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FEATURES

DEPARTMENTS

On the cover: STMA members Raul Bueno, facilities manager (left), and Dennis Suit, grounds manager, at San Jose State University will certainly be attending the 20th STMA Conference and Exhibition in their hometown this January. Will you?
Photo by Robert C. Bain, copyright 2008 SJSU Photographic Services.

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I encourage you to attend next January's STMA Conference and Exhibition in San José, CA. The 20th annual event's theme is "Technology + Innovation," which fits nicely with the host city's location in the heart of Silicon Valley. At no other national or regional proceeding will you find more education on sports turf and facility management or see any newer related innovations than those on display at this Exhibition.

While exceptions make the rule, the attendees, presenters, educators, and vendors annually frequenting the STMA Conference are the industry's most recognized leaders, movers and shakers. I doubt if anything you do in the next 12 months that will have a more significant impact on your career than getting to San José.

Althouse to work for STMA HQ

Kristen Althouse, a Penn State graduate and former STMA scholarship winner, has been named STMA's assistant Education Manager. Althouse will concentrate on the educational needs of the STMA membership and developing resources to meet those needs. She will telecommute from Pennsylvania where she was most recently an assistant golf course superintendent at Centre Hills Country Club in State College. She also worked at Beaver Stadium on the Penn State grounds crew. Welcome, fellow Nittany Lion!

Horn tooting

Next time you're surfing the internet, please try www.sportsturfonline.com and sign up for our emailed newsletter. "SportsTurf Insider" links you to the latest headlines from the sports turf industry and provides the latest product information and links to maintenance articles.

"Green" synthetic infill is here

The International School of Boston is the first in the U.S. to feature synthetic turf with an all-natural infill material. The new surface, supplied by Geo Safe Play, was developed in Italy where it is used on professional soccer fields. The infill is derived from coconut shells and cork.

The manufacturer says this helps produce less rainwater runoff because it is natural and absorbs water as well as keep a lower surface temperature.

"The International School of Boston, in designing its new play area, made it clear they did not want to settle for a typical surface," said architect Jonathan Austin. "[They] pushed to find a natural infill material that would provide improved safety, including reduced incidence of burns, heat exhaustion, and injuries, and would comply with an environmental resolution passed by the school's board. We quickly concluded there was nothing currently being used in the U.S. that would meet that mandate."

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Let's get together in San José

MIKE ANDRESEN
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As cool-season Sports Turf Managers are seeing the finish line of a long season and warm-season Managers shift gears, it's time to talk continuing education and recharging energy. This *SportsTurf* issue provides a comprehensive run down of the upcoming San José National Conference and Exhibition. Conference Chair Abby McNeal, CSFM, and all involved with the entire event have certainly rolled out a dynamic opportunity for all of us to grow educationally and to certainly recharge batteries.

Credit starts with Abby, but continues to the many members involved in Conference planning. "Thank you" to the Conference Education, Exhibition, Tours, MLB/MLS/NFL, Student Challenge, Logo Painting committees, as well as the many subcommittees and task groups that put together a dynamic week for us in January!

This Conference gets better each year, and this year I think we've taken some exciting new steps to fulfill the mission of being the "must attend" event for anyone involved in managing sports fields and facilities. Please dig into the complete program and make the case to administration that you need to be in San Jose for the Conference. If you've never attended the National Conference, STMA's website has a great document to help convince your administration that the continuing education offered is important for you to take advantage of.

Surveys tell us the Conference is STMA's number one member benefit and the networking provided at the Conference is critical to your success. Please take advantage of the best STMA has to offer!

Election of officers for 2009 will be taking place next month. Board service and working on behalf of membership is an honor. The slate of candidates will be loaded with superb candidates. With the strong chapter system we have in place and the long roster of committee volunteers, more members are evolving into national leaders than the STMA can possibly offer as Board candidates. This is a great dynamic!

The reason STMA thrives is due to the exceptional engagement by committees and a visionary Board of Directors. Combine this with a CEO and headquarters staff that works tirelessly for all of us, and it's no wonder STMA is becoming more and more valuable to each of us as well as the green and sports industries. When you receive your ballot, please learn about each of the candidates and be sure to cast your vote. Your vote is important in defining STMA's future direction.

As the end of the year approaches, you will be invited to consider volunteering for a 2009 committee. I heartily encourage you to answer this call. Committees are the lifeblood of STMA, and I know from my personal experience that the work is very gratifying. Your ideas and insight help to move our association forward, yet members often remark that committee work offers another avenue for learning. Please take advantage of all of the learning opportunities available through STMA and enhance your personal and professional development.

