park and BBVA Stadium). Bergstrom graduated with a degree in Horticulture/Turfgrass Management from Iowa State University. He is married to his wife, Krista, and they enjoy providing a home to senior rescue dogs in their spare time.



Dan Bergstrom, CSFM

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

Bergstrom: I'm the director of turf and grounds at BBVA Stadium in Houston, Texas. I oversee our department of six crewmembers, as well as our stadium field and the seven fields at Houston Sports Park. We are home to the Houston Dynamo of MLS, the Houston Dash of NWSL, and the Texas Southern University football team. Numerous groups use our Sports Park — from public to universities to international soccer teams, and, of course, our Dynamo Academy teams.

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

Bergstrom: I come from an agriculture background, and have always enjoyed sports and working outside with my hands. My path into the industry started with a summer of golf course maintenance, acceptance into the Turfgrass program at Iowa State University, and multiple internships.

SFM: Who were your mentors in the industry, or who has impacted your career the most?

Bergstrom: Too many to mention without forgetting some, but Dr. Nick Christians and the Turf/Horticulture program at Iowa State; Vince Patterozzi in Cleveland gave me a chance after college; and Bucky Trotter helped me tremendously at Kentucky.

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

Bergstrom: All the friendships made as a result of my career and my longevity and success in the industry. I'm thankful for all the great crews I've been blessed to work with over the years.

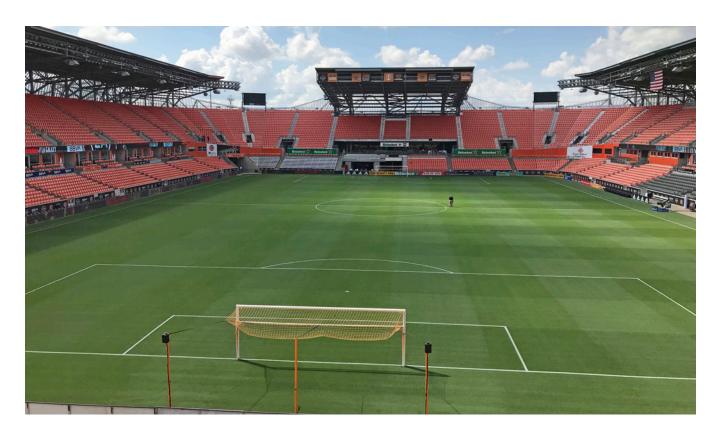
SFM: What are the biggest challenges you have faced in your career, and what advice do you have for other sports field managers when it comes to facing similar challenges?

Bergstrom: Managing the expectations of executive teams is a universal challenge for sports field managers. My advice is to communicate the realities of your situation as early as possible with regard to weather or event challenges that come along. Become known as someone who can "see the future," not as someone who is always reacting to a challenge.

SFM: What is the best advice you received during your career?

Bergstrom: Keep an outside consultant as part of your agronomy program to bounce ideas off of and to help provide backup in challenging times.

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





Dynamo grounds crew pictured here (in the orange polo shirts in the middle) with the 2018 Open Cup trophy surrounded by team staff and coaches. Grounds crew front row, L to R: Russell Rafter, Donnavon Robinson and Joe Maza; and back row L to R: Dan Bergstrom, Jafet Orellana, Jose Bonilla and JoseLuis Villatoro. Team GM Matt Jordan (white shirt), Assistant GM Nick Kowba in (black shirt) and 2018 coaches are also pictured here.

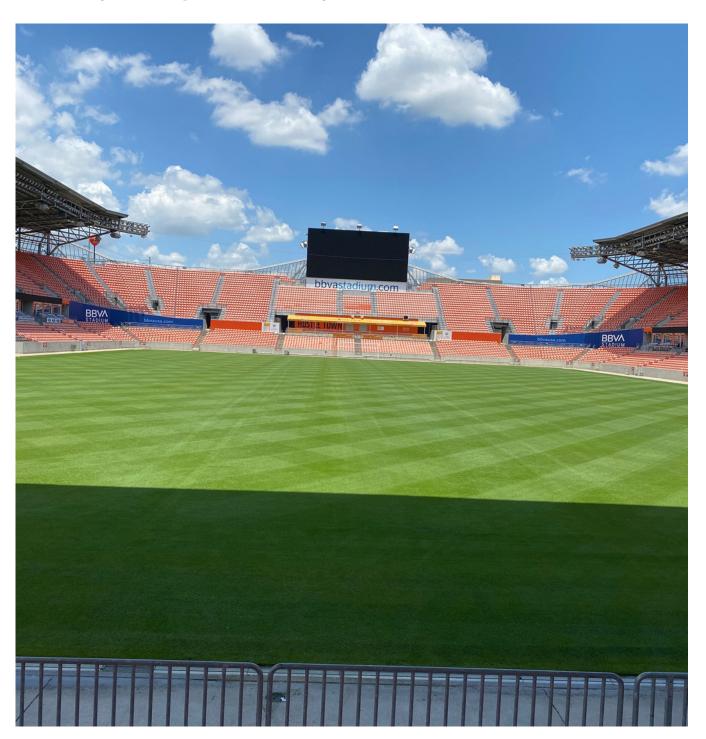
PROFILE

Bergstrom: I have benefitted from being a member of STMA in many ways, including personal friendships, networking, continuing education and keeping up to date on the latest technologies available in the sports turf industry. Serving on boards and committees has helped me to grow personally and professionally.

