WHAT'S TRENDING IN SPORTS TURF IRRIGATION

SPORTSFIELD AND FACILITIES MANAGEMENT

May 2013

SportsTurf

INFINITY PARK,

GLENDALE, CO, STMA "SPORTING GROUNDS" TOP FIELD

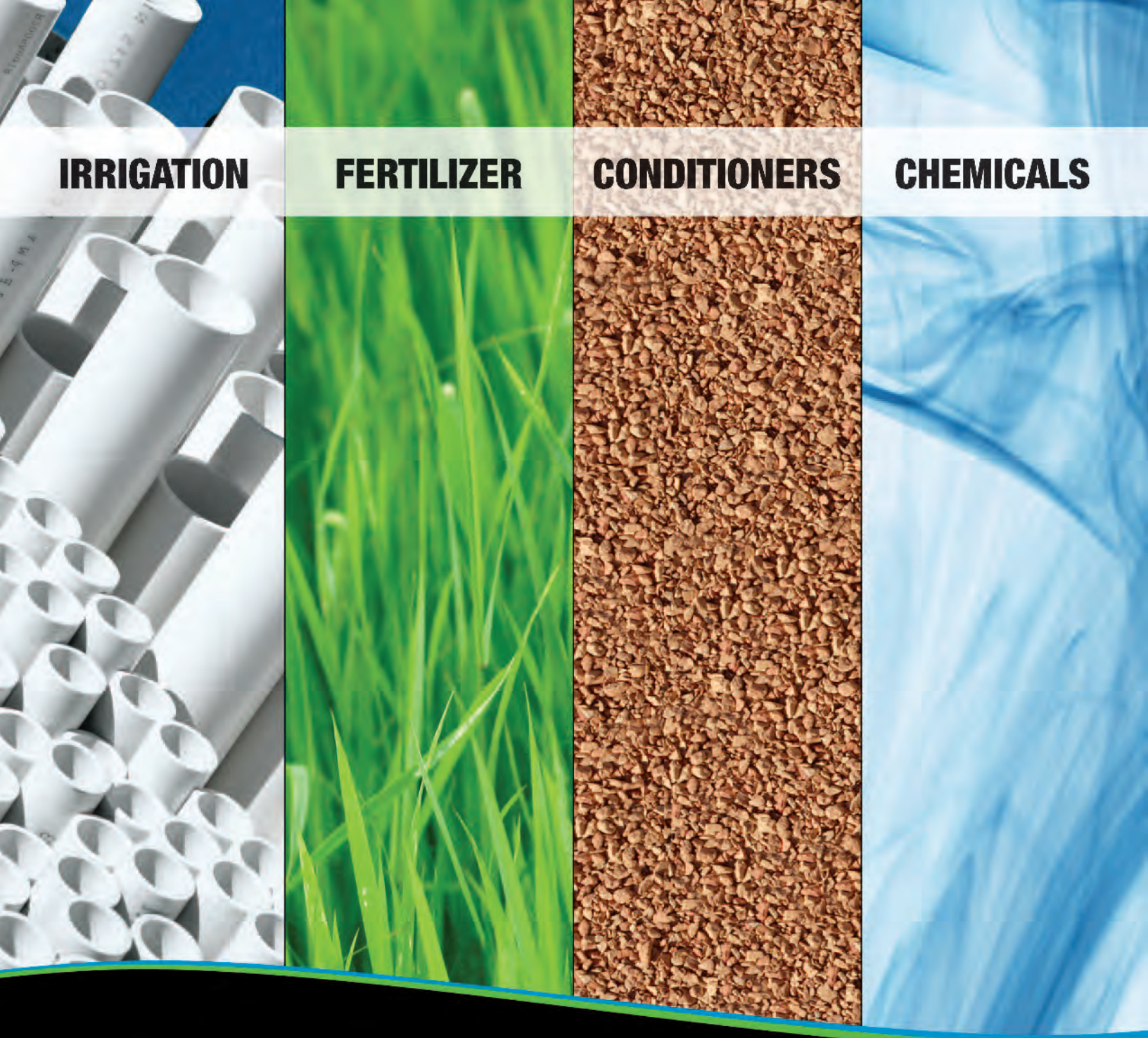
- 7 BEST YOUTH BASEBALL MAINTENANCE TIPS
- THE MAKING OF A "CHAMPION" TURF MANAGER
- PREPARE FOR COOLER TEMPERATURES?
- STRATEGIES FOR SUCCESS IN YOUR WORK LIFE

green media

SportsTurf MANAGERS ASSOCIATION

OFFICIAL PUBLICATION OF THE SPORTS TURF MANAGERS ASSOCIATION


PROPER
HYDRATION
is necessary for
EVERY
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.
Aquatrols®
www.aquatrols.com



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

IRRIGATION | DRAINAGE | SEED | FERTILIZER | TURFACE® | READY PLAY™ | WORLD CLASS PAINT

EWING

SportsTurf Contents

MAY 2013 | VOLUME 29 | NUMBER 5

Facilities & Operations

Field Science

Irrigation & Drainage

Field of the Year

Tools & Equipment

Departments

On the cover: Infinity Park is a city-owned facility that regularly hosts events of different stripes though it may best be known as a rugby pitch. Noel Harryman leads a veteran crew in battling the elements in Colorado.

SportsTurf

Subscribe today to choose the version that fits your Lifestyle

- Available one week prior to the print version
- **BONUS:** Expanded content
- Page for page replica of the print version
- Read content instantly – no downloading required
- Hot links to advertisers websites
- Save a Tree – every page you read online is one that didn't go through the paper mill.

Digital issue not for you?
You can subscribe to either version
– simply click on the link below
to claim your **FREE 1-year subscription**

NOW IN iPAD FORMAT

• iPad • Mobile • Print

www.sportsturfonline.com/subscribest

From the Sidelines

Eric Schroder
Editorial Director

eschroder@specialtyim.com

717-805-4197

How to interview job applicants

IN A FEW PAGES we have an article on the job prospects of recent turfgrass program graduates and one about strategies for success and significance in your work life. Here we share some thoughts from the other side of the table, courtesy of Patrick McGuiness, who presented at this year's STMA Conference on "Hiring the Right Person." McGuiness is a consultant, speaker, author, and attorney as well as a First Lieutenant and Judge Advocate in the US Army Reserve.

"The interview process is one of the most important tools you have when hiring. How many times have you had a candidate that looked incredible on paper turn out to be a dud during the interview process? Here are some questions you can ask to point you to the right candidates for the positions you are trying to fill."

1. Have a level playing field.

It would be unfair to give one candidate a bunch more time than another to explain the qualifications. So, set a time limit for each interview and stick closely to it. However, don't put a stopwatch on the table that just makes things unnecessarily awkward. Create a comfortable interview environment for all the candidates. You want people to be at ease at first when they are being interviewed so that they feel comfortable opening up to you when they answer questions.

2. Prepare ahead of time.

Have specific questions planned for each interview ahead of time. If you are using a panel to interview candidates, assign each question to a specific person so that the interview flows smoothly. Often interview questions end up a lot like bad job postings. The questions are too easy to anticipate, such as "Tell me about a time you faced a challenge, and how you overcame it." Whenever you have questions that are anticipated by the candidate, you are going to get 'canned' responses that do not give you much insight into what the candidate is really like.

3. Ask good questions.

Ask questions that will give you clues about the candidate's ability to perform well at the job you are hiring for. Don't ask leading questions; instead try to keep questions neutral so that you can find out how the candidate honestly feels, not how they think you want them to feel. For example, if you ask "Would you be able to start at 7am every day and work weekends sometimes?" of course the candidate is going to say yes. Instead, try asking "What would you ideal work schedule look like?" While the answer they give may not match your hours exactly, you will get insight into the candidate's work ethic, and whether they researched your organization.

4. Pause and pay attention.

While you are working within a timeframe, don't jump to the next question whenever there is a lull in the candidate's response. Take a second and pause before starting the next question. Often this pause will spur the candidate to keep talking and expand on what they have already said. This will give you further insight into the candidate's level of preparedness. Make it a habit to add this silent pause before asking more questions. You will be surprised how candidate's fill the space you create. ■

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

SportsTurf MANAGERS ASSOCIATION

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
EDITORIAL DIRECTOR Eric Schroder
TECHNICAL EDITOR Dr. James Brosnan
ART DIRECTOR Brian Snook
PRODUCTION MANAGER Karen Kalinyak

SportsTurf (ISSN 1061-687X) (USPS 000-292) (Reg. U.S. Pat. & T.M. Off.) is published monthly by Specialty Information Media 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.

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

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

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

Account Representatives:
Leslie Palmer
JAMES G. ELLIOTT CO., INC.
101 West Big Beaver Rd., Suite 1400
Troy, MI 48084
Ph: 248-530-0300,
ext. 1402
lpalmer@specialtyim.com

Scott Hill
134 N. LaSalle St., Suite 1700
Chicago, IL 60602
312-348-1206
shill@specialtyim.com

Classified Sales/Marketplace:

Glenn Datz
Phone: 213-596-7220
Fax: 213-624-0997
gdatz@specialtyim.com

President's Message

Dr. Mike Goatley

Goatley@vt.edu

Surprise, surprise, surprise

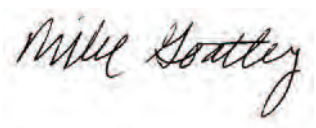
I **CHANNEL THE WORDS OF GOMER PYLE** into this month's message title, proving that you never know when one's familiarity with "The Andy Griffith Show" can pay dividends (and you will see that eventually it works with what I have to say). As hectic and crazy as my travel has been this spring, I participated in a recent educational program that gave me a nice boost in morale. My latest positive reinforcement came in early April at Virginia State University, Virginia Tech's sister land-grant university, and the United States' first fully state-supported, 4-year institution of higher learning for black Americans. The VSU Dean of Agriculture, Dr. Jewel Hairston, asked me to help develop a Turfgrass Management Workshop for about 150 students. I asked some of my state's top turfgrass professionals to join me in the workshop. These men were every bit as good as I expected in detailing their careers in golf turf, lawn care, sod production and sports turf. Before my day was completed, it was the presentation on sports turf that generated the largest number of questions for me.

Jimmy Rodgers, CSFM, gave that presentation, talking about his experiences with George Mason University, the University of Virginia, and the Washington Nationals. These young men and women got a nice taste of what is involved in sports turf management at the highest levels. The students were pleasantly surprised (and excited) to learn that Jimmy was an English major by academic training. He let them know that if they had a strong work ethic and a desire to learn that internships in sports turf management at all levels were available.

My colleagues and I agreed that these were collectively some of the best spoken, best dressed college students we have engaged in a long time. I asked some what their goals were, got some great answers, and a few even said their goals might have changed because of the workshop. One young man stayed late to talk one-on-one with me, and it was evident he had a great personality. Before I knew it we were talking about March Madness, Wrestlemania, and even music. He listens to Drake, I like The Infamous Stringdusters, and we decided we didn't have any more to talk about in that category!

Then he turned my "What are your goals?" question back on me. I had to think for a bit. Finally, I said I wanted to come back to VSU in 5 years to do the program again. And this time, instead of having four white men talking about their careers, I would like to see a young man or woman from VSU joining me. He looked me in the eye and said, "Don't be surprised if that happens."

My day at a school that does not even have a turfgrass management program opened my eyes to a large pool of talented and motivated young men and women who might make outstanding sports turf managers one day soon. Are there any potential "surprises" out there waiting to be uncovered by you? ■



◀ **PARTICIPANTS** take the STMA's Student Challenge during Conference. Anecdotal evidence shows most 2013 graduates are finding jobs in the turf industry.

2013 job market for turf program graduates

Editor's note: *We asked those in charge of undergraduate turfgrass management programs at universities across the country for reports on whether their students had secured jobs in the industry. Here are the responses we received*:

DELAWARE VALLEY COLLEGE (PA)

Dr. Doug Linde reports: "The only senior that I have that is interested in sports fields is graduating in December 2013 because he took a full semester off to intern with the Philadelphia Eagles (something that is not too common but a great idea if it doesn't lead to any serious issues with finishing the degree in a reasonable time). All of these students have worked on multiple golf courses over three or four summers, which is the main reason they had no trouble landing a full time job after graduation. In fact, I had to advise a few of these students to work less so that they could take full advantage of their opportunity to get a degree.

"Since Del Val is located so close to many golf courses, it's common for students to hold a part-time job during the semester. I usually recommend they not work during the semester since they essentially have a full-time job in going to college. Many have also worked or volunteered at pro tournaments.

"Here are the May 2013 Del Val College turf management bachelor of science degree graduates, 100% of whom had jobs secured by January 2013 for starting work in May; (Kelly, Ridington, and Taylor are on our NCAA D III golf team that I coach. In fact, this year eight of the 10 players on the team are also my advisees since they are studying turf management.):"

- James Bryson, assistant-in-training, Merion GC
- Kevin Keezer, assistant supt., Bear Trap Dunes GC, MD
- Tim Kelly, assistant supt., Manasquan CC, NJ
- Jesse Ridington, graduate intern, Saucon Valley CC
- Kevin Taylor, graduate intern, Oak Hill CC, NY

OKLAHOMA STATE

Dr. Greg Bell reports: "We only have one student graduating this spring and I believe that he already has a position waiting for him. In the 15 years that I have been the turfgrass teaching professor here at Oklahoma State we have graduated 132 turf management students and all of those students who were actively pursing a turfgrass position during their last semester have had a position or an offer of a position waiting for them when they graduated.