Mike Andresen

How to get a sports field ready in 70 days

By Dr. J. Tim Vanini and Dr. John N. Rogers, III

August 11

The 70-day summer window is ideal for sports fields to actively grow and repair themselves. Typically there is less activity on sports fields, and the summer months are usually ideal growing conditions for recuperation of traffic areas. However, any cultural practices during this time get increasingly complicated when school and park crews leave for vacation or inclement weather occurs during summer. The need for strategies that are less expensive and time-consuming is evident.

A 2002 Michigan Rotational Survey reported that the two practices sports turf managers performed most consistently, regardless of maintenance level, were mowing and fertilization.

Mowing is a common and essential practice for any turfgrass professional. When mowing height decreases, there is an increase in shoot density, plants per unit area, and a decrease in rooting. Fertilization is paramount for proper turfgrass health and is relatively inexpensive compared to other cultural practices. Extensive research has been conducted on fertilizers and their effects on turfgrass. Although usually more expensive, slow-release fertilizers can provide potential benefits for the sports field manager, including, longer turfgrass response, less nitrogen leaching, less surface run-off, less volatilization, and fewer applications for healthy turfgrass response compared to quick release fertilizers.

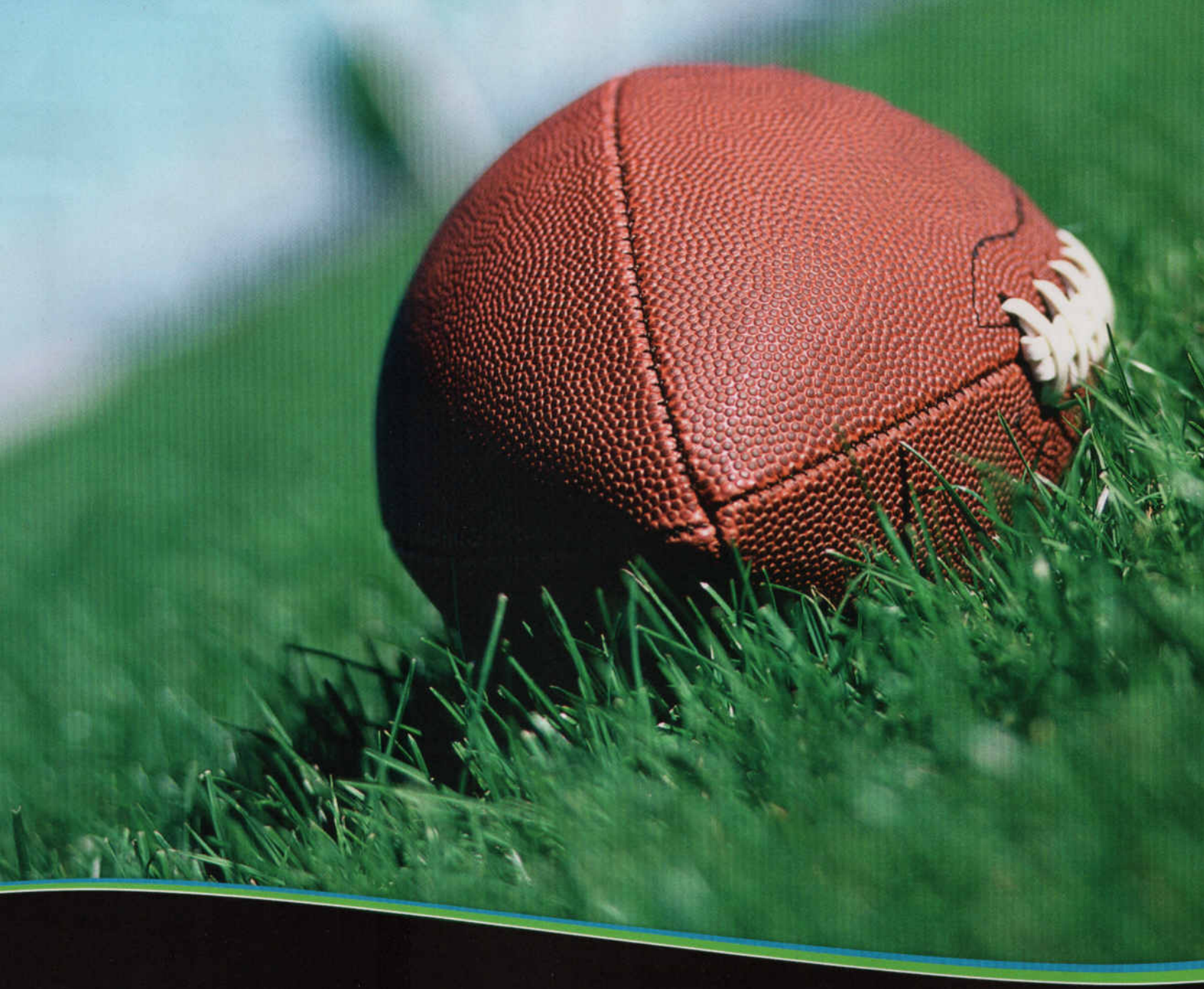
Typically with urea, multiple applications are needed to attain responses observed by using a single slow-release fertilizer over a long period of time. Sports field managers tend to use fertilizer products that are less expensive due to restrictive budgets, usually urea or sulfur-coated urea (SCU). Little research has evaluated these products or others in neither a short re-establishment window nor the agronomic effects on the playing surface. Studies have been conducted in evaluating a combination of mowing and fertility practices. As expected, these studies found more shoots were produced with a lower mowing height in conjunction with a higher rate of nitrogen; however, research did not focus on sports field management situations when time for preparation was a factor nor did the studies evaluate playing surface characteristics (traction and surface hardness).