SFM: How do you think the profession and industry

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

Bergstrom: We will see continued advancement in turfgrass cultivars, equipment and software for our industry. We will see continued expansion of robotics in our industry. **SFM**



JOHN MASCARO'S PHOTO QUIZ

ANSWER

From page 17

This photo of a discolored area of turf on an outfield was probably fairly easy to guess — it is a manmade problem. This athletic field is in the transition zone. The base grass is bermudagrass and the sports field manager uses a perennial ryegrass blend to overseed the infield and approximately 20 feet (one sprayer width) on the back arch of the skinned area. In the springtime, the ryegrass is transitioned out by applying a Foramsulfuron herbicide at the high labeled rate. Right after application, the weather warmed up quickly and allowed the ryegrass to transition out very promptly, as well as turned the bermudagrass the lighter shade of green. The bermudagrass recovered quickly, and, after a couple of days, the field looked awesome and no more ryegrass!

Photo submitted by Jason E. Eubanks, grounds maintenance supervisor at the Town of Knightdale, N.C.

John Mascaro is president of Turf-Tec Internationa



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



Versatile Workhorses

Tractors for sports field management applications

By John Kmitta

Tractors are the Swiss Army knife of equipment. These multipurpose machines provide an effective tool to maintain play-ready fields, said Ray Gherardini, product marketing manager, John Deere.

"Implements transform the machine to tackle a variety of jobs, from aeration to seasonal work such as snow removal." he added.

Whether you purchase or lease a tractor, there are plenty of factors to consider when looking at these versatile workhorses.

Not your grandpa's tractor

"Tractors have come a long way since the tractors our grandparents used," said Sam Williamson, national golf and turf sales manager, Steiner. "Manual transmissions to hydrostatic, cruise control, and independent PTO control are just a few of the innovations that have assisted with improving sports field managers' jobs."

"There have been numerous technological advancements for tractors in recent years that make the sports field manager's job a whole lot easier," said David Taylor, owner, STEC Equipment, and Kioti tractor dealer. "For starters, having computers within the tractor helps more quickly identify and resolve any maintenance issues. Locking cruise control, meanwhile, allows the operator to easily maintain a slow, steady speed for lengthy tasks such as aerification. Automatic power takeoff (PTO) – and the ability to turn four-wheel drive on and off – allows for much more precise turns. Together, these innovations make tractors easier to use, safer and more versatile with added functionalities."

"Manufacturers are consistently developing new features that help to simplify operation and boost productivity," said Gherardini. Gherardini points to John Deere's Smart Connector as an example of such technology. Smart Connector establishes a connection between your tractor and your smartphone via Bluetooth technology for access to tractor information such as service intervals, diagnostic codes, fuel level, engine hours and maintenance information. Also, John Deere's TractorPlus App provides owners with access to key parts of their operator's manual, parts diagrams, and parts ordering directly from the John Deere Store or their preferred dealer, he added.

According to Brandon Bozarth, product manager for tractors and implements at Mahindra Ag North Amer-



Photo provided by John Deere

ica, manufacturers are also making implements easier to attach, while transmission advancements have made changing direction easier.

Getting attached

According to Williamson, tractor attachments and implements such as mowers, aerators, seeders, trenchers and vacuums allow sports field managers to solve a wide range of issues.

"Each turf manager knows his or her field the best, therefore they know how to maintain it very well, and tractors allow them to complete these tasks in a timely and efficient fashion," said Williamson.

According to Gherardini, compact utility tractors can be transformed using a vast array of implements to tackle just about any task.

"Through the simple addition of implements – hundreds of which are available for purchase – a compact utility tractor can be used for everything from digging and trenching to grading and moving materials, as well as mowing," said Gherardini.

Some of the more popular implements include loaders, box blades, rotary tillers and backhoes, Gherardini added.

According to Bozarth, loaders can move dirt or sod, backhoes can dig up sod and dirt if it needs to be



Photo provided by STEC

moved or replaced, and 3-point finish mowers can deliver belly-mower level finish on a larger machine.

"The wide array of attachments and implements that can be used with tractors for maintaining a sports field is precisely what makes tractors such a powerful, versatile workhorse to get the job done," said Taylor.

Taylor added that the most common attachments for sports field managers are wide area mowers.

"Rather than buying a separate engine for a self-propelling mower, you can use the horsepower and auxiliary hydraulics of the tractor to properly utilize a wide area mower." he said.

When it comes to matching a tractor to the requirements of implements, tractor horsepower-to-attachment ratio is key with whatever job you are trying to complete, said Williamson.

"Lift capacity, PTO horsepower, and torque all need to be factored into your decision," said Williamson. "This is why, when purchasing a tractor, it is important to research and be honest with your dealer about what jobs you are wanting too complete. Typically, the safe bet is having more horsepower than what is required. The issue you can run into then is the size of the tractor. The higher the horsepower the larger the engine and therefore the larger the tractor."

According to Taylor, before you buy a tractor, be sure to check the implement manufacturer's spec requirements to be sure the tractor is within the recommended horsepower range and has sufficient lift capacity.

"You want to avoid overpowering or under-lifting the implement," Taylor added. "I always advise my customers to opt for a tractor with 10 more horsepower than they think they'll actually need. As you upgrade your machinery, you'll always need more horsepower. You should also consider what kind of transmission your implements



Photo provided by Steiner

need, whether your implements require rear remotes and what PTO speeds they'll require."

Bozarth added that the latest Environmental Protection Agency regulations have led almost all manufacturers to use diesel exhaust fluid (DEF) on tractors 75 engine horsepower and above. If you can complete your tasks with a tractor smaller than this, it will cut out one more input to your operation, he said.

According to Gherardini, sports field professionals should work with their dealer to discuss their needs in a machine, including the specs required for their existing implements. A dealer will be able to help with navigating all of the options to determine the right machine for the intended jobs.