RUTGERS UNIVERSITY

Dr. Bruce Clarke reported that Yuanshuo (Henry) Qu, a turf undergraduate student within the Department of Plant Biology and Pathology, received the "Plant Science Excellence Award" for 2013. This award is given to the undergraduate student in Plant Science with the highest GPA. Henry's GPA is 3.8.

Five Rutgers students will graduate in May or next fall. Erik Taylor, Jay Ewan starting an assistants position at Merion golf club in Philly after graduation), Tyler Astor, Henry Qu will be working the summer at Plainfield CC in NJ as an intern), and Kevin Rundstrom working at Hidden Creek golf club, near Atlantic City, as an assistant.

KIRKWOOD COMMUNITY COLLEGE (IA)

Troy McQuillen, turf instructor, reports: "Here are some statistics from my graduating class. I currently have 45 full-time students enrolled in the 2-year Golf Course and Athletic Turfgrass Management Program. These students will complete a total of 68 credit hours earning them an A.A.S degree (Associates of Applied Science)."

These students will be returning back for a 2nd year: Eight 1st year students pursuing both golf and sports turf local internships; 12 1st year students pursuing both golf and sports turf out-of-state internships; and four 1st year students taking full-time summer classes and will pursue an internship later.

Of the students receiving degrees, nine

have secured full-time employment; three are transferring to 4-year institutions; and six will be working seasonally or taking a second internship to gain experience.

And then there are 3-4 students who are still confused about what they want to do with their lives.

"When I meet with students about their careers there are so many factors that influence their future after graduation. Many of the students attend our college because most of them like to stay local. There are limited full-time job opportunities in Iowa and even more limited when students stay in Eastern Iowa. The good news is that graduated students that want to stay in our area are willing to be patient for the full-time jobs to open.

"Our students have had a lot of success with out-of-state job opportunities. Most of them develop a relationship during their internship and then are welcomed back for a 2nd internship or full-time employment.

"Students that are employed full-time are taking assistant, 2nd assistant or assistant in training positions. Most students feel prepared for the job, but would like additional assistant level training before jumping into a head position."

MT. SAN ANTONIO COLLEGE (CA)

Brian Scott, professor of horticulture, reports on his students' accomplishments, 2012-13:

Fleur Nooyen:

• Street Tree Seminar, Inc. Scholarship Award recipient, December 2012.

• MSAC Faculty Association Career Technical Education Scholarship recipient, Mt. San Antonio College, June 2012.

• Don Angelbeck Scholarship Award, Agricultural Sciences Department, Mt. San Antonio College, June 2012.

• 2012 Outstanding Academic Achievement Award, Agricultural Sciences Department, Mt. San Antonio College, June 2012.

• Sports Turf Managers Association Student Challenge bronze medal winner, Long Beach, January 2012.

Fleur has had many of her landscape design and installation projects receive awards and honors by a number of prestigious organizations.

Kevin Marsh was recently named an assistant superintendent at Arrowhead Country Club in San Bernardino, CA. He has shown an extremely high aptitude for turfgrass management. He is also one of those young men who are always willing to help out whenever there is a need. His future will be extremely bright in the golf industry, until he wises up and has even a brighter career in sports turf!

Kay Hoevel:

• Was recognized by the Mt. SAC Ag Sciences Department as the 2012 Outstanding Student in Irrigation and Landscape Construction

• Received Certificates of Achievement in Sports Turf Management and Landscape and Park Management.

• Was hired as a consultant for a local Lawn Bowling association

Kay's world was literally revolutionized by becoming a member of the Mt. SAC Turf Team over the past 2 years. She has seen a part

Continued on page 20

BOOSTING YOUR CAREER:

strategies for success and significance in your work life

ACCORDING TO DR. TOM DENHAM, one of the pioneers on career stages, those in the workforce will usually move through five career stages, somewhat framed by age:

Growth - ages four to 13, when individuals first become aware of the future;

Exploration - ages mid-teens to mid-twenties, when various occupational options are explored though school, leisure, part-time work and volunteering;

Establishment - ages mid-twenties to mid-forties, typically a suitable field is selected and efforts are made to secure a long-term place in the chosen career;

Maintenance - ages mid-forties to mid-sixties, characterized by constancy, either by "holding on," which is stagnating or plateauing, or by "keeping up," which is updating or enriching; and

Disengagement - mid-sixties, typically marked by moving from formal employment to finding new roles with a view to retirement. However, Baby Boomers are changing this to a stage more appropriately named "Re-invent-ment." They are completely redesigning the idea of "retirement," preferring to work in some form while pursuing new or renewed outside interests.

What is critical to successful employment at any stage is career development, i.e., constantly improving yourself to add value in the workplace.

WHAT IS EMPLOYMENT SUCCESS?

During a gathering of sports turf managers at a women's forum held in conjunction with the Sports Turf Managers Association Annual Conference, the concept of employment success was discussed. Interestingly, the items high on the list were not about monetary compensation. Job satisfaction, making a difference and respect for the job that sports turf managers do were at the top. Also discussed were the ways to achieve success. These included having a passion for the work, doing a great job, and continually improving oneself. Also making the list were communicating well, projecting confidence in your leadership abilities, and asking for help.

At this year's Golf Industry Show, golf course superintendents shared some strategies that helped them to achieve career success; many are similar to and build on those discussed at the women's forum. These strategies have been redirected to sports field management, but can be applied to virtually any industry because they focus on self development.

TOP 10 TIPS TO CAREER SUCCESS

1) Volunteer. Become involved in your local chapter, community and national association. Taking on leadership roles in these organizations gives you visibility and positions you as someone who can be counted on to follow through. Volunteering adds another dimension to your work experience and can provide professional recognition, a clearer view of the industry, networking contacts, and speaking experience.

2) Continue with your Education. Be proactive in continuing your education and promote it. You must stay current in a broad range of disciplines including agronomics, business management, communication, financial management, environmental regulations, etc. View non-technical continuing education as equally important to the technical areas of your job. Make certain that your employer knows that you value professional development. Learning and knowing how to learn is the most important skill needed by employers according to a study conducted jointly by the US Department of Labor and the American Society for Training and Development.

3) Over-communicate. Continually communicate with your employer, your staff, facility management team, users of your fields, and fans. Communicating helps to build trust and confidence. Clear and continuous communicate ensures that expectations are verbalized, progress is discussed, and challenges are addressed.

4) Ask Questions. Asking questions lets your employer know that you are interested in learning "why." The more you know, the more you can add value and be valued.

5) Develop good relationships within your own organization. Being known as a responsive leader outside of your department adds to your credibility and possible mobility to the next step up your career ladder. Employers who have smart, solution-oriented employees are more apt to promote from within rather than hiring new talent.

6) Put yourself in the role. Determine what you want to do, where you want to be, and become that person. If you are in an assistant's role, ask to take on new projects and challenges that are typically the responsibility of the head position, so that you acquire skills beyond what is needed for your current position.

7) It's who you know. Vendors, architects, builders, coaches, colleagues…this is the network that can help to alert you to new job opportunities. Be sure to cultivate these relationships. One-half or more of all jobs come through informal channels—connections to friends, families, and colleagues—according to "Limited Network Connections and the Distribution of Wages," by Kenneth J. Arrow of Stanford University and Ron Borzekowski of the Federal Reserve Board. Networking is the only way to tap into "unpublished" jobs. When it is time to move from an assistant to a head position, your supervisor can be your greatest advocate. Although your employer is sorry to lose you, he/she takes great pride in helping you move to your next career stage. After all, your employer invested in you.

8) Your facility is your résumé. The work that you do in preparing your fields for play is visible to athletes, coaches, fans and potential employers. When ready to move to another position consider creating a pictorial résumé that showcases the projects that you have accomplished with links to your own web page where you have posted career highlights.

9) Remember who is hiring you. As you move up to a head position or change employers, remember that the person hiring you is most likely someone who is not intimately familiar with your job. Write your résumé to focus on solutions and achievements, and be prepared in your interview to talk comfortably about what you do.

10) Be a professional in everything that you do and say. Your image is constantly being changed, reshaped and reformed based on many things including the way you communicate, dress, manage your staff and do your job. Being aware of how you are perceived by others can help you shape their perceptions of you. Be sure to maintain high ethical standards. It takes just the hint of impropriety to derail a career that you have spent years building. ■

This article was supplied by the headquarters staff of the Sports Turf Managers Association, Lawrence, KS, www.stma.org.

Membership Application

SportsTurf MANAGERS ASSOCIATION

Experts on the Field, Partners in the Game.

Fax to: (785) 843-2977

Or mail with payment to:
Sports Turf
Managers Association
P.O. Box 414029
Kansas City, MO 64141

Name _____ Title _____

Employer/ Facility _____

❑ Business ❑ Home

Address _____

City _____ State _____ Zip _____

Home phone _____ Work phone _____ Cell phone _____

Fax _____ Email _____

Signature _____

Direct Supervisor Name _____

Membership Category:

❑ Sports Turf Manager $110

❑ Sports Turf Manager Associate* (Additional member(s) from the same facility) $75

Please select the primary facility type where you are employed:

❍ Professional Sports ❍ Higher Education ❍ Schools K-12 ❍ Parks and Recreation

❑ Academic $95

❑ Student (verification of enrollment) $25

❑ Commercial $295

❑ Commercial Associate* (Additional member(s) from the same commercial company) $75

❑ Affiliate (Person who is indirectly or on a part-time basis, involved in the maintenance/management of sports fields) $50

❑ Chapter Dues (contact headquarters for amount)
Chapter name) _____ $_____

❑ Contribution To SAFE Foundation (research, education and scholarship): $_____

Total Amount Enclosed: $_____

"I know I am a better sports turf manager because of this association. As sports turf managers, we take the challenge seriously to make our fields the best possible for the next game. The resources I have access to through STMA helps me do it."

— Bob Campbell, CSFM
Higher Education
Membership Segment

Payment Method:

❑ Check ❑ Money Order ❑ Purchase Order #:_____

Credit Card: ❑ Mastercard ❑ Visa ❑ American Express ❑ Discover

Name on Card _____

Card #: _____ Exp. Date: _____

Signature: _____

*There must already be a national sports turf manager from your facility or commercial member from your company before you may sign up in the Associate category.

Phone: 800-323-3875 **www.STMA.org**

What green building practices work best?

A look at the City of Bowie's P & R LEED silver certified maintenance facility

THE CITY OF BOWIE PARKS and Grounds Maintenance facility was dedicated in the spring of 2008. It was the Maryland city's first Leadership in Energy & Environmental Design (LEED) Silver certified building. The facility consists of two approximately 8,000 square foot buildings built on 2.5 acres. The main building consists of administration and equipment repair. The second building is used for vehicles, equipment, and hard-goods storage. The facility is a demonstration project for "Green Building Design" and cost $2.4 million to build; a portion of the funding was secured through grants from the Maryland Energy Administration and the Department of Natural Resources.

The facility supports a Parks Division that is responsible for maintaining more than 1,100 acres of parkland, eight playgrounds, 10 ball field complexes that consist of 65 fields, one skate park, and one dog park. The park staff consists of 39 full-time employees and a FY13 operating budget of $2.9 million.

The LEED facility has 35 green building practices incorporated into its design from ground source heating to green roofs planted with perennials (sedum cultivars). After 5 years, the facility has performed remarkably well considering many of these practices were new in the building trades at the time and untested in our region.

A few of the unique green components are straw-bale construction used as an insulator, and the rainwater collection system that is heated by solar panels that we use to wash equipment. The original purpose and design for these buildings were to provide for a safe, secure and efficient work facility and adding the green building techniques has not only saved valuable resources over

City of Bowie Parks and Grounds Facility - Bowie's First Green Building - Located at 3106 Mitchellville Road

▲ Heating and air conditioning are provided by a ground source heat pump system. A treated water solution circulates through a series of 21 underground wells under the back parking lot. The liquid is heated or cooled as it circulates through the wells by the constant temperatures of the ground to provide heat or air conditioning to the building.

▼ Since the liquid moves through the wells at a constant temperature of about 50 degrees, the heat pump has to do less work than a traditional heat pump which uses outside air. Because it's beginning at a temperature of 50 degrees, it requires less energy to maintain a comfortable room temperature.

▶ Sections of the roof have green plants growing on them. These "living" roofs will provide natural insulation, increase the amount of "landscaping" on the property and will retain rainwater to keep them healthy.

▼ Natural light from windows and skylights illuminates rooms and hallways and cuts down on electricity costs.

▶ Materials were reused on the project wherever possible. Here existing asphalt, removed from one location on site, was ground up and used as fill material in another location on the site.

the last five years but has had a very positive effect on how our division performs its daily work assignments.

It is not an easy comparison to gauge what the overall savings of a building with green components compared to traditional construction as the facility we came from was considerably smaller, although the utilities are significantly less for a facility of this size. The buildings are a demonstration project, and we give tours to any interested party. One of the questions that is usually asked is, "What green practices work the best?" We have found that the ground source heating system, the photovoltaic panels, sun tunnels and the rainwater reuse system work the best.

