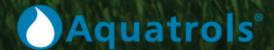
PROPER HYDRATION is necessary for ATHLETE

(even the short green ones)

Aquatrols professional turf surfactants are designed to move moisture uniformly through the soil profile, promoting healthier, denser turf — the foundation of a stable playing surface and athlete safety.

Ensure that your turf is getting the moisture it needs to maintain peak performance. Contact your Aquatrols distributor today to discover the soil surfactant solution that's right for you.



www.aquatrols.com

Seriously advancing the way you cut grass.



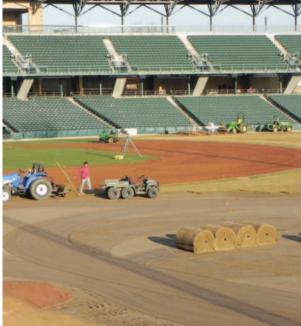
Introducing the Groundsmaster* 360 Quad-Steer™

The all-new Toro Groundsmaster 360 reinvents the way a mower performs. This machine utilizes revolutionary Quad-Steer all wheel steering to maximize productivity. Climb hills without slipping. Make 180° turns without tearing turf. Hug the turns or side hills while mowing in total comfort. Save time without sacrificing quality. Intuitive controls and unparalleled maneuverability turn work into play.

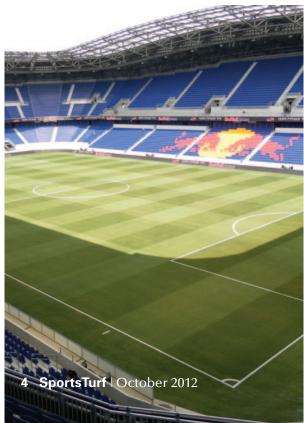
toro.com/360



Count on it.







Contents

OCTOBER 2012 | VOLUME 28 | NUMBER 10

Features

Field Science

- **8** Strategies to handle heavy traffic on your fields
- **14** The basics of maintaining synthetic turf
- **32** Turf report from the new Major League Soccer stadiums

Facilities & Operations

- **18** Environmental management and employee safety
- Painting Daytona Speedway logos tougher than passing on the high side
- Are you okay with our putting a 5-million pound structure on your field?

Irrigation & Drainage

30 Saving water (and money) at your indoor facilities

Tools & Equipment

34 Latest mower technologies from Big Three

Field of the Year

38 2011 STMA College Soccer Field of the Year: Maryland Soccer Foundation, Boyds, MD

Departments

- 6 From the Sidelines
- 7 STMA President's Message
- 17 John Mascaro's Photo Quiz
- 42 STMA in Action
- **43** STMA Chapter Contacts
- 44 Marketplace
- 45 Advertisers' Index
- **46** Q&A



On the cover: Jerad Minnick led his crew to an STMA Field of the Year Award despite the large number of events, different type of events, and the challenge of the extremely wet fall in 2011. Back row, L to R: Joel Cruz, William Godoy, Caesar Chavez, Christian Mejia. Front row, L to R: Jerad Minnick, Ryan Bjorn, Dusty LeVan, Julie Adamski.



WATER. FEED. PREPARE. PROTECT.

Take care of your field. We'll take care of you.

FIND US: www.ewing1.com/locations

TALK TO US: 800.343.9464







From the Sidelines



Eric Schroder Editorial Director

eschroder@m2media360.com

717-805-4197

What if we had replacement turf managers?

YTHE TIME YOU READ THIS I sure hope that the National Football League's billionaire bunglers and the league's greedy referees have put their egos aside and reached an agreement to get those zebras back on the field. As of this writing, three games into the season, I'm still tuning into the latest Wonder of the World, the NFL Network's RedZone channel, to watch the games but I might not soon if the product continues to be nearly unwatchable.

I don't care what the bargaining issues are; the refs make more money on 16 Sundays than most of us do all year and they still make mistakes every game. As for the league, what, they don't have the money? What a joke.