Deciding factors

When looking to buy or lease a tractor for sports field management applications, there are several other factors sports field managers should consider when making their decision.

Fields/facilities

According to Taylor, the type of field/facility being managed will determine what tasks you wish to accomplish with your tractor and, in turn, what tractor will meet your needs.

"In addition to the facility being maintained, sports field managers should also consider where the tractor will be stored, as well as how the tractor gets into the stadium," said Taylor. "These factors can impact the size of the tractor that makes sense for your facility."

"Base your purchase off the jobs you need to complete and the playing surface," said Williamson. "Tire options, footprint, maneuverability, horsepower and attachments are all things that need to be considered."

Site considerations

"Think about the property that will be maintained, including terrain, size, and site access," said Gherardini. "It is important to select a machine that can handle the intended facilities, while also ensuring that it is able to travel throughout the property. For example, are there any gates that the tractor would travel through to access the field? That will be a factor in the purchase."

"Maneuverability and footprint are two large aspects that need to be checked. If your tractor will not fit or work on your site, it isn't much support to you and your team," said Williamson. "Soft conditions, for example, require a lighter footprint. Fitting your tractor to your surfaces is a must."

Said Bozarth, "Most sports management jobs must watch compaction on grassy areas. Watch for a machine with an appropriate weight and turf or golf tires to spread the weight out."

Added Taylor, "If you're working in a dusty environment or in extreme heat or cold, you may want a tractor

with a cab. If there are lots of trees in the vicinity of the field, an open station tractor is probably better for you."

Workload

According to Gherardini, sports field managers should also determine the type of work that will be done. This will help to identify the right engine horsepower and hitch lift capacity for the tasks that are being tackled on a regular basis.

According to Taylor, the heavier your workload, the bigger horsepower and greater lift capacity you'll need in a tractor.

"Horsepower and kits such as buckets, hydraulics and electrical need to be properly set up to make sure the job can be completed," said Williamson. "Maintenance and support provide what is needed to keep your unit going for years to come."

Operator comfort and safety

"It is always smart to demo or operate the unit you are looking at before purchasing," said Williamson. "Operator

Product Round-up: Tractors

John Deere

John Deere recently announced the 52-hp. 4052M and 66-hp. 4066M heavy-duty compact utility tractors. These machines feature a three-range eHydro transmission with Twin Touch pedals, allowing for easy direction changes and increased productivity while decreasing operator fatigue. The 4M machines are equipped with a category I/II hitch with telescoping draft links, making implement hookup a simple task. Factory-installed hydraulics offer operators the ability to connect and use multiple hydraulic controlled implements simultaneously. Perfect for working in small spaces and low-light conditions, the 4M machines feature an innovative lighting design and short wheelbase.

Recently, John Deere launched its Mechanical Self-Leveling (MSL) loader option for small tractors. With the MSL option, when using the loader, the operator is able to maintain a level bucket or pallet position from the bottom of a lift to the top. This provides increased stability for the materials that are being lifted, and reduces the potential for materials to fall back toward the tractor.

Kioti

The range and specifications of Kioti tractors are a perfect match for sports field management applications. The NX Series, for example, is well suited for turf tires and powered by a 45- to 60-hp. engine, delivering power while still maintaining its compact size. These tractors come standard with creep speed, which is ideal for many sports field maintenance tasks that require a low speed. Additionally, the CK10SE Series, which just added the all-new CK2610SE HST cab model earlier this year, is the perfect tractor for artificial turf, offering a fully featured, comfortable machine in a lower horsepower, lightweight option. The range of tractors offered by Kioti meet the diverse needs of the sports field manager.

Mahindra

Earlier this year, Mahindra launched its 2660 and 2670 models. The 2660 is available in open station and cab varieties combined with power shuttle and hydrostatic transmissions. The 2670 is available in cab and PST only. The transmissions can be adapted to be more or less aggressive in their engagement to suit operator needs or preferences. The units also boast an available loader that lifts more than 3,000 pounds at the pivot point or a backhoe with a 9-foot dig depth. Combine this with some high-flotation turf tires, and you have a good machine for sports complexes.

Steiner

Steiner tractors offer an extremely versatile option for sports fields. All grass fields, as well as fields with brick dust, sand or clay can be maintained and managed using one machine. The Steiner 450 tractor's light footprint and list of attachment options allows operators to get the job done no matter the conditions. Steiner's weight distribution over four or eight tires allows the operator to glide over soft or damp areas with minimal disturbance. While Steiner's mowing decks provide a clean and quality cut, other attachments allow operators to complete jobs like irrigation install or repair, material collection, warning track or infield maintenance, and leaf removal. Steiner also comes standard with a 2-inch receiver, so towable attachments and tools can be used easily.

EQUIPMENT AND TECHNOLOGY FOCUS



Photo provided by Mahindra

comfort can be investigated through this process and make sure that hours of operation do not cause discomfort. A comfortable operator does a better job running their machine."

According to Taylor, having a cab on a tractor is a major advantage for both comfort and safety considerations. It can keep the operator warm in the cold or cool in the heat, and can prevent dust and debris from interfering with the operator.

Overall, Williamson advises sports field managers to base their tractor purchases on the playing surface and the jobs that need to be completed.

"Tire options, footprint, maneuverability, horsepower and attachments are all things that need to be considered." said Williamson.

Added Bozarth, "Find a unit with a lengthy warranty backing it up. Although your machine shop may be capable of many kinds of maintenance, knowing your local dealer is there to help will surely come in handy."