In the past 5 years, this facility has experienced two blizzards, a hurricane, two tropical storms, a derecho (a widespread, long-lived, straight-line windstorm that is associated with a fast-moving band of severe thunderstorms), an earthquake, and a direct lightning strike to the building. The Parks and Grounds Maintenance Facility provides our division with a first-rate platform to work from under normal conditions and in times of emergencies that should last many years to come. ■

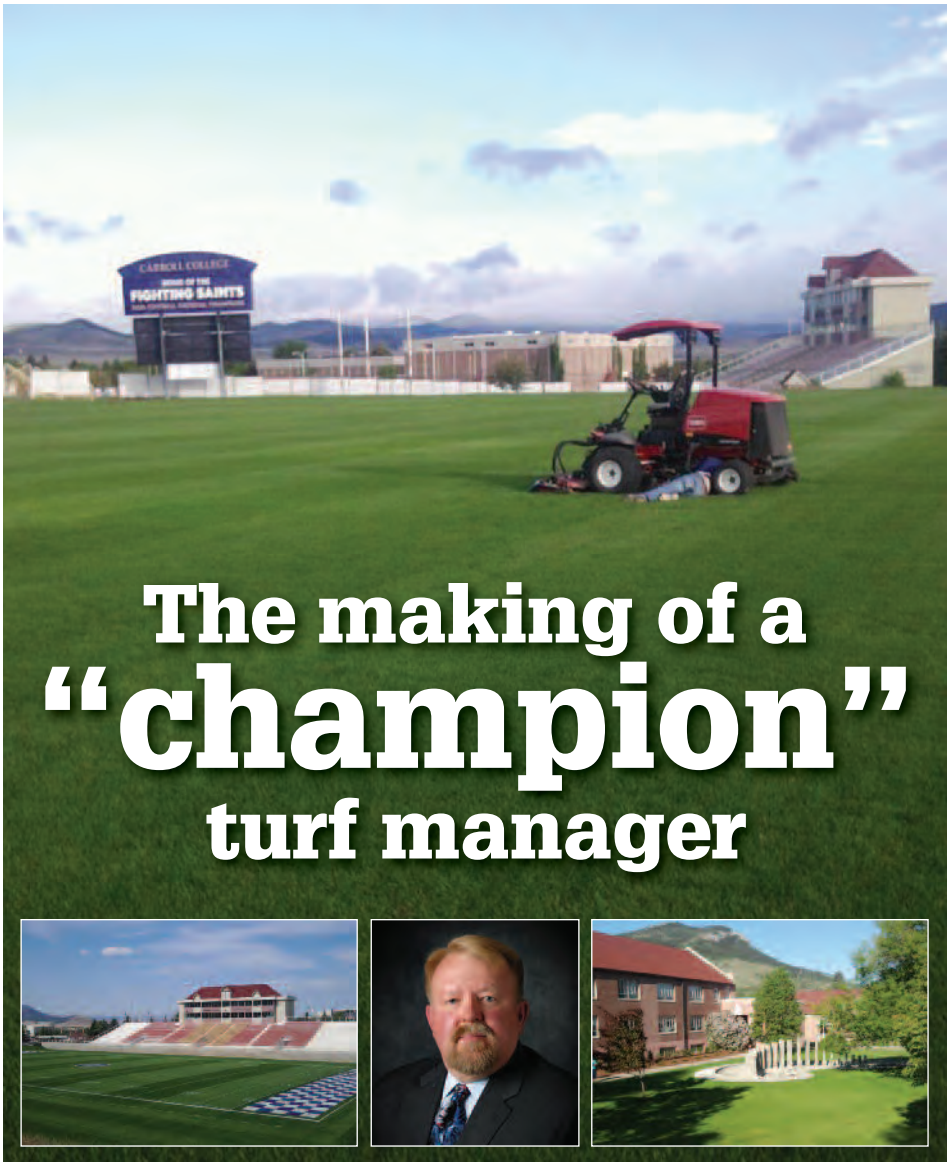
Ed Hall is parks supervisor for the City of Bowie, MD Parks and Recreation Department.

◀ A bio-retention pond is constructed on site to capture water runoff and naturally filter it before it is released into the ground.

▼ Solar heated hot water panels on the roof of the vehicle storage building use the energy of the sun to heat water used for washing vehicles and equipment. Water comes from rainwater collected on site.

▼ Photovoltaic (PV) panels produce electricity and constantly pump it back into the grid, reducing the amount of power that must be purchased.

▶ Two of the walls here (one on the side and one on the back of the structure)are constructed out of bales of straw, covered in plaster. The highly compressed straw is fireproof and provides an outstanding level of insulation, using a renewable material.



The making of a "champion" turf manager

WHAT DOES IT MEAN for an organization to recognize people with honors and awards? How does one get noticed or worthy of such attention? I look at the honors and awards I have received and ask a similar question. What did I do to deserve such attention and be recognized as among the best in the industry? I don't see myself as any more special than another person just as deserving.

When I take the time to look at my colleagues who have been recognized and honored I realize there is often a story to share. All stories are varied but it may be a story of humbleness, personal struggle, possibly even the story of a champion. Likely, several factors are involved. Usually it is a story of someone that stands out by not standing alone. Champions aren't ahead of others because of personal achievements. It is others that help them become champions, much like an athletic team.

People that help champions might be an association you belong to, a community, a church, a family, a college or university, business, a place of employment. People are there to help nurture and encourage those willing to make the commitment. These champions are noticed by organizations and associations as leaders whom their members can appreciate and strive to be more like.

Being a champion is nothing about being better than the next person, nor even necessarily the best or most knowledgeable person in the industry. A champion is compassionate not only about one's self in what they do in life, family, community, and career but also compassionate about others and their lives. Such a person likely would have strong values, see and appreciate education and training, and have a good sense of humor. Champions may be certified in the many programs seen in organizations but not necessarily; certification programs are a good idea regardless. Champions may or may not have a post-high school degree. They often believe helping others will improve the industry for everyone. Champions are looked to as mentors and often serve as mentors to people in the industry of all ages. I see champions in the numerous associations in which I am involved. Many of you are champions and good leaders.

MY STORY

I wasn't an exceptional student. I had average grades but did well in things that I had developed an interest or passion for. I had to learn as I went along in life and career; today I continue to learn. I had my personal struggles like many others. I do have a challenge that has been part of me all my life, severe bilateral hearing loss, but I don't see that making me different or more obligated than others. The hearing loss challenges me in ordinary conditions and much more in abnormal situations but the disability has never dampened my desire to learn or help others in the green industry profession.

I am from in a small town in northwest Minnesota called Crookston and stayed close to my roots in attending the University of Minnesota-Crookston. After 2 years, I received my associate degree in landscape, turf, and grounds. I followed my dream and moved my family to the Big Sky Country of Montana. I attended Montana State University in Bozeman, earning my bachelor's degree in landscape management. Before I moved to Bozeman, I was hired sight unseen by the grounds crew supervisor. It was my first opportunity to work for a large grounds keeping operation. I worked there for several years; eventually I was employed full time working all aspects of grounds operations.

Upon approaching my graduation date, I seriously considered a master's degree. I had a professor actively pursuing me and want-

ing to sponsor. I went through the testing process for graduate school. But I decided not to go, a decision that has stayed with me for a lifetime. I also decided should I become successful in my chosen career path, I would eventually participate in an association and give back to the industry.

I worked various positions over the years: university grounds technician, park supervisor, golf course superintendent, landscape and nursery foreman, municipal arborist, and grounds manager. Fifteen years after I graduated from Montana State, I sought to fulfill the commitment I made to serve. I was elected on a board of directors for the Association of Montana Turf, Ornamental, and Pest Professionals (AMTOPP). I have served on the board ever since, including two stints as president. I didn't stop there. I serve on an advisory board for the state forester on an association called Montana Urban and Community Forestry Association, including a 2-year term as chair. This group assists with urban and community forestry issues in Montana.

I am involved with both organizations because I believe in the members and what we stand for. I have learned what it takes to serve an association membership; to work with a board of individuals, all with different interests, desires, and ideas. In this capacity, I worked on education, state and federal legislation in industry matters, networking with other organizations, budgets, community volunteer efforts, industry promotion, committees, speaking engagements, writing articles, anywhere where I am needed.

Five times during the 2000's, I went to Washington, DC on behalf of AMTOPP to participate in Professional Landcare Network (PLANET) Legislative Day on the Hill and volunteer at "Renewal and Remembrance" on the grounds of Arlington National Cemetery. A few years ago, a good friend of mine, Dr. Robert Gough, associate dean of the College of Agriculture at Montana State, asked me to be a committee member on the College of Agriculture Academic Advisory Committee to discuss ways to enhance the agriculture industry which includes horticulture and the green industry. I am in my fourth year on this committee. Dr. Bob, as he was affectionately known, passed away of cancer not too long ago. Being in a leadership capacity drives one to do better and be a better example of our industry, as he was. Compassion for my work in the green industry has carried over to me in my employment.

DEDICATION TO THE JOB

In the late 90's, I was hired to be a grounds manager for Carroll College in Helena, MT. The college didn't have a full time grounds manager or a crew to work on grounds. Facilities personnel worked on the grounds with other duties besides grounds work. A nursery and landscape company served as a consultant for grounds operations. Student employees were frequently used with minimal direction and experience on day-to-day operations.

I basically started the operations from scratch. My budget was small with no money to purchase equipment. I had a utility vehicle, a multi-purpose mowing unit, a Jeep with a plow, and a sanding truck. The college was undergoing construction on a

new stadium. This project was largely volunteers and donations. The campus center expansion project was just completed. There were new plans for an expansion to the science center and add a new residence hall.

I came into this job with a strong belief that I was hired to be more than just a grounds maintenance employee. I believe I was to be more than someone that made sure the grounds looked tended. I believe I was hired to fulfill a need; a part of a strategic plan of the college. I started using the words, "Department of First and Lasting Impressions." My mission was to help the college attract new students and parents, donors, and friends to the interests of the campus. I wanted them to be impressed with a community of a well landscaped and maintained campus. I wanted them to participate, to be drawn to the place with pride, and a sense of community belonging. I want the impressions to last a lifetime, a place where the alumni will always call home. A place the donor will believe their investments are well invested in future generations to assure the lasting integrity of the college community. Is that possible? I believe it then and I still do. Eventually, the department was supported with full-time employees and equipment to do the work.

When I submitted the application for STMA Field of the Year in 2006, I didn't know what to expect. I applied with reservation as I was nominating myself. I thought however, how anyone would know about our facility in the middle of Montana if I didn't share? I wanted to bring national attention to Carroll College. Carroll College had been enjoying success from its NAIA National Championship football team. They had won four straight national championships. My crew and I helped support the team through long seasons into December by assuring a quality field for them to play. The woman's soccer team used the facility too. They also enjoyed successful seasons going well into November.

Every year, I came to the athletic department asking for money to maintain the field that was getting much use well after growing season was finished. My plan focused on basic agronomy with no frills as I knew funds were tight. Carroll College is only 15 miles from the Continental Divide at an elevation of nearly 4,000 feet above sea level. The stadium field is a native soil field with an 8.3 pH. The annual precipitation rate is 12.25 inches. I have an automatic irrigation system designed to my specifications so I can irrigate with a balance program. My plan consisted of aeration, aeration, and aeration along with overseeding with sport field bluegrass blends, topdress with as close to USGA sand as I could afford blended with Dakota Soil Enhancer 90/10, and fertilizer. On the stadium field, I remove weeds by hand.

In 2007, I had budget issues. I was not able to hire students for the summer. My full time crew and I came up with a summer plan. They would maintain the irrigation system, take care of events, do the maintenance, we prioritized daily. I hired an outside mowing contractor to mow 2/3 of the campus once a week. I would maintain the athletic fields including the mowing. That summer, I worked 7 days a week as much as 16 hours a day. I didn't allow much time for myself. It was record heat for Helena. The month of July saw 28 days in the 90's and 5 of those days in the 100's. August and September weren't much better. We watched forest fires on the mountainsides around the valley. The valley often filled with smoke from those fires. It was a tough summer to work but the athletic fields were ready for the coming season. The woman's soccer team went 17-2-2 that season. They went to the national tournament only to lose during the final four. The football team won their 5th NAIA national championship. The field held up.

I was awarded the 2007 STMA College and University Soccer Field of the Year, and I went on to receive the Professional Grounds Management Society (PGMS) Grand Award in the Athletic Field Category, and was recognized by Pioneer Athletics "Field of Excellence" award. I was called upon to speak in Montana and nationally. In 2008, I was nominated to be on the PGMS board of directors and now am serving my second 3-year term. I continue my involvement with STMA on the Chapter Relations committee for 3 years and now serve on the Membership committee.

I am a believer in networking. I believe green industry associations are often working on common ground. Communication is key to promoting the green industry and working on promoting and using sustainable practices in a consciously aware society. Our industry is often viewed with objective scrutiny. It is important to realize our industry has been the environmental stewards long before today's challenges. I believe we need to share the message with the public. I often notice, when I am working on one thing I find I am usually doing something for many.