Call them replacements or scabs but the poor schmucks who are allegedly running the games so far this season are in way over their heads and together with the actions of the players and coaches, they are making a mockery of "the integrity of the game."

Imagine if turf managers across the country were suddenly replaced by folks who work on their home lawns. Hasn't rained in a week? Heck, no need to mow the field! Gotta paint a logo at midfield? Uh, where is the color by numbers? Field seems too hard? Let's turn on the sprinklers overnight, that'll soften it up! Grass not as green as you'd like? Put out more fertilizer and lots of it! Is that a weed? Better spray some chemical—and lots of it!

JACOBSEN EXEC GOES "UNDERCOVER"

I love this story. Ric Stone, the VP of sales for Jacobsen, recently spent a week working on the maintenance crew at a resort golf course in Alabama, Kiva Dunes, but the crew didn't know who he was. Stone's goal was to get some authentic user feedback (the course uses all Jake equipment). Kiva Dunes Superintendent Mike Rienzi played along with the ruse and introduced Ric as a new member of the crew on the first day. "Nobody suspected anything," said Rienzi. "But they probably wondered why I was working him so hard. He held up pretty well, except for the blisters."

Ric's gnarled hands were the result of some very hard work: he was tasked with bunker raking, hole cutting, floor sweeping, greens and fairway mowing, machine maintenance and a handful of other odd jobs around the shop.

At the end of the week over a pizza lunch, Rienzi revealed the true identity of the new rookie. After a moment of stunned silence, the room filled with gasps, laughter and head shaking.

"What I learned from the operators was invaluable. They love using our machines, but there are little things we can do to make them even better," said Stone. "I will take that feedback directly to our engineering department.

"Above all else, I came away with a great respect for operators. They have a true passion for presenting world-class conditions for their customers. It was an awe-inspiring week that will be with me for a long, long time." ■

Juschusen

SportsTurf

1030 W. Higgins Road Suite 230 Park Ridge, IL 60068 Phone 847-720-5600 Fax 847-720-5601

The Official Publication Of The Sports Turf **Managers Association**



President: James Michael Goatley, Jr., Ph.D. Immediate Past President: Troy Smith, CSFM President-Elect: Martin K. Kaufman, CSFM Secretary/Treasurer: David Pinsonneault, CSFM, CPRP Vice-President Commercial: Rene Asprion Professional Facilities: Allen Johnson, CSFM Academic: Jeffrey Fowler Parks & Recreation: Debra Kneeshaw Higher Education: Jeffrey Salmond, CSFM K-12: Michael Tarantino, CSFM Commercial: James Graff At Large: Jay Warnick, CSFM At Large: Ron Hostick, CSFM

CHIEF EXECUTIVE OFFICER Kim Heck

STMA Office 805 New Hampshire Suite E Lawrence, Ks 66044

Phone 800-323-3875 Fax 800-366-0391 Email STMAinfo@STMA.org www.STMA.org

Editorial EXECUTIVE VICE PRESIDENT Charles Forman **EDITORIAL DIRECTOR** Eric Schroder TECHNICAL EDITOR Dr. James Brosnan ART DIRECTOR Brian Snook PRODUCTION MANAGER Karen Kalinyak

STMA Editorial Communications Committee

Jim Cornelius, CSFM, Jason Henderson, PhD, Paul Hollis, Clayton Hubbs, Joshua McPherson, CSFM, Brad Park, David Schlotthauer, & Grant Spear