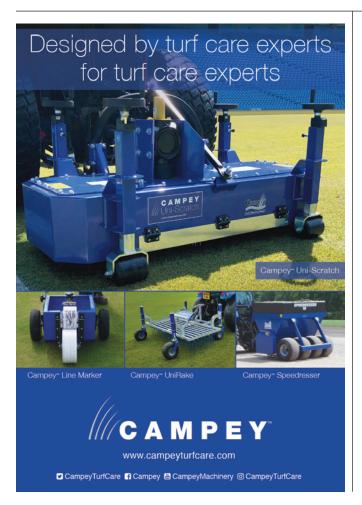
Said Taylor, "Speak with multiple dealers, and find someone else in the sports turf care industry who knows about the equipment to consult with. Take care to seek out advice from professionals who know the industry."

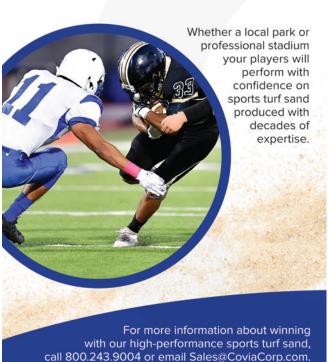
John Kmitta is associate publisher and editorial brand director of SportsField Management magazine.

It's not just sand,

it's the pursuit of excellence.

COVIA BESTSAND





Equipment Trends 2020, part II



Photo courtesy of STIHL

For insight into outdoor power equipment trends, Landscape Business, sister production to SportsField Management, recently reached out to representatives from equipment manufacturers throughout the outdoor power equipment industry to discuss market trends. The following is an excerpt from that effort, and responses are presented here in the order in which they were received.

LB: How has COVID-19 impacted design, production and sales of commercial outdoor power equipment, and/or how professionals are approaching their outdoor power equipment needs and decisions in 2020?

Thankfully, the landscape industry has largely been deemed essential throughout North America, and has largely continued to operate uninterrupted. However, job losses will impact outsourcing of landscaping, and shutdowns of certain assets – like municipal golf courses and sports turf assets – are causing some uncertainty in the industry that are causing some landscapers, municipalities and sports complexes to be somewhat measured about their purchasing, but remain cautiously optimistic.

- Pierre Pereira, director of sales, N.A. at Billy Goat

COVID-19 has added a lot of challenges in our industry. We were certainly not immune to that. Our dealers

had to shut down or change their operating procedures to accommodate for the virus, while taking care of their customers. Contrary to what we thought would happen. Steiner has seen an increase in sales in 2020. The increase in sales has allowed us to invest more into our design and production teams to become more efficient internally. We have had to increase production to keep up with the market demand. Many homeowners, municipalities, and commercial locations are also taking this time to remodel and work on their landscape while theu have less foot traffic. Lawn and landscape professionals are investing in more diverse equipment in an effort to better serve their customers and grow their business. All the while, they have adapted



Photo courtesy of ASV



Photo courtesy of John Deere

to contactless interactions and the use of protective gear to keep their customers and crews safe. Hats off to the professional lawn and landscape teams across the country that have worked through this difficult time and continued to service their customers!

– Sam Williamson, a regional sales manager for Steiner, a Doosan Bobcat brand.

There is no denying that COVID-19 impacted our industry. We saw a busy spring selling season slow down. Time had to be spent regrouping and helping our dealers navigate how they could sell if they couldn't be open. As time went on, we saw our dealer network thrive – they proved they could improvise and overcome. There was a learning curve with understanding the new normal, but, in the end, they could still be there for their customers.

– Brad Unruh, director of new product development, Hustler Turf Equipment

COVID-19 has impacted the way we do business, just like so many other organizations. Working from home has allowed our design of commercial outdoor power equipment to continue, and in some ways we have become more efficient. While our production facility was closed briefly, we have rebounded, and now production is stronger than our initial expectations. Sales, although initially lower due to closed dealerships, have grown since markets have reopened.

Right when the pandemic warnings started, as we were gearing up for the spring season, the partial shutdowns began, which affected the spring aeration season and its corresponding sales for both ownership and rental channels. However, we are now witnessing improved growth from the previous year with

the industry expecting to see a strong fall aeration season.

While you can't replace visiting your customers in person, COVID-19 has kept us at home, which has allowed us to reach out to our customers more frequently. It has reminded us that we are all in this together.

– Ron Scheffler, senior product manager, BOB-CAT and Ryan

From my point of view, it seems the effects aren't significant. Construction and landscaping must go on. Though people are nervous, it seems like many are still moving forward with home improvement and landscaping projects. Of course, outdoor applications have the added benefit of existing an open-air environment.

- Buck Storlie, ASV product line manager

COVID-19 has impacted everyone's lives, but we are fortunate that commercial landscaping has remained

strong throughout the pandemic. Now, more than ever, the world is moving outdoors, and the landscape industry plays a key role in maintaining those spaces. While, in general, the industry hasn't slowed down, landscapers are closely evaluating their needs before making business decisions, such as purchasing a new piece of equipment.



Photo courtesy of Exmark

– Nick Minas, product

manager, John Deere Commercial Mowing

On the battery front, with so many people staying at home due to COVID-19, the noise-mitigation offered on battery solutions is more important than ever, so landscape contractors can operate during any time of the day without disturbing their customers. Once COVID-19 begins to ease up, this will also be a major benefit for operating around other commercial properties or schools.

– Mitch Hoffman, marketing manager at Toro

COVID-19 has created challenges with the sale of commercial power equipment, because conducting demonstrations and face-to-face training are more difficult in this environment. We are still following the same development processes we have in the past, with a focus on extensive in-field testing of our product as we go through the development life cycle. While we've had to be flexible, we're confident in our production plan and dealer commitment.