Last spring, I received notice from my alma mater, the University of Minnesota-Crookston that I had been nominated to receive Outstanding Alumni of the Year. The outstanding Alumni Award is the highest honor bestowed on UMC alumni by the faculty, staff, administration and alumni at UMC. This award recognizes alumni who have displayed exemplary commitment and service to community, church, education, family or in their occupational field.

A month later I attended the PGMS School of Grounds Management & GIE+EXPO in Louisville, where I was honored with one of the Society's prestigious awards, the PGMS President's Award. The PGMS President's Award is awarded by the PGMS President to a member or members they feel has shown outstanding service and contributions to the Society.

As you can see, I didn't get where I am at, alone. Sure I put in much hard work, long hours, made sacrifices, and had to overcome personal challenges that may come easy for some. I can reflect on many experiences involving my parents, family, spouse, educators, friends, supportive supervisors, co-workers and associations. There have been people that helped motivate me and encourage me along; mentors each of you. I think you can see my life has been rather simple. Do you have an interest to participate and serve in improving our way of life and the industry what we believe in, the American Dream? I hope sharing a part of my life story with you; one might see making achievements is doable. Becoming a champion is just beyond the achievements. I have been deeply blessed with family, friends, close colleagues, and national recognition beyond expectation. All I wanted to do was give back. ■

Gerald Landby is Director of Grounds, Carroll College, Helena MT.

JOHN MASCARO'S PHOTO QUIZ

John Mascaro is President of Turf-Tec International

Can you identify this sports turf problem?

Problem: Black area and turn turf
Turfgrass area: Soccer field
Location: Beersheba, Israel
Grass Variety: Infill artificial turf

Answer to John Mascaro's Photo Quiz on Page 33

Background illustration courtesy of istockphoto.com

Prepare for cooler temperatures? Another opinion

LAST SUMMER I had the privilege of speaking to attendees at an STMA Meeting in Cincinnati and I imagine that some were caught off guard by the predictions I shared in my presentation discussing turf management in a changing climate, especially with regard to drought potential and our cooling planet…yes, I said "cooling."

You've certainly heard the non-stop stories about warming, record heat, melting ice, polar bears moving to the south pole, etc. but the fact is that we're not seeing anything that we haven't seen before on our planet…and even much worse.

The warming, such as it was over the past 200 years, correlates well with solar and ocean cycles but very poorly with carbon dioxide. CO^2 has been increasing steadily (also normal and expected), but temperatures have been up, flat, and down during that time and since 1998 we have observed no warming…there have actually been periods of global cooling in the past decade.

However, the real surprise (for some) is coming in the next 5 to 10 years and we need to prepare for the changes now.

Let me lay out my case and then you can decide. I have been observing weather and climate for nearly 30 years as a professional meteorologist, and before that for an additional 10+ years as a young weather lover who would rather be out in a powerful storm than hiding from it (though hiding is the smart thing to do!). In the past 20 years I have taken a special interest in climate patterns and climate change since it started making headlines (as "Global Warming"), and in that time I not only learned that the entire movement was politically motivated, but that throughout history our planet has survived extremes that we can only imagine, and those extremes will return in good time. I won't go through all of the science here since that would take many pages of text and graphics (otherwise known as a book) and honestly, you didn't pay for a class in meteorology so let's keep it simple.

Figure 1.

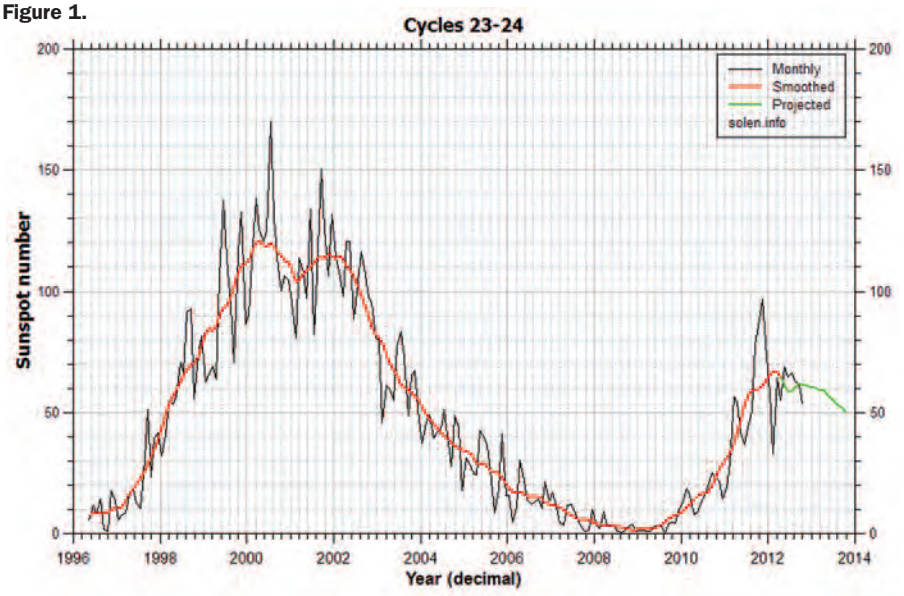


Figure 3.

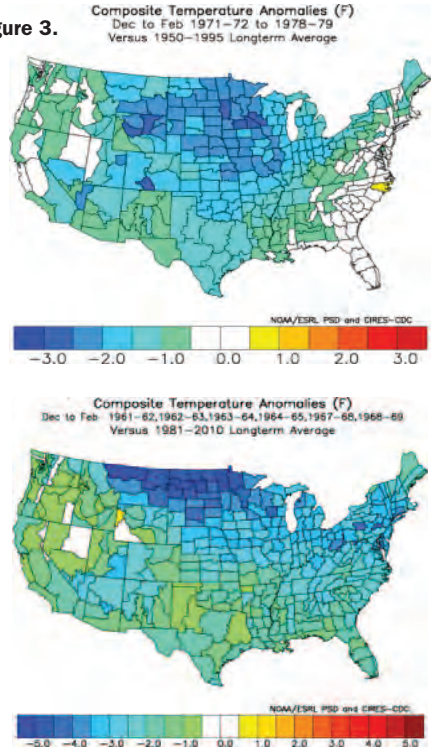
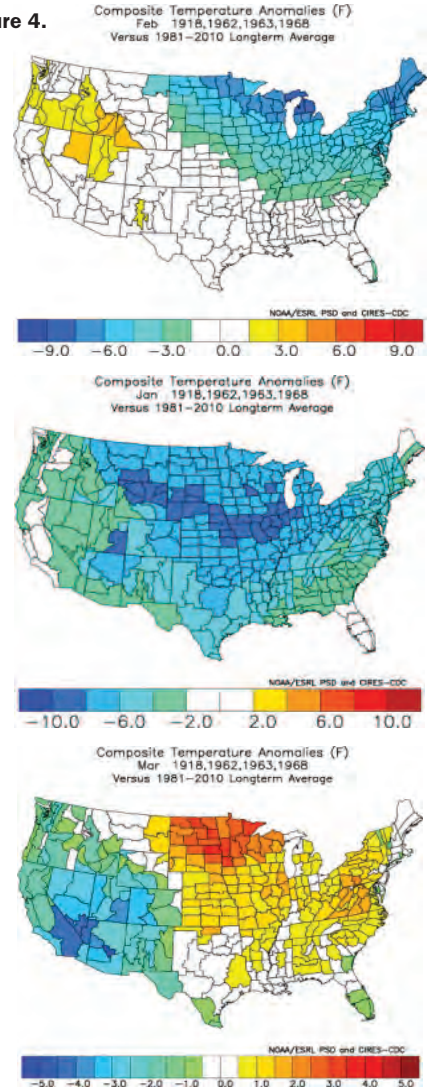


Figure 4.



WHAT DRIVES CLIMATE?

The two biggest drivers of climate are the sun and the oceans, with numerous smaller influences (geography, land use, volcanoes, cloud cover, ice and snow, etc.) and if you can predict trends for those two elements you can make a pretty solid forecast for months and years ahead…but you won't find those forecasts on TV or online. Like any specialized skill it takes years of analysis and research along with an abstract, unquantifiable "feel" for weather and climate cycles. That's where my passion for weather from a very young age helps. So what am I seeing?

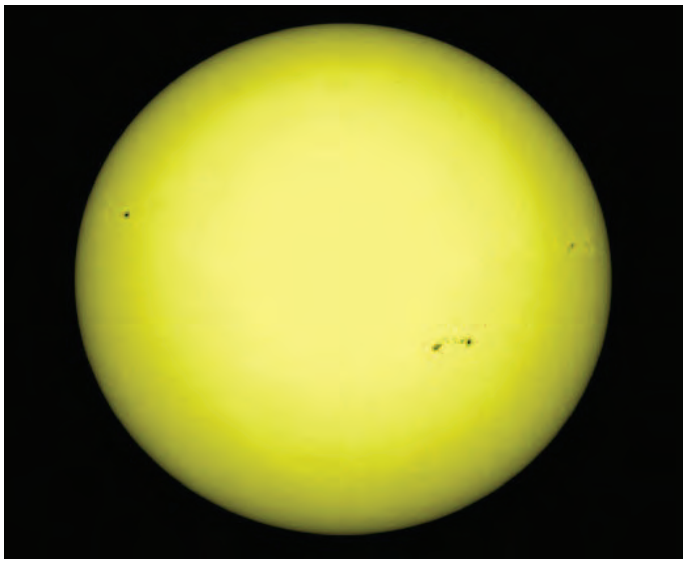
The sun is currently at the peak of Solar Cycle 24. The average person has no idea that the sun has cycles, but it does. It has an 11-year cycle (on average) that features an energy peak in the middle with two periods (valleys) of lower energy output on either side of the peak (see Fig. 1).

Experts in astronomy and solar physics have been tracking solar cycles since the 1700s, and like everything else in nature they have observed a significant range in the strength of each cycle. The sun's output is anything but stable or consistent and forecasting the strength of future solar cycles is difficult at best, but much has been learned about the sun in recent years and forecasts are getting slowly better.

The current cycle, Solar Cycle 24, is the weakest in the past 100 years and likely one of the weakest in the past 200 years based on the number of sunspots showing up on the earth-facing side of the sun. While there are numerous ways to measure solar output, the only way to compare solar activity now with solar cycles since the 1700s is to count sunspots, and based on that…and knowing that we are able to see more spots now because of high-resolution satellites and telescopes…we're in a rather weak cycle comparable to what we saw in the late 1700s leading into the early 1800s…the latter part of the Little Ice Age. Cycle 25 (starting after 2020) is forecast to be even weaker. Figure 2 is a recent image of the sun with a few sunspots from the Solar Dynamics Observatory.

Since the sun is the primary driver of climate, even small changes in solar output impact our weather and climate cycles. A weaker sun

Figure 2.



means less energy reaching our planet (less heating), but studies show that a weaker sun also encourages more cloud development (which enhances cooling). That process is complicated and it's more than I am going to cover here, but numerous studies have confirmed the effect.

Here on earth the Pacific Ocean basin is currently colder than normal and the Atlantic Ocean milder but is slowly trending colder. The oceans warm and cool during broad cycles (oscillations) lasting 15 to 30 years and the last time we had both oceans cooler than normal was the 1960s through about 1976. Do you recall the cold, snowy winters and cool summers from that time? If not, Figure 3 is a few maps showing winter temperature departures. The greens and blues are below normal temperatures

Combine a weaker sun with colder oceans and we get the ideal setup for long-term cooling (10+ years), and if, as experts suggest, future solar cycles continue to be weak (which is what we saw during the Little Ice Age), planetary cooling can last (with brief interruptions) for centuries. That doesn't mean non-stop ice and snow, but it does lead to shorter growing seasons, later frosts and freezes in the spring and earlier cold in the autumn and the potential for some brutal winters.

2013 and 2014 will be transition years with signs of the cooling, but a fair number of warmer periods as well. After 2015 we'll see a more dramatic shift to colder patterns. I also expect a decrease in hurricane activity overall, but more intense, east-coast favored storms for the next decade. We'll still have the occasional Gulf Coast hurricane, but the east may be the target more often. Did you know that it has been a record-shattering 7 years since a major hurricane (Category 3 or stronger) hit the United States? I try not to use this often abused phrase, but "we're overdue" for some big hurricanes hitting the nation.

Check out the Figure 4 temperature departure maps. They show past years with similar patterns to today, so you're looking at what those years were like and what I expected from January through March 2013.

For the Midwest I predicted above normal snowfall and a periods of bitter cold in January and February. There was also an increased potential for Midwestern blizzards. The rough winter may be followed by an unusually active tornado season in the spring, something we witnessed a number of times in the 1960s and 1970s (the 1965 Palm Sunday Outbreak and the Super Outbreak of 1974)…the last time we saw similar solar and ocean cycles. If you think we have had some wild weather in recent years, buckle-up…the bumpy ride has just begun.

Keep your eyes on the sky and enjoy the changing weather! ■

Rich Apuzzo is chief meteorologist for Skyeye Weather LLC, www.skyeyeweather.com.

Continued from page 9

of the industry she never realized existed and is now very passionate about sports turf management and plans on working it into her consulting business.