SportsTurf (ISSN 1061-687X) (USPS 000-292) (Reg. U.S. Pat. & T.M. Off.) is published monthly by m2media360, a Bev-Al Communications company at 1030 W. Higgins Road, Suite 230, Park Ridge, IL 60068. POSTMASTER: Send address changes to Sportsturf, PO Box 4290, Port Jervis, NY 12771. For subscription information and requests, call Subscription Services at (845) 856-2229. Subscription rates: 1 year, \$40 US & Poss.; 2 years, \$65 US & Poss.; 1 year, \$65 Canada/Foreign Surface, 1 year, \$130 Airmail. All subscriptions are payable in advance in US funds. Send payments to Sportsturf, PO Box 4290, Port Jervis, NY 12771. Phone: (845) 856-2229. Fax: (845) 856-5822. Single copies or back issues, \$8 each US/Canada; \$12 Foreign. Periodicals postage paid at Park Ridge, IL and additional mailing offices. COPYRIGHT 2012, SportsTurf. Material may not be reproduced or photocopied in any form without the written permission of the publisher.

President's Message

Dr. Mike Goatley
Goatley@vt.edu



Mile Souther

M2MEDIA360 PRESIDENT/CEO Marion Minor

VP OF FINANCE AND OPERATIONS
Gerald Winkel

SENIOR VICE PRESIDENT, AUDIENCE DEVELOPMENT Joanne Juda-Prainito

VICE PRESIDENT, OPERATIONS AND HUMAN RESOURCES Mary Jo Tomei

DIRECT MAIL LIST SALES Cheryl Naughton 678-292-6054 cnaughton@m2media360.com

SUBSCRIPTION SERVICES
Phone 845-856-2229 Fax 845-856-5822

REPRINTS Cheryl Naughton 678-292-6054 cnaughton@m2media360.com

Account Representatives:

Leslie Palmer 16267 W. 14 Mile Rd., Ste 202 Beverly Hills, MI 48025 Ph: 248-530-0300, ext. 1402 Ipalmer@m2media360.com

Bruce Loria

626 Wilshire Blvd., Ste 500 Los Angeles, CA 90017 • Ph: 213-596-7226 bloria@m2media360.com

Classified Sales/Marketplace:

Glenn Datz

Phone: 213-596-7220 Fax: 213-624-0997 gdatz@m2media360.com

PUBLISHER'S NOTICE: We Assume No Responsibility For The Validity Of Claims In Connection With Items Appearing In Sportsturf. Reader Service Numbers Are Given To Facilitate Further Inquiry. Commercial Product Names Are Used For The Convenience Of The Reader. Mention Of A Commercial Product Does Not Imply Endorsement By Sportsturf Or M2MEDIA360, Or Preference Over Similar Products Not Mentioned.

President-Elect Martin Kaufman, CSFM, resigns

TMA IS AN EVER-EVOLVING ASSOCIATION, but also one that pays very close attention to its governing foundation by following of its bylaws, its SOPs, and its strategic plan. One thing that we always discuss in our quarterly Board meetings is our desire to remain fully transparent in our activities and decisions on membership's behalf. Let me assure you that transparency and adherence to bylaws remains at the Board's forefront even though it means we sometimes must make uncomfortable decisions as related to our colleagues and friends; such was the case in the summer of 2012.

Due to his acceptance of a commercial position this summer, President-Elect Martin Kaufman, CSFM, has resigned from the Board of Directors. It was very difficult for the Board to recommend and then accept the resignation from the Board of someone that we each consider a friend and an exceptional Board member in Marty. However, it also made each of us very proud in how Marty conducted himself as a total professional during all of our discussion and fact-finding periods regarding his new position. Marty was deeply honored to have been elected by membership to serve as President, but he ultimately placed the needs of STMA above his personal desires.

Marty, there is no doubt in my mind that you would have been a great President. However, what you have done in being so graceful and considerate of others and STMA's governance policies in your situation has shown us that true leadership does not come from the position but it most definitely comes from the person. On behalf of the Board and STMA membership, Martin, thanks for your commitment, your professionalism, and your willingness to continue to lead STMA in different ways.

I ask that you please consider self-nominating or nominating a deserving colleague for a variety of awards, grants, and scholarships that have an October 15 deadline. In this month's issue on page 42 you will find descriptions and calls for nominations for our Founders, Field of the Year, and Innovative Awards, as well as the Mellor and Vanden Berg grants and a variety of student scholarships. Each of these awards identifies and recognizes the brightest stars in our business.