Canaway and Krick compared perennial ryegrass *Lolium perenne* L.) established from seed and Kentucky bluegrass (*Poa pratensis*L.) sod for soccer fields before the playing season on sand-based rootzones. Sod produced a superior playing quality surface compared to seed when evaluating playing surface characteristics. Cook et al. evaluated turfgrass establishment using hydroseeding (a mixture of primarily water, seed, fertilizer and mulch sprayed on the intended target area) and compared the results to seed and sod on a sand-based rootzone. However simulated traffic on these studies was not initiated until 125, 365 and 140 days after treatment (DAT), respectively. Furthermore, these studies implement practices (sodding and hydroseeding) that can be expensive and labor intensive from year to year.

The objectives in our study were to clarify the impact of best management practices in regards to mowing height and fertilization on re-establishment of sports field turf during a 70-day window, and quantify these effects during and after a 25-day simulated traffic period.

This study was conducted in 2002 and 2003 at the Hancock Turfgrass Research Center (HTRC) on the campus of Michigan State. Three mowing heights and six fertilizer treatments were evaluated (Table 1) and re-randomized in 2003, to avoid any edge effects from the first year. Plot size was 6 x 9 feet. In 2002, sod cutters were used to strip out the existing sod, and in 2003, a Koro Field Topmaker was used to strip the turf from the 2002 experiment. The soil was a sand-based profile and sterilized each year with Basamid G at 8 lbs/1000 ft^2. Seeding and fertilizer treatments began June 1 both years. A 30:70 sports grass mixture (by weight) of perennial ryegrass and Kentucky bluegrass was seeded at 4 lbs/1000 ft^2. Lebanon Country Club 13-25-12 from Lebanon Turf Products was applied at 1 lb N/1000 ft^2 and subsequent fertilizer treatments were applied (Table 1). Fertilizer treatments applied were: Andersons urea (46-0-0) at 1 lb N/1000 ft^2 July 1 (Urea) and 0.33 lb N/1000 ft^2 every 2 weeks starting June 16, July 1, and July 18 (Urea 2w); Lesco Poly-Plus sulfur-coated urea (39-0-0, 12% sulfur coating) at 3 lbs N/1000 ft^2 (SCU); and Polyon resin-coated urea (RCU) [43-0-0, 6% Reactive Layer Coating (RLC)] at 2 lbs N/1000 ft^2 (RCU2), and 3 lbs N/1000 ft^2 (RCU3) and (44-0-0, 4% RLC) at 4 lbs N/1000 ft^2 (RCUThin).

Germination blankets were placed over the top of the plot and removed 15 days after seeding in both years. Based on visual quality throughout the experiment, potassium, phosphorous, and micronutrients were supplemented. Andersons 0-26-26 fertilizer and



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Andersons Trace Element Package were applied at 1 lb/1000 ft^2 and "normal rate," respectively, June 27 and July 25 both years. Lebanon Country Club 18-3-18 was broadcasted to all treatments at 0.5 lb N/1000 ft^2 August 6 and August 19 to supplement nutrients during traffic phases in 2002 and 2003. Irrigation was applied daily during re-establishment and as necessary throughout the experiment to prevent moisture stress.