David Plascencia:

• EcoTech Services, Inc. Glendora Project Manager/Water Conservation Specialist/ Landscape Designer

• Manages water conservation programs for public water agencies. Projects include: irrigation audits, weather/ET-based central control system irrigation retrofits; high efficiency nozzle retrofits; drip conversions; and native/drought tolerant landscape designs and installations.

• Showcase projects have been integrating ET Water Central Control system at Mountain View School District in El Monte, Designing the landscape for Walnut Valley Water Districts Pump Station, and he is currently designing a 5,000 sq. ft. conservation garden at Ledesma HS in El Monte.

Danielle Booth received the CANER Scholarship and the Street Tree Seminar Scholarship and was accepted by Cal Poly Pomona to begin fall 2013. At her current place of employment, she was promoted from recreation supervisor to recreation specialist.

Joel Balsiger was offered a position as a sports turf manager at a local private high school. Unfortunately, he had to end up declining the position due to the possibility of transferring to Oregon State University. Joel has been an outstanding student here at Mt. SAC. He has been taking care of the turf plots and Dr. Kent Kurtz Memorial Stadium for the past year now, and doing an excellent job. His attitude is positive and he has a tremendous work ethic.

Kelly De La Peza has been involved with the design and installation of several landscape projects with Fleur Nooyen. Kelly is a full time mom and a part time student who has sacrificed an incredible amount of time to explore turf management as a career.

UNIVERSITY OF CONNECTICUT

Dr. Jason Henderson, assistant professor, reports on UConn's graduating turfgrass and soil sciences students in 2013:

Baccalaureate Degree Students (4-yr): Ryan Carey, Burning Tree CC, Greenwich, CT; Brian Conlon, Greenwich CC, CT; Ryan Gauvain, owner/operator Oak Hills Landscape and Design, Litchfield, CT; David Gunn, second assistant superintendent, Seawane Club, Hewlett Harbor, NY; Nicholas Jennings, undecided.

Jeremy LaClair, graduate school; Wayne Lagasse, assistant superintendent, Fox Hopyard GC, East Haddam, CT; Elliot Linstrum, grounds crew, Boston Red Sox; Thomas Martel, undecided; Anthony Minniti, The Creek (private golf course), Locust Valley, NY.

Raymond Platt, Hampshire CC, NY; Jordan Wells, undecided; Gregory Zlotnick, construction and landscaping, CT.

Associate of Applied Science Degree Students (2-yr): Billy Hamilton, employed in the Green Industry (employer unknown); Jake Provencher, employed in the Green Industry (employer unknown); Eli Desrochers, undecided.

MINERAL AREA COLLEGE (MO)

Chad Follis, horticulture instructor: "I actually don't have any students heading from our community college to the workforce. The graduates are all transferring on to 4-year schools. Over the summer they will be working on internships and none of them had a problem finding internships in turf."

PURDUE UNIVERSITY

Across both semesters (students get out of sequence or need an extra semester), we have averaged 11 per year for the past 10 or so years. That is different than our "enrollment" which has been as high as about 90 10 years ago.

May 2012 graduates in the Purdue University College of Agriculture were fortunate to experience greater success in the employment market. Ninety percent of the May graduates had gained employment or were continuing their education as of February 15, 2013. This

represents a 4% point increase. Our May graduates acquired post-graduation internships; these positions were sought by 3% of all graduates of the College. Of the May graduates, 25% continued in programs of education, an increase of 2%. Of these, 77 enrolled in graduate schools and 26 in professional schools.

There was a decrease of 4% in the number of students still seeking employment. Sixty percent of our May graduates are employed or continuing their education here in Indiana.- Cale A. Bigelow PhD, associate professor agronomy-turfgrass science

PENN STATE

Dr. Andy McNitt, professor of soil science-turfgrass, and coordinator for the turfgrass science undergraduate program: "Below is a partial list of our graduates. We had 38 BS students in turfgrass management this year and another 14 from our 2-year program. This is only our resident students and doesn't include our online certificate or degree programs. I have found that there is a strong market for entry level positions. On average, our graduates have had three job offers each. Of course they must be willing to relocate. What is apparent however is that while entry level jobs seem plentiful, compared to a decade ago, and upward mobility is much slower."

George Peters, Pittsburgh Pirates; Phillip Manglitz, Rolling Rock Club, Ligonier, PA; Marcus Von Hertsenberg, Penn State Beaver Stadium Grounds Crew; Andrew Swigart, West Shore CC, Camp Hill, PA; Nick Marini, Butler CC, Butler, PA.

Eric Michael Sosnowski, Toftrees Golf Resort, State College, PA; Jake Leadbetter, Gilliland Landscape, Clearfield, PA; David Krizauskas, C/Maj, Air Force Reserve Officer Training Corps; Colton Spaid, Fox Chapel GC, Pittsburgh; Chris Pelczar, Sebonack GC, Southampton, NY.

Mike Urich, Lancaster (PA) Barnstormers; Mike Scheyd, National Golf Links of America, Southampton, NY; Jeff Cuthbertson, Windview Athletic Fields, Middletown, DE; and Zack Longenecker, Oakland Raiders.

Two-year graduates:

Craig Acton, Coppinwood GC, Uxbridge, Canada; Aaron Archambault, Quaker Ridge CC; Benjamin Burrill, Merion GC; Gregory Coughlin, Hong Kong GC; Franklin Dodd, New Castle CC. Matthew Fisher, Century CC; Mitchell Guy, Trump International GC, Scotland; Nicholas Huttie, research technician in the Department of Entomology at Penn State; Joseph Kohut, Saucon County CC; Christopher Konow, Black Hall CC, Old Lyme, CT. Justin Lantz, Kennett Square G&CC; Keenan Lilyquist, Sebonack GC; Logan Murphy, Pinehurst Resort; and Ben Spencer, Priddis Greens G&CC, Priddis, Canada.

WASHINGTON STATE

Washington State University during the 2012-2013 academic year will have a total of seven turf majors graduate. In the fall we had one student with a turf job; this spring we have three students, two with turf jobs and another doing an internship at a golf course near home. And finishing up in August there are three students, two already have turf jobs and the other is not sure though he did an internship last year with the Washington Nationals. Graduation is not until August so he has some time.- Bill Johnston, professor of turfgrass science. ■

The 7 best youth baseball field maintenance tips

WE ALL WANT THE YOUTH ON OUR SPORTS FIELDS to reach their fullest potential. And we all want to get the most out of what we put into maintaining our ballparks. So, we need safe and playable ball fields. Safe and playable baseball fields mean firm footing and true, consistent ball bounces.

But there is a constant STRUGGLE we have to deal with in youth sports: the time and money constraints coupled with perhaps not knowing where to start or what to do. You can, however, create a ball field you can be proud of and perhaps be a hero to your community too.

The solution for a better field for better play is to:

- Evaluate your ballpark
- Create an action plan to follow
- Keep your ballpark in tip top shape

I am going to use three case studies to show how you can create a better baseball experience by focusing on a few lessons learned. I'll summarize these lessons into the 7 best tips for maintaining youth baseball and softball fields.

DETERMINE WHAT IMPROVEMENTS ARE NEEDED

Use the 81 Point Checklist for Evaluating Your Ball Park (see sidebar). This checklist covers all areas of your ball park and lets you objectively identify problem areas. You can then prioritize your improvements.

For many people this assessment checklist is also an excellent tool to educate and communicate issues to board members or administration staff who are part of the budget decisions. That way you and your leaders make an informed decision about the safety and playability for your young athletes. It's not just

Ball Park Assessment Checklist

- ✓ **Infield Dirt Playing Surface:** infield dirt, base paths and sliding areas, the mound, home plate, batter boxes, infield lips, and the warning track.
- ✓ **Infield Turf Playing Surface:** bare spots, sprinklers, grass edges, density and quality, irrigation, thatch, uneven surfaces, ruts, other vegetation besides grass.
- ✓ **General Playing Surface:** condition of maintenance equipment, sprinkler boxes, drainage, unsafe debris, history of accidents, alterations, field to specs.
- ✓ **Bases and Anchoring:** base ground stake, concrete footing, bases, home plate, pitcher rubber, don't forget the bullpens.
- ✓ **Fencing:** posts, footings, caps, rails, gaps, bottom of fencing, gates, protrusions, backstop, outfield fences.
- ✓ **Spectator Areas:** seating area, guard railing, walking surfaces, steps, gaps in seating, nuts & bolts protruding, other hazards sticking out.
- ✓ **General Safety:** foul lines, chalking, signage, construction areas, concessions, parking, protective equipment.
- ✓ **Dugouts:** fencing, benches, equipment, waste containers, player area.
- ✓ **Lighting:** lighting system, bulbs, utility poles.

your pushing an agenda that decision makers don't understand or appreciate.

Go through the checklist as you think about your ball park. Better yet, walk your field and really see what you have. Make notes about each topic. This checklist is a condensed version, but you can use it as a guide. For example, do your base paths look like a gully washed through with the sides higher than the middle? Write it down. This is a safety issue. Do you have a base anchor sticking up at third base? Write it down.

When we look at the Little League complex in our case studies, the assessment shows us that:

- The 4 ball fields are overused and overrun
- There are inconsistent maintenance practices by all field users
- There are a variety of drainage and puddle problems

The high school assessment indicates:

- Under maintained turf and infield dirt
- Drainage and water coverage problems, and
- Inconsistent practices year round, especially summer and fall

And the assessment for the college ball field at a Park and Rec facility shows:

- Weak turf with lip buildup
- Infield dirt that is either powder or hard as rock
- Inconsistent/poor maintenance practices by the users

In each of these situations, there are specific improvements to make. These range from using better equipment, to adding more dirt, to improving the turf, to being consistent with field maintenance practices.

You may already work hard on your fields; **but sometimes working hard is not good enough. You have to be smart, too.**

If you are like me you don't have an unlimited amount of time and money to spend on your sports field maintenance and upgrades. So, how do we identify and prioritize our improvement efforts? What should we spend time and money on? And how do we know the projects we pick to work on really keep our sports field safe and playable for our players?

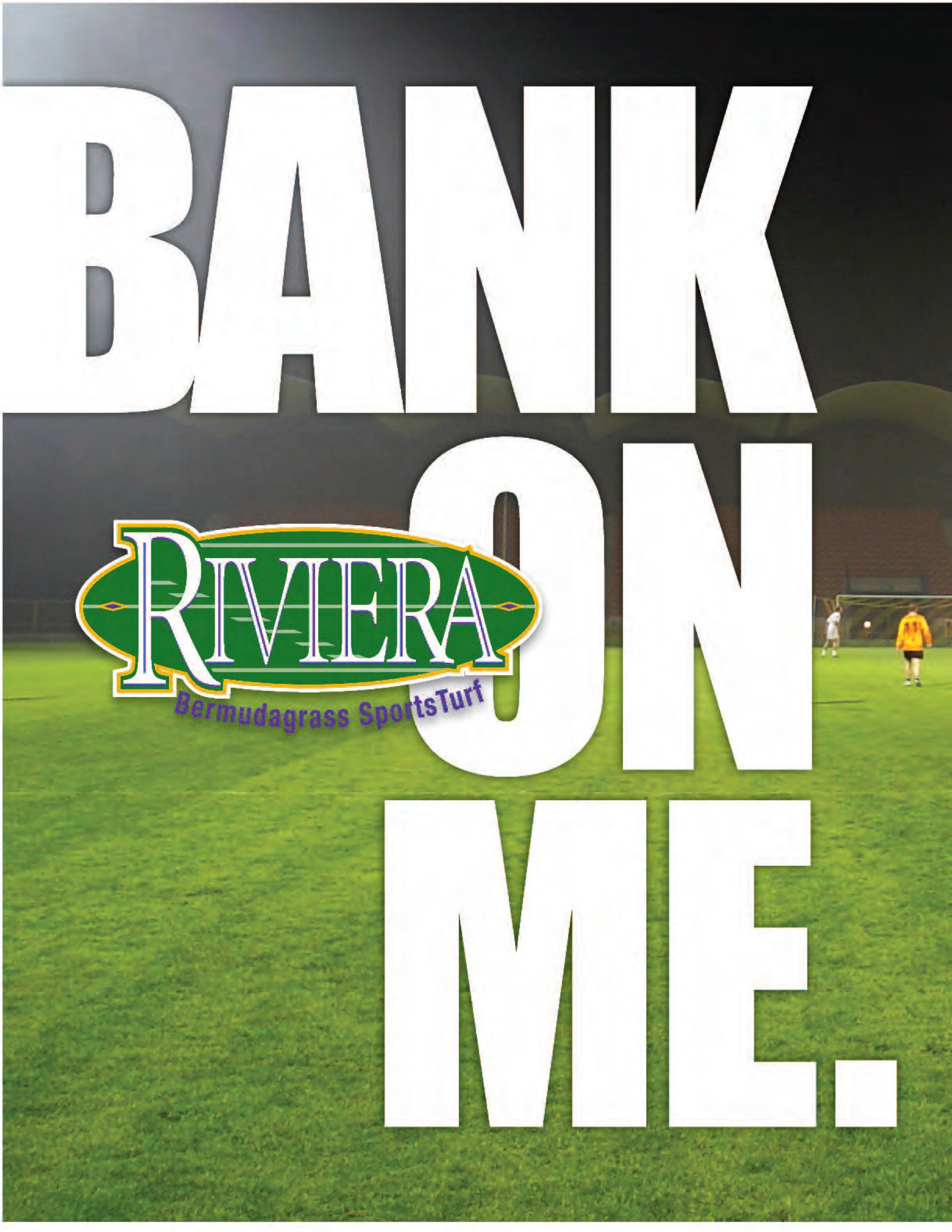
The answer is the assessment checklist.