 Josh Sooy, business segment director, professional products, Cub Cadet

While Honda Power Equipment was generally optimistic about 2020 at the beginning of the year, the COVID-19 pandemic presented operational challenges for the business, particularly during March and April. Similarly, demand for outdoor products among landscape professionals waned during late spring as many businesses were faced with an uncertain economy and stay-at-home orders for non-essential businesses. However, as the econ-

omy began reopening and product production returned to more regular operations, Honda Power Equipment experienced strong gains for a number of its outdoor power products, marine outboards, and general-purpose engine lines. At the peak of the summer season in the U.S., landscape professionals continued to rely on Honda products more than ever, especially in June and July

— evidenced by robust sales of lawn mowers, trimmers, tillers, pumps and inverter generators. The company even reported record snow blower sales, attributed to robust pre-season orders and immediate delivery of product.

– Gary Childress, senior manager, Honda Power Equipment

COVID-19 has slightly affected the sales process within a dealer. To help ensure staff and customers are safe, we've seen dealers adapt new policies and process, such as curbside pickup, methods of social distancing and offering masks.

- John Powers, director of product marketing, Echo, Inc.

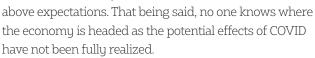
Our industry professionals are increasingly selective of the equipment they're purchasing, meaning they're ensuring they have the right equipment for the application.

More than ever, they're using online media for information, whether that's OEM websites, influencers via social media, industry forums or resources like Landscape Business. As a result, they're more informed when they get to the dealer. So, whether they're looking to increase productivity through larger decks and/or higher horsepower, or are focusing on increased operational efficiency, with fuel-injected machines and/or low maintenance requirements, customers arrive at the dealership with more information. As a result, they can better consult with their dealer on the best equipment for their applications.

– Lenny Mangnall, Exmark product manager

Our Stihl manufacturing facility in the U.S. remains operational, and while we have seen some impacts to our supply chain, we continue to provide Stihl dealers the products and services they need to support their customers.

Over the past few months/weeks, we have seen encouraging sales activity and we have heard from dealers and landscapers that business has remained steady, if not



– Nick Jiannas, vice president of sales and marketing, Stihl Inc.

To help our customers during this uncertain time, Kioti launched a variety of sales and financing programs. The pandemic has not only expedited the shift of residents from cities to suburban and rural areas, but also allowed time for property owners to tackle their own landscaping needs, increasing the demand for equipment. People are finding whatever way they can to get outdoors and stay busy while staying safe.

Due to this shift in time spent at home, landscaping professionals have been impacted in various ways. Landscaping professionals split their time between servicing their equipment, making sure it will last, and landscaping work. During the current climate, attention to detail in landscaping work has escalated significantly. With homeowners being present and vigilant as their property is being worked on, pristine work is more critical than ever.

– Steve Cathey, Kioti Tractor territory manager

- Kansas, Oklahoma, and Eastern Texas

LB: What is your outlook for the commercial outdoor power equipment market for the remainder of 2020 and beyond?

Flat in 2020 with a return to GDP + growth rates as markets return to normalcy in the following years.

- Pierre Pereira, director of sales, N.A. at Billy Goat



Photo courtesy of Honda

We believe the rest of 2020 will continue to be a strong year for the OPE market. We believe our industry has learned a lot this year regarding how we react to the world market and adapt to changing work requirements. It is the job of manufacturers to design and produce strong, reliable and innovative products. These innovations will hopefully lead to aiding professional

landscapers and mowers to grow their business in years to come. We see a lot of opportunity for growth and development for the OPE market that will continue for years to come. We are proud to be a part of the outdoor power equipment market, and greatly appreciate the hard work and support of all of its members.

 Sam Williamson, a regional sales manager for Steiner, a Doosan Bobcat brand.

I believe the remainder of the year will see increased strength for the outdoor power equipment market. We're continuing to see timely rain in many areas, extending the summer season, and seeing demand for mowers throughout the U.S. For the most part, there is a positive outlook within the industry, and people are continuing to persevere. The trend toward updating outdoor living space is gaining momentum as people spend more time at home.

- Brad Unruh, director of new product development,

Hustler Turf Equipment

The commercial outlook is very promising going forward. We expect to exceed last year's market volume, even with partial closings across the country, throughout 2020. And, beyond that, we are planning for continued growth, as the turf industry is a resilient group, just like our great nation.

The turf market is a tough, steadfast industry, and together we are all stronger.

– Ron Scheffler, senior product manager, BOB-CAT and Ryan As advancements in battery, motor, and electronic technologies continue, you are going to see a bigger shift from gas to electric (due to increases in power and runtime). Milwaukee's leadership in battery-powered technology puts us at an advantage when it comes to continuing to stay in front of these advancements.



Photo courtesy of Toro

– Tony Buxton, senior product manager for Milwaukee Tool

I see the commercial outdoor power equipment market steady to improving for the remainder of 2020 and beyond.

– Buck Storlie, ASV product line manager

This is a resilient industry, and despite the challenges landscapers have faced this year, we are optimistic about the future. Landscaping has been recognized as an essential industry and many homeowners are focused on improving their properties, so there is a lot of opportunity for landscape professionals now and in the future.

– Nick Minas, product manager, John Deere Commercial Mowing

Our outlook for the commercial outdoor power equipment market is very positive and promising. Grass is continuing to grow, and many property owners are taking a stronger look at their lawns and partnering with professionals to beautify their landscapes and maintain them throughout the season.