Mowing began June 25, 2002 and July 3, 2003, and treatments were mowed twice per week throughout the experiment (Table 1). During the re-establishment phase, the 1.5-inch-continuous strategy was mowed with a 17-inch wide McLane mower and the 3 inch-grad-1.5-inch (mowing height lowered weekly) and 3.0 inch-chop-1.5-inch (Table 1) treatments were mowed with a Honda rotary mower (Harmony HRB216 Quadracut).

The 3.0-chop-1.5-inch treatment was scalped down with an Exmark Lazer Z HP, to a height of 1.5-inch 68 DAS. From this point on, all mowing treatments were mowed at 1.5-inch height with the Exmark mower for the duration of the experiment. Clippings were returned at all times.

Traffic was applied by the Cady Traffic Simulator (CTS) uniformly to all plots. The CTS was a modified Jacobsen Aero King 30 self-propelled core cultivation machine with "rubber feet" weighing 1,496 pounds.

Data were collected during re-establishment and traffic phases. Extensive research parameters were measured in this experiment, including, turfgrass cover percent ratings, shear resistance, divoting resistance, peak deceleration, chlorophyll index, root pulls, and plant count. (Due space limitations, we will only discuss turfgrass cover percent ratings and traction. You may see the full article at Applied Turfgrass Science, doi:10.1094/ATS-2008-0218-01-RS). Turfgrass cover percent ratings were estimated qualitatively. Traction values were measured by both the Eijkelkamp shear vane Type 1B for shearing resistance and Clegg Turf Shear Tester for divoting resistance with a plate depth of approximately 1.6 inch.

Table 1. Individual treatments for mowing and fertilizer study, 2002 and 2003.

Mowing Treatments

1) **1.5" Continuous** - mowed at 1.5" throughout the study.
2) **3.0"-Gradual-1.5"**[†] - maintained and mowed at 3.0" for 33 DAS and slowly dropped height to 1.5".
   - 3 July - 15 July - 4 mowings at 3.0"
   - 16 July - 24 July - 2 mowings at 2.5"
   - 25 July - 30 July - 2 mowings at 2.0"
   - 31 July - 3 Sept - 9 mowings at 1.5"
3) **3"-Chop-1.5"** - mowed at 3" and scalped to 1.5" 68 DAS.

Fertilizer Treatments	Total N used [‡]
1) **Urea** – 1 lb. N/1000ft^2 only on 1 July	2 lb. N/1000ft^2
2) **Urea 2w** – 0.33 lb. N/1000ft^2 starting on 15 June every 15 days equaling 1 lb. N/1000ft^2	2 lb. N/1000ft^2
3) **SCU** - 3 lb. N/1000ft^2	4 lb. N/1000ft^2
4) **RCU2** - 2 lb. N/1000ft^2	3 lb. N/1000ft^2
5) **RCU3** - 3 lb. N/1000ft^2	4 lb. N/1000ft^2
6) **RCUThin** – 4 lb. N/1000ft^2	5 lb. N/1000ft^2

[†] In 2002, mowing started on 25 June and was mowed at 3.0" until 15 July. Six mowings occurred until 15 July.
[‡] Total N used includes starter fertilizer application (13-25-12) at 1 lb. N/1000ft^2 plus treatments on 1 June.
Analysis of fertilizers - Urea 46-0-0, SCU 39-0-0, RCU2 and RCU3 43-0-0 and RCUThin 44-0-0.
Seed and starter fertilizer (13-25-12) was applied on 1 June to all treatments.
Fertilizer treatments 3 - 6 were only applied on 1 June.

Turfgrass cover percent

Mowing height only detected differences at the end of the 70-day trial, August 5, 2002 and August 4, 2003 for turfgrass cover percent (Table 2). These dates represented the last turfgrass cover percent ratings observed before simulated traffic was initiated. There were differences among fertilizers for every date regardless of traffic

Take-home message

The fertilizer strategy was more important than the mowing strategy for a 70-day window in the summer. First, there may not have been a wide enough difference among mowing strategies. Second, the fertilizer strategy was implemented for the full 70-day window while the mowing strategy was not implemented until halfway into the experiment because young seedlings were too immature to mow. An effective fertilizer strategy (product and rate) is paramount in a re-establishment growing window.

Implementing a mowing and fertilizer strategy, a sports field manager could reduce labor costs, and/or redirect labor to other projects, while also producing a better quality and safer surface for the upcoming playing season.

Photos 1 and 2: On July 28, 2003, SCU (1) and RCU3 (2) both mowed at the 7.6 – Grad. – 3.8 cm mowing height before traffic.

Photos 3 and 4: On July 28, 2003, SCU (3) and RCU3 (4) both mowed at the 7.6 – Chop – 3.8 cm mowing height before traffic.