I help manage the fields at a local Little League complex. There are five ball fields for ages 6 to adult. Each spring and fall I use the checklist to help identify new and ongoing needs. From that I put together a budget proposal for the board. That way they see exactly what I suggest and why. It makes the work visible and gets their support.

Now let's look at some specifics from the assessments.

THE BEST THING FOR IMPROVED DIRT MAINTENANCE

Build and regularly use a nail drag. Go slow in varying patterns and stay away from the grass edge. This will turn a dry, hard in-


BANK
ON
ME.
RIVIERA
Bermudagrass SportsTurf


No other bermuda works harder to save you more.
The most top-ranked bermuda on earth saves a ton of money. Riviera seeded bermuda costs 600% less than sodding, greens up in record time, and looks like a million while it saves you year-round maintenance costs. Beautiful is less expensive. Get 'em both with Riviera.
JOHNSTON
SEED COMPANY
The Cold-Tolerant Bermudagrass Experts
800-375-4613
www.johnstonseed.com

field into a reasonable playing surface. Nail drags can be home made from three 2x4s and two boxes of 16d nails. Pre-drill holes for the nails will make it go easier with all the pounding you'll do.

The first time you use a nail drag, players and parents will think you added new dirt to the field. It will play just that much better. And if you can water down the field a bit first, the nail drag won't kick up dust and it softens up the dirt for you.

Nails do eventually wear down. But even when they get pretty short the nail drag can still scarify the surface and the 2x4 can even help level the dirt as it goes.

THE BEST THING FOR IMPROVING TURF HEALTH

Periodically core aerate. After core aerating, drag the turf with a screen drag to break up the cores and smooth out the turf subsurface. This way you get and maintain level turf for ball bounces.

I also like to add in frequent but light fertilizing and overseeding. I have found that fertilizing the turf every 4 weeks at about half the recommended rate provides more consistent growth and color and is much easier for mowing. I mow the infields twice a week, Tuesday and Friday. Outfields are mowed on Thursdays.

Ideally you want to get at least 10 holes per square foot for the aerating to be effective. Therefore, it probably will take two passes of the aerator to do this

Ideally you want to get at least 10 holes per square foot for the aerating to be effective. Therefore, it probably will take two passes of the aerator to do this.

THE BEST EFFICIENCY IMPROVEMENT FOR A LARGE COMPLEX

Use stubs for batter box corners, provide access to shared equipment, and really focus on not getting any dirt on the grass edges. These short stubs can be 6 inch pieces of rope or surveyor markers.

Here's what you do to speed up making batter boxes game after game:

1. Mark the corners of the batter box.
2. Dig a hole down about 5 inches down. Narrow is better.
3. Insert a piece of stiff nylon rope about 6 inches long.

4. Fill in the hole around the rope and pack or tamp it down.

Now the 1-inch stub sticking up marks the corners. You can rake and drag over them usually no problem. Then just chalk or paint as needed. No more hassles with a template.

Some softball fields use pink rope and don't even chalk or paint the actual batter box outline. They just use the pink stubs as a visual for the box. These rope stubs usually will last the spring season, but do wear down over time. If you have problems with them coming out, you can also anchor them down with a large washer and a knot or with a large nail. But I try to avoid doing that.

BEST TIP FOR HIGH SCHOOL

Soak dirt before game time, manage the edge for a flat transition, and mow often.

A hand pulled broom drag helps keep the dirt off the corners. These are light weight and wide. And they are simpler than getting out the riding tractor and a screen drag. Using a plastic fan rake helps remove dirt from the grass edges. Variations for turf edge management include blowing the dirt off or vacuuming it up also. For many youth fields, the plastic rake is quick and easy.

BEST SUGGESTION FOR COLLEGE AND ABOVE

Use mound clay, laser grade the infield, and manage the field for player safety.

At the higher levels of competitions, firm footing and true bounces is a must for safety. Players will start and stop quickly. Ideally the field conditions should be consistent throughout a nine inning game. Therefore, you must use quality materials and techniques.

YOUR MOST IMPORTANT FIELD MAINTENANCE TOOL OF ALL

Water. A proper amount of water just makes everything better. Moisture management of the infield skin as well as the turf is just about the best thing you can do for your players.

We all have ideas what a good playing surface is like. But ask the players. Seriously. Ask them if they prefer dry and loose versus moist and firm. My experience is that most prefer even a hard surface rather than one that blows out from under them. Water is the answer. It can make just about any dirt mix so much more playable.

We can create a better baseball experience for our players, coaches, and fans. These lessons-learned and basic practices can do that for you. I believe sports programs can help our youth develop lifelong habits for success. And I sure don't want their dream to slip away due to a poor sports field. And I want to help men and women like you transform their sports fields into a field of dreams where our youth reach their fullest potential and you have no regrets.

For the past 11 years I have refined my previous AAA baseball field maintenance skills by spending time with MLB and AAA groundskeepers, with sports turf managers, and with suppliers of field products for professional sports. During that period I also renovated 49 baseball and softball fields and had the privilege of consulting on hundreds of other new construction and renovation projects. ■

Jim Reiner is the field director for the Sunrise Little League in Orangevale, CA and assist with field maintenance at Valley Christian Academy in Roseville, CA.

◀ **PLUGS MOWED** at 3/8"and pulled after 3½ months. Plugs were grown in the field with proper rates of fertilizer and irrigation applied. Left: Organic Humic Substance, APEX-10, applied at 3 ounces per 1000 square feet. Right: No APEX-10.

Healthy and safe turf begins at the rootzone

Editor's note: *Timothy Kwiat is the Director of Turf and Landscaping for Nature's Wonder, the manufacturer of APEX-10. He has more than 20 years in the golf industry including as a superintendent.*

YOU WOULDN'T BUILD A BEAUTIFULLY DESIGNED multi-million dollar house without a strong foundation and expect it to withstand a hurricane. So why would anyone expect their turf to be visually appealing and perform well without a healthy rootzone? By starting at the ground level, sports turf professionals will see improved turf performance and increased safety for athletes.

Healthy rootzones that support turf have been defined by the following criteria: well drained, compaction resistant, with free nutrient exchange. This free nutrient exchange is essential to allowing the soils to hold onto nutrients as well as release them to the plant.

But what creates the support structure for this exchange? Microbes. So, what if your rootzone isn't supporting your microbes and your microbes aren't supporting this nutrient exchange? How do you improve your turf health while dealing with the other challenges in the sports turf management arena?

There are new technologies on the market that focus on bio-stimulation to continue to build those microbial populations while maintaining proper levels of organic materials in a soil system. Having higher organic matter content in soils allows for additional food sources and attachment sites for microbes to thrive in the environment in which they live. These in turn create a healthier environment for root growth and plant growth.

Turf professionals deal with many rootzone types. Bringing each rootzone to its optimal performance to support the needs of each specific sport is where the challenges lie. You face many challenges when working toward building turf that looks good and supports the needs of athletes. Producing the type of turf that provides stable footing, cushion, and resilience specific to each sport is dependent on your program. While normal programs focus on nutrients, water, weed and pest control, many professionals are finding it harder and harder to manage the demands put on the turf with increased input restrictions. To overcome the challenges of creating the best rootzone while reducing inputs, turf managers must be creative in their approach.

SAND-BASED

Typical sports turf fields are made up of a combination of varying degrees of soil and root zone types. Some soils are composed of high sand content to create a well drained surface and the firmness that certain sports demand. These rootzones put all of the nutrient control in the hands of the professional simply due to the fact that they have very low cation exchange capacity or nutrient retention ability.

Modified sand-based rootzones have moved into professional venues and stadiums. In the professional sports arena, sand-based root zones give athletes the solid footing and cushion they need to play the desired game. The challenges are characterized by excessive nutrient leaching, low CEC, and low organic activity with very little microbial support capability. In addition, localized dry spot formation and potential algae buildup can become an issue. The importance of microbial populations in high sand content rootzones is to support nutrient and water retention. Beneficial organisms and plant roots have a symbiotic relationship. As microbial populations increase through bio-stimulation, the roots are fed the nutrition they need. The roots in turn feed the microbes the complex sugars that the roots put back into the soil.

NATIVE SOIL

Healthy native soil zones or push-up fields have longer water retention for better plant support, larger CEC capacity for nutrient retention, and more organic matter for microbial support. Native soil surfaces still sustain the functions that are needed to support sports, but like sand, it comes with the need for turf professionals to manage it properly. Larger microbial support in these systems is essential and builds porosity with increased drainage and capillary water movement. The increased porosity allows for better carbon dioxide gas

exchange and oxygenation of the soil.

Without these characteristics native soil rootzones have the potential to develop compaction which leads to nutrient binding, uneven moisture availability and restricted root penetration. When these issues plague native rootzones the system becomes over wet with lower wear tolerance. Compaction in the rootzone reduces the ability for the roots to grow freely slowing the nutrient release potential due to the physical properties and chemistry of the soil. This is when it becomes critical to support the soil biomass, as a more active microbial population improves soil flocculation.

IMPROVING ROOTZONES

When rootzones are unhealthy it can lead to increased plant stress, reduced plant growth rate, thicker thatch layers, localized dry spot, algae buildup, increased weed pressure and unstable footing for athletes. So, what is the best way to meet these challenges without breaking your back and your budget?

Historically turf managers have employed mechanical and chemical means of improving rootzone health. These include chemical and mechanical thatch removal, oxygenation by aeration (various sizes and depths), mechanical drainage improvement, and other various soil remediation techniques. While each of these enhancements works and provides the means necessary to address these issues, playing schedules, calendars and event schedules prohibit the frequency and tolerances for these practices to be done on regular intervals.

A true biostimulant provides a food source for the existing soil biomass, accelerating the natural growth of the microbial population. As proven in the university research, the organic humic substance also solubalizes and transports nutrients to the plant. Virginia Tech examined APEX-10's effectiveness in rootzone development on sports turf to improve playability and stable footing when limiting factors are present. It was found to increase the soil's ability for both the physical and chemical bonds of nutrients and water, allowing for more water and nutrient retention. Applying an organic humic substance with a high fulvic acid ratio per unit early in the season reduces the effect of the limiting factors in the rootzones and prepares turf for heat and summer stress. A second Virginia Tech University study showed that APEX-10's greater antioxidant activity improving photochemical efficiency, enabling sustained root growth and leaf function during drought conditions.

Furthermore, APEX-10 improves the recuperative capacity of turfgrasses following heavy play and traffic by providing consistent nutrient and water availability to the plant as found in a series of fertilizer and irrigation reduction studies by Rutgers University. The organic humic substance improves safety for the athlete by naturally degrading the thatch layer over time without creating spikes in growth due to excessive nutrient release. Chris Walsh, turf manager of the Akron Aeros, said, "We applied APEX-10 for the first time to our Kentucky blue/ryegrass minor league field after a considerable stressful stretch of games in August. We aerated, overseeded with rye grass and applied APEX-10. Within 7 days the turf had recovered and was looking and playing great just in time for our 2012 playoff run." ■

What's trending in sports turf irrigation: Q&A with Jeff Bruce

IF YOU BELIEVE IRRIGATION CONSULTANTS just know sprinkler systems, you're way off the mark. The American Society of Irrigation Consultants (ASIC) has spent the past 40-plus years training and supporting irrigation professionals in the industry in emerging water codes and regulations, water resource development and quality, turf management, soil science, chemistry, agronomy, horticulture, business development, marketing—you get the idea.

We caught up with Jeff Bruce, ASIC immediate past president, and principal of Jeffrey L. Bruce & Company (JLB) in North Kansas City, MO. Bruce founded JLB in 1986, and has rocketed to the top of the sports turf industry since, completing about 600 professional and NCAA sports complexes in the past 10 years alone, including Alex Box Baseball Stadium at LSU, Carolina Panthers Stadium, University of Kentucky Commonwealth Stadium, and Notre Dame Athletic Complex.

We asked Bruce what's trending in sports turf irrigation. His vision of the future might surprise you—it did us.

ASIC: Tell me about the role of an irrigation consultant in overall design and management of sports fields. How has that evolved over the past decade?

▲ **ALEX BOX BASEBALL STADIUM** at LSU. Photo credit Jeffrey L. Bruce & Company.

JLB: Our perspective is probably a little different because we don't just consider the playing field; we profile the entire sports complex as an integrated system. These enterprises should be completely interconnected from the bottom up; drainage, catchment, soil profile, irrigation, turf type, and so forth. Then we consider usage, safety, longevity, resilience, budget, and maintenance and management needs and capabilities. Then we look at the surrounding grounds, the plant material, the water sources, the practice facilities, the parking facilities. It's all interrelated.

Remember that for every stadium venue there are several practice fields that are used much more intensively. Typically there are more business opportunities for those than the stadiums so we like to tie them all together.