After having served on the FOY committee several years ago, and now having the privilege of evaluating Founders Award candidates, I have had the chance to observe first-hand how the level of competition continues to rise each year as our membership's skills and abilities climb as well. I relish the privilege of having a vote in selecting our Founders Award winners and I know that all that serve on STMA selection committees for other awards and scholarship winners also appreciate the challenge of making difficult choices from such highly qualified applicants. So, don't be shy... remember what Dizzy Dean said "It ain't braggin' if you can back it up." Please take a few moments to develop your own nomination or that of a worthy peer so that some well-deserved recognition can be received at STMA's 2013 Awards Banquet in Daytona Beach.

www.stma.org SportsTurf 7



S RECREATIONAL ADULT LEAGUES AND COMPETITIVE YOUTH CLUBS GROW in popularity, sports facilities and parks departments around the country are tackling the unique challenge of increased demand for matches and events. The rising level of competition provides a welcome change for facilities and departments feeling the pinch of the weak economy with budget cuts and decreased revenue.

But with change comes challenge, and this case is no exception. In response to increasing demand for outdoor sports and activities, cash-strapped facilities and departments must provide fields that are safe and prepared for play, while many times operating with limited resources. Sports Turf Managers are being called upon to find proactive and creative new solutions to maintain and even increase the quality of their athletic fields that are placed under higher traffic demands.

Pro-active and creative solutions come from a re-examination of the basic principles of turfgrass management.

Grass plants are living and breathing organisms, just like humans. As humans, we stay healthy through a balanced diet, hydration, and exercise. These habits keep our energy level high and help our immune system naturally fend off infections and diseases. With a proper nutrient intake, a strong root system, and the right amount of water, a

grass plant will sustain life much like the healthy human. A healthy plant can fend off diseases with a natural immune response and also withstand heavy traffic damage from play.

Keeping this human analogy in mind, let's examine three keys to help find new solutions to maintaining high traffic athletic fields: aggressive aeration, nutrient management, and traffic management. Aggressive aeration combined with a balanced nutrient management program creates a healthy, strong and durable stand of grass. Traffic management then addresses the abused areas directly and decreases the amount of repair work required on fields.

AERATION

Concentrated foot traffic quickly compacts soil on fields, which eliminates air space and leads to suffocating roots. The gasping roots weaken and cause divots, which results in the stand of grass thinning

out. The weak roots also require additional hydration, yet water from irrigation and rainfall is not able to penetrate the compacted soils easily.

Aggressive aeration solves many of these problems by increasing turfgrass density and decreasing water usage. Because water is better able to move through the soil profile, it also decreases the number of events cancelled due to rainfall.

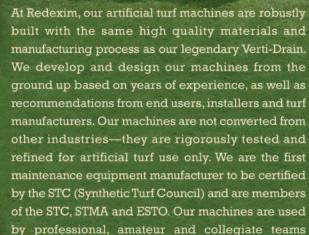
Dictionary.com defines the word "aggressive" as "vigorously energetic, especially in the use of initiative and forcefulness." This definition is an excellent outline to use in your decision making towards aeration. An aeration program should be "vigorously ener-

Nutrient management

A high-traffic nutrient management program can focus on three areas:

- Maintaining nitrogen in consistent, low levels
- Using the plant essential micronutrients for different plant stresses
- Expanding a bio-stimulant program in order to provide a plant with necessary, naturally-produced hormones, carbohydrates, and amino acids







Eliminator





throughout the world.

getic": implemented a minimum of 1-2 times per month. It should show "initiative and forcefulness": taking place in short windows of opportunity between events and in conditions that may not typically be seen as ideal (such as heat, at night, etc).

FC Dallas Stadium, a high-traffic soccer and football field (and 2011 STMA Professional Soccer Field of the Year) sets the standard for what it means to be "aggressive." Sports Field Manager Allen Reed aerates his field every Monday.