– Mitch Hoffman, marketing manager at Toro

The use of vacuum excavators is growing in the lawn and landscape market. The diversity of jobs that vacuum excavators can accomplish gives them a valuable role on a variety of jobs and in many different industries.

– Chapman Hancock, Ditch Witch vacuum excavation product manager

There is potential for a strong fall this year, as many purchase decisions were put off last spring. As the world gets more clarity on COVID-19, we expect sales to recover in 2021 since some fleets will be past due for replacement.

 Josh Sooy, business segment director, professional products. Cub Cadet

Recent indicators

point to 2020 remaining strong for the outdoor power equipment market, especially as work-from-home trends are creating more demand for commercial hires. For 2021, Honda Power Equipment is hopeful trends lean increasingly more toward "return to normal" while continuing to adhere to safe operational practices. Currently, the leading indicators from the

industry and retailers are that 2020 will be a good

year, overall, for commercial outdoor power equip-

ment market.

– Gary Childress, senior manager, Honda Power Equipment

The market continues to grow in virtually all segments, and we are excited to see what 2021 has to offer.

- John Powers, director of product marketing, Echo, Inc.

Much like with any economic downturn, there was some initial pull back. But, in the end, neither the economy nor COVID-19 can keep the grass from growing. As a result, landscape professionals' services will continue to be very much in demand.

Additionally, with the extra time at home, many families have invested in their outdoor spaces, and either adopted or enhanced their sense of pride with their yard and landscaping. These spaces will require time to upkeep going forward – time homeowners may lack as they return to their physical job locations.

With that in mind, our outlook for the future is extremely positive and we look forward to continuing

to be the choice that landscape professionals most often turn to.

- Lenny Mangnall, Exmark product manager

There's no doubt that the industry will continue to grow and expand, and Bobcat Company will continue to look at opportunities to provide customers efficient, reliable solutions as they grow along with it. That includes looking at our comprehensive equipment lineup to identify areas we can grow, areas we can improve and, of course, listening to customer needs to continue exploring new innovations.

– Jason Boerger, marketing manager - excavators, Bobcat Company

I think what we can take away from this year is that the landscaping industry is resilient and, as an essential business, will continue to flourish despite fluctuations in the market, unpredictable weather and even a global pandemic.

I encourage landscapers to remain innovative in their service offerings, stay connected with their network of suppliers, and continue to manage their business in a way that allows them to ride out any storm.

While the application of robotic and connected products is still developing in the industry, these innovations will be significant to landscapers over the next five years.

- Nick Jiannas, vice president of sales and marketing, Stihl Inc.

Between spring and fall, retail typically begins to slow down. As sales begin to pick up in the fall, we will likely see more commercial equipment sales from property owners and landscaping professionals. Property owners will likely continue to take on outdoor projects in 2020 and invest in equipment to combat the "virtual fatigue." Because of this, landscaping professionals will need to be strategic with pricing and offerings to keep the business demand.

Steve Cathey, Kioti Tractor territory manager
 Kansas, Oklahoma, and Eastern Texas

SFM

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Ensuring Effective Hand Sanitizing in Stadiums

As stadiums and other venues start to reopen, health and safety considerations have never been more critical. While the importance of preventative measures such as hand sanitizing are generally well understood, one of the key challenges for stadiums and facilities is making it easy for employees and the public to prevent the spread of the coronavirus. Many facilities are now installing hand sanitizer stations as part of their COVID-19 response.

A traditional format for dispensing hand sanitizer in public places is through a freestanding, countertop or wall-mounted station placed in high-traffic areas such as the stadium entrance and counters. However, it is common for stadiums to run out of sanitizer quickly when utilizing a small dispenser container. This creates a replenishment issue for employees who are usually busy attending to customers and other important tasks.

More importantly, the risk with empty stations is that employees and the public will miss opportunities to sanitize their hands, increasing the opportunity to spread the virus through contact with others.

"The design of commercial hand sanitizing stations has two key weaknesses," said Kevin McGrath, business unit manager of Creative Serving Inc., which produces a hands-free sanitizing station specifically for use in stadiums.

Creative Serving has decades of stadium experience as a manufacturer of retail countertop food service equipment that optimizes the use of space and minimizes any mess.

"Many stations dispense relatively small quantities of hand sanitizer before running out, which requires frequent replenishment," said McGrath. "And if an automated dispenser is



used, staff must also regularly replace batteries for the station too. It is nearly impossible to prevent empty stations from occurring."

With the high density and high traffic demands of a stadium environment in mind, hand sanitizer stations have recently been purpose-built for retail environments. A key difference is the ability to hold one gallon of sanitizer at a time, reducing the frequency of replenishment. The hand sanitizing stations can be freestanding, installed on countertops or wall mounted.

To reduce the need of employees and customers touching the station with their hands, products like the hands-free sanitizing station dispense product using a plastic pump operated by a foot pedal. This also eliminates the need for replacing batteries or using

electricity, which saves stadiums time and money. Moreover, the freestanding station can be bolted to the floor and is strong enough for daily high-volume use. The station's durable antimicrobial powder-coated steel further reduces the risk of a virus spreading.

The challenge of encouraging the public to use the hand sanitizing station still remains, however.

"There's some psychology involved when promoting a healthy habit such as regularly sanitizing your hands," said McGrath. "A station also does need not to be an advertisement for a brand of sanitizer either. If we really want customers and staff to use a station, it needs to be seen as part of the store environment and be built to last over time."

Creative Serving, for example, addresses the issue by providing foot-pedal-operated hand sanitizing stations branded to fit in with a stadium's identity. Custom graphics such as name or logo can be added. Integrating the brand identity can reinforce that hand sanitizing is a company policy and become another way to show community pride by keeping the facilities as healthy as possible.