This has evolved into a business model for us that requires a lot of specialty expertise. I'm not sure anyone else does it, but clients like managing an entire project through a single consultant.

Is it a good representation of an irrigation consultant's role? Maybe down the road. As we see more slippage of the mar-

I absolutely believe there will be intensive new regulations in water sourcing very soon.—*Jeff Bruce*

◀ **JEFFREY L. BRUCE, FASLA**

ket—more design-build and other solutions that don't involve just irrigation—the irrigation consultant's role might have to expand significantly into more than effectively developing and managing water resources.

ASIC: Any new design or business trends in athletic fields that appear to be emerging?

JLB: A couple of things. We've seen a shift from high-performance turf and irrigation systems to more modest projects, mostly due to restrictive budgets in this slower economy. With the popularity of artificial turf, our primary business has fallen off a bit.

Artificial turf became pretty popular in the professional ranks, and now is becoming more popular at the high school and park & rec level. More recently, however, we're seeing an inkling of a movement back to real grass. I think it's related to the current generation of artificial turf products. There's really not much history or background on the performance of these newer products, and decision-makers really have to evaluate claims by manufacturers with no ability to validate them.

We're seeing quite a few second surface replacements in fields, about every 8-10 years. Because the artificial turf safety issue is still up for debate, and certain artificial fields promote higher injury incidents, there's a prevailing feeling that artificial turf is okay, but grass is re-emerging as the preferred surface.

There's also been a movement to large pay-for-play facilities, like big joint county-city projects of 15-20 soccer fields where fees are charged for use. We're starting to see the higher end of those facilities coming back to turf, as well.

So those are trends we're experiencing. What's to come? I absolutely believe there will be intensive new regulations in water sourcing very soon. I further expect this trend to be a great opportunity for the irrigation and sports turf industries to be a huge part of an integrated green infrastructure paradigm.

When we look toward the development of unknown irrigation technology, we see stadiums and facilities using their fields as water harvesting and water polishing enterprises, so stadium and grounds rainwater, storm water and wastewater will be collected below the sports fields, then polished in a system and reused in the facility. We've been looking at this for awhile.

The challenge sports turf managers have is that they're in control of very little. Few get to decide the field or facilities they have to work with. They have to become empowered to be in position to make a difference. They certainly have the knowledge and aspirations.

These things are coming, and sports turf managers should position themselves for more control over their professional destiny.

ASIC: What about water sources? How has that evolved over the last decade? Should we be moving away from using potable water for irrigation?

JLB: Clearly, water is being subsidized; its cost still is nowhere near the cost of supplying it. There's only one way to generate enough water for the population. Higher water rates are coming, and we'll see dramatic increases in cost.

There remains a myopic assumption in the industry that turf man-

agers always will have the water they'll need. But increasingly we're seeing big park & rec facilities that are spending a lot of money on water starting to explore developing and using alternative sources.

The high-end collegiate and professional venues don't really think much about the cost of water; they use potable water almost exclusively. It's cheap. But they're starting to have storm water regulation issues, so we're designing drainage in the fields as storage and detention basins to meet storm water requirements. There's not a big leap of faith to move from storm water detention to harvesting water for reuse.

In the future, a prominent part of any irrigation system is going to be subsurface cisterns to secure water for irrigation, and filtration systems to render that water usable. We'll be off the municipal water and sewer systems; off the grid entirely. I think the Green Industry is starting to understand that, as green codes continue to trend toward net-zero water. Unless the industry gets ahead of this, we'll be walking the plank and the plank will be cutoff. We need to get off the public systems and intercept water before it gets offsite.

▲ **UNIVERSITY OF KENTUCKY FOOTBALL PRACTICE FACILITY.**
Photo credit Jeffrey L. Bruce & Company.

ASIC: What irrigation system devices most determine performance and durability in sports venues?

JLB: Sports facilities definitely offer a different perspective. We have to ensure the safety of the athletes using the facility. That absolutely affects our irrigation equipment choices.

One of the sports turf industry's biggest challenges is that irrigation systems are falling apart because to keep costs down at the design-installation phases, piping is being undersized resulting in over-pressurized systems. We get it—irrigation is judged by upfront costs; not longer-term costs. But by small-sizing the piping, a system's life expectancy can be cut by as much as half, and certainly opportunities for efficient water use go down.

These systems lose a lot water and turf when they fail, plus too much pressure simply deteriorates efficiency. So we're balancing two things: throwing water a long way to keep irrigation equipment off the field, which requires higher pressures; but keeping operating pressures as low as possible to minimize physical wear on equipment. We specify larger pipe and head sizes so velocities are reduced, and wear and tear are minimized. That's one key to extending the irrigation system's life. It absolutely requires some salesmanship.

Another component for consideration, particularly in sports fields, is controller systems. They're almost too sophisticated. Oftentimes the features the average controller provides are way overdone.

We like to keep it simple. Today's groundskeepers need more diagnostic tools than features. For example, moisture content is incredibly valuable information. There's an opportunity for turf managers to employ more moisture sensing technology in their management toolbox. Fixed or portable, they provide a quantitative measure of soil moisture content for more effective water management.

ASIC: What are your best design components, from irrigation control systems to sprinkler heads to piping and quick-couplers to pressure regulation to soil prep?

JLB: We find a full range of equipment in manufacturers' catalogues to solve most any specific problem. If you have high pressure, then pressure regulation is important at every stage, from mains to laterals. Using pressure gauges helps you identify spikes and better understand your system.

Isolation valves reign king. Although considered a luxury by some, the ability to isolate sections of a loop system in the event of a breach saves time, turf and equipment. Strategically placed isolation valves can be a manager's best friend in a crisis. It's important.

And then there are the smaller details, like accessing quick couplers for spot watering or syringing; or using quality swing joints instead of funny pipe. Not every solution is a big, impressive piece of equipment. High-performance systems should include all arrows in your quill to maintain a performance-tuned operation. Certainly stainless steel risers are important on sand-based facilities.

Use the irrigation manufacturers' catalogue for distinct benefits that address system or site idiosyncrasies. There truly is a piece of equipment for every potential problem.

When you look at big sports complexes, the upfront cost of irrigation equipment is really pretty small compared to the cost of maintaining the fields themselves. It seems short-sighted to save $100 on a cheaper controller, but pay someone $25 an hour to adjust the run-times. You might save that hundred bucks up front, but shell out $30,000 over a 20-year period. We need to be more sophisticated in our cost evaluations.

ASIC: Do you work off a template you've developed over the years or is every ball field project so unique that you start from scratch?

JLB: For years we would design irrigation for a stadium thinking it looked like the previous stadium. So we'd pull out our old project plans and specifications, and tweak them. We realized at some point that each facility just became its own project. There's ample uniqueness to sports fields and facilities that we have to start from scratch with each one. And it's not just the quirkiness of the sites; turf managers also are unique in their management needs and preferences.

Most fields are used a number of different ways, so the parameters change with each project. There are different needs for lacrosse, than football, than soccer, than rugby, than concerts, than car shows. Different uses are going to affect the overall design. ■

Luke Frank is a free lance writer who submitted this article on behalf of the American Society of Irrigation Consultants, www.asic.org.

JOHN MASCARO'S PHOTO QUIZ

Answers from page 17

The black area and turn turf on this soccer field is a result of a rocket landing on this infill artificial turf field. With the long standing conflict between Israel and Palestine, unfortunately, it is almost common for rockets to be fired from the Gaza Strip into Israel. On this occasion, at 7:30 am, some 18 rockets were fired at Beersheba, of which the Iron Dome (Israel's newly implemented mobile all-weather air defense system) intercepted at least 12. A building suffered a direct hit, one rocket hit a traffic island and caused damage to a bus, and a third rocket hit a car and caused damage to cars and buildings in the area. The remaining rockets landed in open areas and on this athletic field. Thankfully, no injuries were reported in this attack. The artificial turf pitch was totally renovated after the incident.

Photo submitted by Doron Zur, Li Noy Company, Yavine, Israel.■

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

F.O.Y.
Field of the Year

▼ Infinity Park crew & friends. L to R: Christi Clay with Jackson Bertrand; Carter Harryman, Noel Harryman, and Cole Harryman; and Joe Ferrera with Cael Ferrera.

Infinity Park, Glendale, Colorado

- **Level of Submission:** Schools/Parks
- **Category of Submission:** Sporting Grounds
- **Head Sports Turf Manager:** Noel Harryman
- **Title:** Manager, Turf Operations
- **Education:** Bachelor's Degree in Business Management
- **Experience:** 2002-2003 Landscape Supervisor (Fresh Aire Enterprises) 2002-2007 Material Supplier Manager/Designer (Landscape Solutions) 2007-2009 Project Manager(Graff's Turf Farms)(Fields worked on Coors, Invesco, Dicks, Folsom, Wrigley, Infinity Park, Haymarket) 2009-Current Manager Turf Operations
- **Other crew to recognize:** Josh Bertrand, Gene Hazlett, Vickie Allen, Kevin Brown, Matt McCord, Jody Yonke, Joe Ferrera, Christi Clay
- **Original construction:** 2007
- **Renovation:** Irrigation replacement on the playing surface. The laterals had to be lowered because they were not installed according to the specs. The lines were punctured do to deep tine aeration. The sod was stripped out along the laterals running east to west on the field and then new sod was installed. We were forced to use thick cut sod in order to be able to play on the surface shortly after the renovation.
- **Reason for renovation:** The renovation was done because of the punctured irrigation lines and because the original installation did not follow the irrigation specifications. The lines were anywhere from 4-8" depths. By lowering the laterals we are able to deep tine aerate up to 12" depth and still be safe. The city has also thought about putting in the Desso system in the grass and would not have been able to entertain this system without lowering the lines. The renovation went very well in 2011 and is barely noticable at this point. In hindsight I would probably push to have the entire field pulled out and laser leveled and a complete resod. Pulling out a 4' wide area is difficult to get a perfect grade. We still notice a few imperfections.
- **Turfgrass variety:** Midnight, Awesome, Impact, Nu-Destiny-Kentucky bluegrass (70%) Caddieshack, Accent, Top-Gun-perennial ryegrass (30%)
- **Overseed:** Overseeding is done with Kentucky bluegrass. The pitch is overseeded four times a year (last week of March, first week of May, mid-June, and the last week of August). The first three overseedings were done with 10#/1000 square feet and the last overseeding in August was done with 15#/1000 square feet. The seed mix is Midnight, Awesome, Impact, and NuDestiny Kentucky bluegrass. For divot repair we use a 1:3:1 ratio of pregerminated seed, USGA Sand, and fertilizer.
- **Rootzone compostion:** 92% sand, 4% silt, 2% clay, 2% organic matter
- **Drainage:** GraviTURF designed by Dan Almond of Milennium Sports. Using 4" ADS drain pipe, located on 15' centers, set in pea gravel, 10" below surface.

CHALLENGES

The season opened this year on March 3, 2012. We had a fair amount of snow in February and one corner of our field remained frozen through January and February. We were hoping that the corner would thaw out enough to have a safe playing surface, however with 2 weeks until the season opener we were forced to come up with a different plan. We had to rent a heating system that they use to thaw the ground before they pour concrete. The system was very labor intensive and also expensive to rent. The thawing process took about a week to complete but we were able to get in the scheduled game and made sure the field was safe for play. On July 21 Newfield exploration rented the field and wanted to a host a "retro Carnival." The company requested that a Ferris wheel be built on the field the morning of the event. This was very challenging for our team because it meant that a semi had to pull onto the field and setup. In the entrance to the field there is a bridge that was designed to come on and off just for this type of occasion. The bridge had not ever been removed since its installation which left us with a lot of unknowns. However, the bridge came on and on well and the plywood road with inca mat held up well and no damage was done to the field.

Rugby is a unique sport in that the game must go on. Games are played regardless of any limiting factors. There could be a foot of snow on the ground and they will still play.

Another challenge that we had was Colorado State asked to host a spring scrimmage at Infinity Park to try and rally the Denver alumni. The field was already scheduled for rugby tournaments the following day so we had to figure out how to effectively and efficiently flip the field from football to rugby. We spoke directly with the CSU coaching staff and convinced them that since it was only a practice to leave the goal posts where they were. This made the field 10 yards shorter than a normal field but no one knew because we did not paint numbers on the yardage markers. The evening after the practice we painted the football lines green (big thanks to Bret Baird Dicks Sporting Good Park on green paint selection) and then restriped the field for the next day.

Rugby is a unique sport in that the game must go on. Games are played regardless of any limiting factors. There could be a foot of snow on the ground and they will still play. The culture of rugby is that the players are tough and if there is an injury that is just part of the game. For example, during a rugby game if a player is hurt the play does not end until the ball is kicked out of play.

SportsTurf: What are your specific job responsibilities?

Harryman: My responsibilities at Infinity Park are to maintain a safe professional playing surface. We have one synthetic playing field and also sand-based natural grass field. Outside of taking care of these surfaces our department falls into public works so every day can be different from doing asphalt to water main breaks or taking care of one of our parks around the city.

ST: What do find most enjoyable?