Elsewhere, the Maryland SoccerPlex has 1-2 machines continually aerating their 19 natural grass fields. The non-stop process equates to a 10-day cycle between aerations on fields that host more than 350 events apiece each year from soccer, lacrosse, and

Sporting Kansas City's Swope Park Training Center fields, placed under high demands as well, never pass an aeration window of 14-21 days.

This aggressive aeration keeps grass fields from experiencing turfgrass decline due to compaction. It also keeps water moving vertically through the field's soil profile, increasing irrigation efficiency and reducing rainouts.



NUTRIENT MANAGEMENT

A high-traffic nutrient management program can focus on three areas:

- Maintaining nitrogen in consistent, low levels
- Using the plant essential micro-nutrients for different plant
- Expanding a bio-stimulant program in order to provide a plant with necessary, naturally-produced hormones, carbohydrates, and amino acids

Maintain nitrogen in consistent, low levels. Nitrogen is one of three key macronutrients required for maintained plant growth and health. Because nitrogen is key in producing proteins, it should always be present. However, excessive nitrogen leads to faster growth,

which is a factor in turfgrass destruction on high-traffic fields.

Whereas faster growth could be seen as essential to a plant's recovery time, the faster growth actually weakens the cell walls of the plant. Just as a child who is growing quickly can have weak bones, the plant's cell walls become weak and thin. They are easily invaded by pathogens and punctured by traffic. A stand of turf subjected to aggressive nitrogen fertilization will thin out quickly in the high traffic areas and will be prone to diseases such as brown patch and pythium.

Another aspect to note is soils with levels of organic matter contain carbon, a source of nitrogen. As summer temperatures rise and soil microbial activity increases, organic matter breaks down and releases this carbon into the soil as a natural nitrogen source. Soil testing to track the estimated nitrogen release (ENR) from the soil is important to monitor the release. The release potential in combination with a controlled fertilization program avoids a "flush" of aggressive turfgrass growth, resulting in the weak cell walls and thinning of the turfgrass stand. Additionally, "flush" growth causes the plant to burn more energy, using up the carbohydrate reserves stored in its roots. These reserves are essential for the plant to survive the summer heat, when respiration uses up more energy than photosynthesis can produce.

For each stress that turfgrass experiences, there are nutrients like manganese, calcium, and potassium that a plant finds essential to counteract that stress. From weather-related issues like heat, drought, excessive rainfall, lack of sunshine, and cold weather, to mowing, aeration, and heavy traffic, turfgrass is constantly under stress. When a Sports Turf Manager can provide those nutrients that are essential for maintaining plant health through each stress, the plant is able to continue to thrive and sustain the heavy traffic and the stress.

EXPANDING A BIOSTIMULANT PROGRAM

Because of environmental stresses such as drought, lack of sun, heat, etc and constant physical stresses like mowing, traffic compaction, etc, the turfgrass plant is not able to perform its natural growth and development processes. Biostimulants are organic products that aid in plant metabolic processes such as respiration and photosynthesis. Essentially, biostimulants help the plant maintain growth despite stress. Biostimulants include natural-occurring ingredients such as plant hormones, carbohydrates, amino acids, and anti-oxidants.

Plant hormones serve as "signaling molecules" for plant growth by carrying messages from one part of the plant to another. The critical growth hormones in turfgrass are auxins, cytokynins and gibberellins. Auxins signal root growth and development, and work with cytokynins to initiate shoot growth. Gibberellins help supply food for new cell growth, and promote cell division and elongation in the leaf blade of the grass plant.

Sports Turf Managers can use biostimulants to supply the naturally occurring hormones in accordance with the particular stress. These hormones will then signal the needed action by the plant. When root development and density is needed, auxins and cytokynins can be applied to drive roots. If recovery is required, gibberellins are applied to promote vertical growth. When used in