Additional information on Creative Serving and their hands-free sanitizing stations can be found on their website at www.creativeserving.com.

New John Deere Fastback PRO rear-discharge mower deck

John Deere debuted the new Fastback PRO rear-discharge mower deck for its line of gas and diesel Z900 ZTrak mowers. Available in 60- or 72-inch cutting widths, the rear-discharge mower deck increases productivity and improves operator comfort without sacrificing cut quality. Well



suited for a variety of applications, the addition of the new deck offers a solution for professional customers who desire or require the rear-discharge placement of grass or debris.

As a result of the rear-discharge design, the chance of damage from objects being thrown from the mower deck is decreased. The unique design also helps minimize the amount of debris blown onto the operator, resulting in a cleaner mowing experience. Additionally, the rear-discharge mower deck saves time by allowing operators to mow closely around fixed objects with either side of the deck.

The commercial-quality, reinforced deep-deck design allows for a large volume of material to be thoroughly processed during operation. The unique baffling system is designed to reduce clumping and windrowing. The baffles surrounding each blade enhance efficiency by controlling and directing material as it moves to the rear. The baffles are lowered at the rear so that collected material can be quickly discharged to minimize the likelihood that clippings will be expelled to unwanted areas. Materials are directed to the rear, kept low and guided into the turf by the flexible rear shield, ensuring the operator will have a clean experience while using the rear-discharge mower deck.

The rear-discharge deck is suspended from and supported by the

mower to provide a level cut. The mower deck wheels and rollers help smooth out mowing in uneven conditions and reduce the chance of scalping. Two wheel and roller heights, higher and lower, can be set based on the mowing conditions. The higher settings can be used when mowing at lower cut heights, in rougher conditions, or as necessary to reduce the chance of the wheels hitting the ground. The lower settings are ideal for higher cut heights and smoothing out the mowing job. The mower cut height can be adjusted from the machine operator's station, ranging from 1 to 5.5 inches.



Cub Cadet expands PRO Series offerings

Cub Cadet announced updates to – and new offerings in – its PRO Series commercial lineup, all designed to enhance the ultimate performance mowing experience. From an addition to the PRO X series of stand-on mowers to a bagger that lives up to its powerful promises to expanded EFI engine options, the list of Cub Cadet professional offerings continues to grow.

PRO X 636

The PRO X 636 is the latest addition to the PRO X series line of standon mowers and offers the same strength, comfort and performance as the rest of the PRO X series models. The versatile deck size allows op-

erators to be nimble in small spaces like gated properties and maneuvering around obstacles.

The PRO X 636 has a 2-year, no-hour-limit warranty and will be available at Cub Cadet independent retailers in early 2021.

PRO PCS 1900 POWER COLLECTION SYSTEM

The PRO PCS 1900 bagger was designed to be a powerful attachment that provides optimal performance. The bagger features a 19-inch-wide impeller housing, one of the largest in the industry, along with tool-free conversion from bagging to side discharge for quick convenience.

Some of the most unique features of the PRO PCS 1900 include optimized tube geometry designed to keep the CMFs high and move grass through the tube to prevent plugging. Cub Cadet also added a rubber seal where the tube mounts into the bagger, which prevents blowout, especially during dry conditions. Mesh tops and screening on the bags also help prevent blowout and handles make dumping even easier.

The PRO PCS 1900 was available at dealers beginning in September 2020.

PRO SERIES WITH EFI OPTIONS

Cub Cadet electronic fuel-injected (EFI) engines provide reliable starting, and fuel efficiency when you need it most. The PRO X 654, PRO X 660, PRO Z 960 L, PRO Z 972 L and PRO Z 972 SDL will be available with EFI engines.

The Kawasaki EFI is an advanced, electronically controlled open-loop system that uses real-time feedback to sense usage conditions and instantly control combustion to give you optimal power output and superior fuel efficiency

The PRO Z units with EFI engine options will be available at dealers starting in March 2021. **SFM**

FROM THE TWITTERVERSE

The following are some industry Tweets from the past month:



@CycloneTurf

Another game this week and another outstanding effort by the guys. Field is ready for game 3. Might look a little more traditional?

OCTOBER 9



@AndyOmmen1

I've had pretty good success doing this. Pulled double cores along edges and blew them away to knock down any buildup and improve drainage

OCTOBER 6



@DukeGroundsCrew

Mow after the game to clean it up. Keep it short and tight. Still at .500. It's cleaning up very well. We will put the covers on it next week.

OCTOBER 3



@campbet004

The amount of work and attention to detail from my comrades never ceases to amaze me. Good luck today my friends.

OCTOBER 3



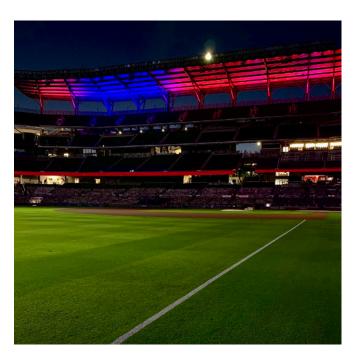
@JoeyThomas91
It must be paint day

Because I be drippin!!

OCTOBER 2



@_TJBrewerBlankets down, hopefully we'll grow some grass this weekend! **OCTOBER 2**



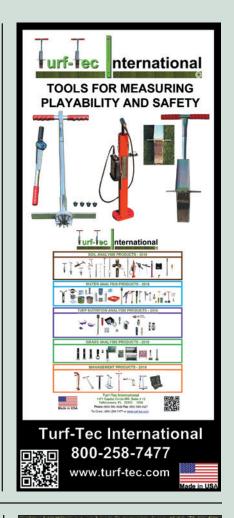
@T_LenzTurf
Just waiting on a ball game now.
SEPTEMBER 29

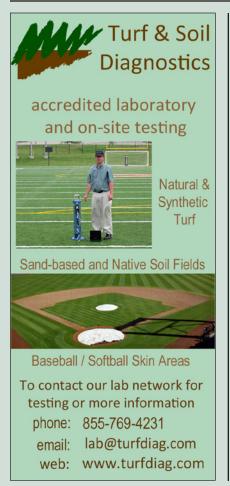


@Fitz12Joey
It's been a while since we had to paint any boxes around here...
SEPTEMBER 25













Σ



STMA Affiliated Chapters Contact Information

Sports Turf Managers Association of

Arizona: www.azstma.org

Colorado Sports Turf Managers Association: www.cstma.org

Florida #1 Chapter (South):

305-235-5101 (Bruce Bates) or Tom Curran, CTomSell@aol.com

Florida #2 Chapter (North):

850-580-4026,

John Mascaro, john@turf-tec.com

Florida #3 Chapter (Central):

407-518-2347, Dale Croft, dale.croft@ocps.net

Gateway Chapter Sports Turf Managers Association:

www.gatewaystma.org

Georgia Sports Turf Managers Association: www.gstma.org

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

www.stmalabasin.com

Illinois Chapter STMA: www.ILSTMA.org

Intermountain Chapter of the Sports Turf Managers Association:

http://imstma.blogspot.com

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

Iowa Sports Turf Managers Association: www.iowaturfgrass.org

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

Mid-Atlantic STMA: www.mastma.org

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

Minnesota Park and Sports Turf

Managers Association: www.mpstma.org

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

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

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

North Carolina Chapter of STMA: www.ncsportsturf.org

Northern California STMA: www.norcalstma.org

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

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

Oregon STMA Chapter: www.oregonsportsturfmanagers.org oregonstma@gmail.com

Ozarks STMA: www.ozarksstma.org

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

Southern California Chapter: www.socalstma.com

South Carolina Chapter of STMA: www.scstma.org

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

Texas Sports Turf Managers Association: www.txstma.org

Virginia Sports Turf Managers Association: www.vstma.org

Wisconsin Sports Turf Managers
Association: www.wstma.org

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Q&A WITH DR. GRADY MILLER

With the move of high school fall sports to winter/spring, I'm concerned about the amount of play on our bermudagrass fields during dormancy. We have a lot of football and soccer games scheduled in January and February. I am not as concerned with the look of the field, just if it will be detrimental to the turfgrass or the field. We usually do not overseed, but would you recommend us doing so this year?

This has been a common talking point across the southeastern United States, and probably most other bermudagrass growing areas. There is little doubt that the increased winter and early spring play is likely to lead to worn areas. These areas can quickly deteriorate and result in field damage.

The first approach is to do everything possible to have dense healthy bermudagrass before it enters dormancy. This will be helpful, but it will probably not be enough to sustain turfgrass cover until summer 2021. In past seasons, most of the fall sports were played on actively growing turfgrass in the early season, and it was not until near the season's end that games and practices were held on fully dormant bermudagrass. This allowed some field recovery during the early to mid season. The delayed season this year will result in most, if not all, of the games being played on dormant turfgrass — so there may be no recovery between uses.

I believe the best insurance against field damage during a winter/spring season will be overseeding. Research suggests that overseeding can help prolong turfgrass cover and protect the surface. University of Tennessee research suggests that overseeded bermudagrass may allow 50 percent more games before showing signs of severe wear. I have also measured turfgrass surface for shear strength, and often the overseed will increase surface shear strength by 100 percent. That increase will provide a much more stable surface that will handle much greater traffic levels.

Of course, overseeding has its own set of challenges and added expenses, so that step may be a big one for some. But I do believe it is a good practice given the probable outcome following all the winter and spring play. It is no guarantee,

but overseeding could keep the school from having to fully renovate a field next summer.

A few comments for those interested in overseeding for the first time in a while. First, you cannot seed if you have recently applied a traditional fall pre-emergence herbicide. If you have not applied a pre-emergence but want to control annual bluegrass, the easiest thing to do would be to use foramsulfuron or rimsulfuron as a post-emergence control a week before overseeding, as per label directions.

A second suggestion would be to use perennial ryegrass. There are also newer turf-type intermediate and annual ryegrasses, but make sure you are getting a turf-type. Using an old annual ryegrass like 'Gulf' is not recommended. Perennial ryegrass typically gives you the greatest density, best growth habit, greater wear tolerance, and even fewer grass stains on uniforms. It is worth spending a little extra for the best seed you can afford.

A third suggestion is related to seeding rates. I generally recommend a base rate of 10 pounds of seed per 1,000 square feet (about 430 pounds per acre) for North Carolina. Even better performance can be achieved with a higher rate, but I suggest not going above 20 pounds of seed. I also do not recommend people overseed in N.C. with less than 6 pounds of seed. The lower rates can be used further to the south, where bermudagrass does not go 100-percent dormant, but it normally takes about 8 pounds of seed to get total coverage of fully dormant bermudagrass.

Lastly, do not forget that overseed grass will benefit from supplemental water and fertility to keep it healthy and growing. It will also require regular mowing. STMA has some additional resources available for maintaining high-use fields, so please be sure to check out those publications for more information. **SFM**



Grady Miller, Ph.D.Professor and Extension Turf Specialist North Carolina State University

Questions?

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







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