Harryman: The finished product is what I find most enjoyable

about my job. I enjoy looking at a field that is freshly mowed and painted and ready for game time. I also enjoy the challenge of my job hosting different events and trying to figure out how to make everything work.

ST: What task is your least favorite and why?

Harryman: My least favorite part of my job is the winter when the field is covered up. Mainly because this time is spent away from the pitch and really what I enjoy doing most.


CORE POWER
CORE POWER
CORE POWER


LOEWS


GLENDALE
COLORADO


O'BRIEN

ST: How did you get started in turf management?

Harryman: Before getting into strictly turf management I did landscaping install, design, and sales. A door opened up at Graff's Turf Farm for sports field renovation and I took the opportunity to focus solely on sports fields. After working there for a few years I realized that I wanted to be on a sports field every day.

ST: How did you get started in turf management? What was your first sports turf job?

Harryman: Graff's Turf Farm was really my first sports turf job. I worked there as a project manager and did sports field renovation. After this I joined the City of Glendale and became the assistant turf manager for Infinity Park.

ST: What are the major challenges in managing turf for so many different uses? What have you learned in the past 5 years to help you meet those challenges?

Harryman: The biggest challenge to managing a field that gets used in many different ways is that every event is different and comes with its own set of problems. It is important to try and figure out what areas need more attention and what protection to have in place. The biggest thing for any of the different uses that come in is to make sure to be proactive instead of trying to fix something that could have been prevented.

ST: What have you learned in the past 5 years to help you meet those challenges?

Harryman: I have learned that despite my aversion to meetings it is important to have a seat at the table and the planning stages of these events. It is way better to know what is coming down the pipe than to learn about on the day of an event.

ST: What changes if any are you considering or implementing for the winning field in 2013?

Harryman: One change that is going to take place this year is a reduced practice on the pitch this year at least in the spring. More practices will be held on the synthetic field giving us more time on the main field to get everything up and growing.

ST: How do you see the sports turf manager's job changing in the future?

Harryman: As everyone else's job changes are always taking place. I think that the sports turf manager's position will always continually be asked to do more with less. ■

The STMA Field of the Year Awards began in 1988 and are given annually in baseball, football, softball, soccer and sporting grounds in three levels: professional, collegiate and schools/parks. A panel of 11 judges independently scores the applications and the winners are announced at the STMA Annual Conference and Exhibition. Winners receive signature clothing, complimentary conference registration, three night's accommodations and a trophy for display. The Field of the Year Program is made possible through the generous donations of Carolina Green Corporation, Ewing Irrigation Products, Hunter Industries, and World Class Athletic Surfaces, Inc.

BARNEY LOPAS USES CREATIVITY AND ELBOW GREASE TO PRESENT A WORLD-CLASS PLAYING SURFACE

Editor's note: *This article was supplied by Adam Slick, Jacobsen's public relations & communications manager.*

AS THE HOME BALLPARK OF MAJOR LEAGUE BASEBALL'S LOS ANGELES ANGELS OF ANAHEIM, Angel Stadium, built in 1966, is one of the most storied and beloved sports venues in America. Famous milestones attained at the park include Mickey Mantle's last game-winning home run, Nolan Ryan's nine straight strikeouts against the Boston Red Sox and Reggie Jackson's 500th career home run. The ballpark has also served as the backdrop for several motion pictures including "The Naked Gun," "Angels in the Outfield" and "The Fan."

Today, Angel Stadium continues its historic lineage as the home field for baseball superstar Albert Pujols, who is starting his second season with the Angels as first baseman. Upon his arrival in Anaheim, Pujols asked Head Groundskeeper Barney Lopas to remove some turf in front of first base.

"He prefers to have more dirt in front of him so throws from third base get a hard bounce off dirt instead of grass," said Lopas. "It wasn't really a big deal and I enjoyed doing it for him because he's such a nice guy."

Lopas is quite the baseball veteran himself, currently in his 16th season at Angel Stadium. He followed in his brother's footsteps through turfgrass management, starting in Wisconsin, then working for the Houston Astros training facility in Florida, the Florida Marlins, and Richmond Braves before starting with the Angels in 1996.

Lopas' famous field of Tifway 419 bermudagrass has the unfortunate distinction of being the only major professional sports field—baseball, football and soccer included—that sits on native soil without any drainage.

"It makes it really hard for us, but we deal with it," said Lopas. "We have to be careful not to overwater. Because the water has nowhere to go, we can easily get root rot and black layer. So we do quite a bit of hand watering. We also aerify twice a month to get the water and nutrients down into the soil."

Lopas will aerate before every home stand, and occasionally uses deep tines, going deeper as the season progresses. His infield mix comes from Stabilizer in Phoenix and is approximately 50% silt clay and 50% sand. He'll nail drag 100 bags of calcite clay into the top ½ inch of mix before the season starts. Lopas will also steamroll before every home stand and roll first base every day with a 2.5 ton roller.

"After 16 years, I pretty much have it down to a science. In fact, my buddies tell me I'd screw up a sand-based field. They're probably right," said Lopas with a laugh.

In addition to a very comprehensive soil management strategy, Lopas has also developed some very innovative mowing patterns over the years. After 9/11, Lopas mowed a giant "USA" pattern into the outfield, using riding mowers and brooms to push the grass away from home plate inside the letters and his walk mowers going the other way for the outline.

"We've been using Jacobsen equipment for almost a decade," said Lopas. "They're the best machines I've ever used and the service we get from Jacobsen West is top notch. If we give them a call, they're out here the same day."

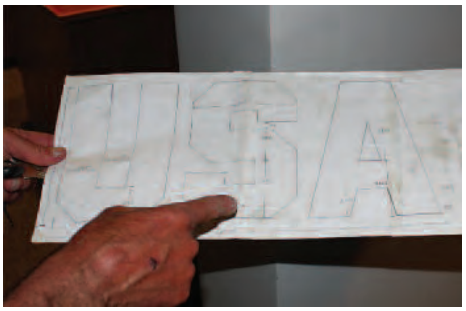
Lopas also uses his Jacobsen machines for some very strategic outfield mowing patterns. "To reduce lateral movement of balls moving through the grass [known as snaking], I only cross-cut behind the short stop and second baseman, leaving the areas in front of our outfielders with grass going in just two directions rather than four [see photo]. This gives the outfielders confidence knowing that bouncing balls coming their way will not snake."

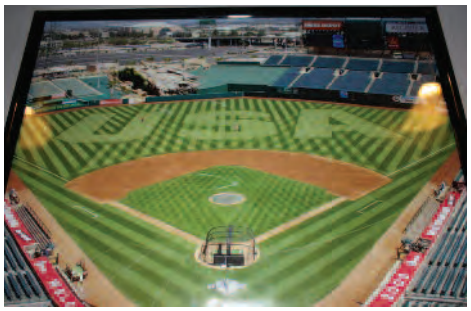
The strategy has been such a success that several other Major League teams have started using the same pattern.

Angels Owner Arte Moreno has also taken notice of Lopas' work and occasionally stops by to chat with the maintenance crew. During a post-game visit a few years ago, Moreno asked to

▼ **BARNEY LOPAS** operating a Jacobsen ECLIPSE 322 riding mower in the outfield.

◀ **BARNEY LOPAS**, Head Groundskeeper for the Anaheim Angels.





▲ **AFTER 9/11**, Lopas and his team mowed a giant USA in the outfield (top). The pattern started on a letter-sized template (bottom) he created to establish the dimensions. He mowed away from home plate inside the letters for the contrasting color, using a walk mower on the outlines.

use the non-existent restroom. One of the maintenance crew members replied that not only was there no bathroom, the crew didn't even have sink. Moreno was incredulous.

"Arte is a great, great owner and a wonderful guy," said Lopas. "He took me aside and said 'blow this place up and make it how you want it.'"

And that's exactly what Lopas did.

Half sports bar and half clubhouse, Lopas' maintenance office is an incredibly unique space. The main room is lined with authentic clubhouse lockers, complete with nameplate and number (year started) for each crew member. When the game is on, the guys watch the action from leather recliners perched in front of a huge flat-screen television.

But the creature comforts of home are important for Lopas because time off at this level just isn't an option. "I typically get here about 9 am and leave around 11 pm. My next day off will be in October. When you're grilling dogs on the Fourth of July or sleeping late on a Sunday morning, I'll be here," he said.

The grind of 81 home games provides all kinds of challenges for Lopas and his team. But like so many other turfgrass managers around the country, it's a vocation that's in his blood. Each day is another opportunity to prepare a world-class playing surface for the Angels.

A small red and dusty iron sign that hangs in the maintenance office sums it all up in just five words: "Rake like a champion today." ■

▼ **WHEN ALBERT PUJOLS** arrived in Anaheim last year, his one request of Lopas was to remove some grass in front of first base so that throws from the third baseman would bounce on dirt instead of grass. Lopas was happy to oblige the superstar, who he calls a "really nice guy."

▼ **A FEW YEARS AGO**, Lopas created a mowing pattern that reduces ball snaking in the outfield. By cross-cutting the only areas behind the short stop and second baseman (where very few balls sneak through), it allows him to mow the outfielder areas in just two directions – thus reducing the chance a bouncing ball will move laterally on its way to an outfielder.

WHAT YOU NEED TO KNOW ABOUT HIGHER ETHANOL FUEL AND YOUR EQUIPMENT FLEET

By Kris Kiser

TURF AND FIELD MANAGERS must operate and maintain a host of outdoor power and small engine equipment, from mowers and blowers to utility vehicles, generators and trimmers. Along with safety and reliability, managers want equipment to enjoy a long product lifecycle. Through regular maintenance, one expects that equipment lasts long enough to more than payback on the original investment.

However, in the coming year, a new higher ethanol fuel, called Ethanol 15 (E15), will likely appear in gas stations across the country. Although mandated by law, when used in turf and grounds equipment, E15 can cause engine failure and damage product[DASH HERE]bringing your product lifecycle to an abrupt halt.

WHY HIGHER ETHANOL FUEL?

Energy independence and domestic security gave rise to fuels legislation. Signed into law in 2007, Renewable Fuel Standard (RFS) program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders. Created under the Energy Policy Act (EPAct), EPA was tasked with reaching the RFS requirement of 7.5 billion gallons of renewable-fuel to be blended into gasoline by 2012 and growing to 15 billion gallons of ethanol. As a result, ethanol use has been mandated by law.

The challenge has been that the underlying assumptions used to develop the RFS were not met.

For example, many believed that an E85 auto fleet and E85 infrastructure would expand and gasoline use would continue to climb and that E85 would absorb the mandated ethanol. Yet, E85 demand and availability remains low.

Further assumptions that have fallen short are:

- Flex fuel vehicles that use E85 have not expanded rapidly enough
- E85 use is not expanding
- Gasoline consumption peaked in 2007 and continues to fall, and
- Advanced and cellulosic fuels (non corn ethanol) are not available.

So why are you hearing that there will be 15% ethanol on the market although we know that it can damage outdoor power equipment used by your grounds crews?

THE BACK AND FORTH ON ETHANOL 15

In 2009, Growth Energy, an ethanol industry trade group, petitioned the EPA to raise the limit on ethanol in gasoline from 10 to 15%. Since gas consumption was falling and E85 was not taking hold, they wanted to increase the allowable level of ethanol to create more demand in the marketplace and to meet ever increasing ethanol mandates.

Understanding the corrosive effects of higher levels of ethanol, several engine product and auto manufacturers, including the outdoor power equipment, motorcycle and boating industry, urged EPA to be deliberative in its review process, and assure, with thorough

and adequate testing, that E15 would not harm existing products or pose safety risks.

As expected, Department of Energy testing of mid-level ethanol blends on outdoor power equipment and marine engines demonstrated performance irregularities, heat increases, and engine failure on tested product.

Unfortunately, the EPA moved forward to grant a partial waiver, the first-ever decision to bifurcate the gasoline marketplace. EPA initially wanted to issue a partial waiver approving the sale of gasoline containing 15% ethanol (E15) for 2007 model year and newer passenger cars and light trucks. This waiver was then amended to approve E15 for 2001 model year and newer passenger cars and light trucks. (*Automobile manufacturers refute this claim.)

Although E15 is specifically [START ITAL]not[END ITAL] approved for any non-road use, the outdoor power equipment industry recognized the danger of a partial waiver.

By approving E15 use in a subset of engines on the road, there is a high risk that consumers and businesses will unknowingly or mistakenly put E15 in products for which it has not been approved.

Remember the old saying: "What goes in the car, goes in the gerry can, and then goes in the mower?" Well, with E15, that doesn't apply any longer to mowers or to any small engine equipment for that matter.

And, the totality of EPA's education effort on E15 is a "3-by-3-inch" attention label at the gas pump. This will be wholly inadequate to keep not only turf managers, but their crews, from mis-fueling.

Remember the old saying: "What goes in the car, goes in the gerry can, and then goes in the mower?" Well, with E15, that doesn't apply any longer to mowers or to any small engine equipment for that matter.

As a result, on December 20, 2010, a newly formed Engine Products Group comprising the Alliance of Automobile Manufacturers (Alliance), The Association of International Automobile Manufacturers, Inc. (AIAM), the National Marine Manufacturers Association (NMMA), and the Outdoor Power Equipment Institute (OPEI) filed a petition challenging the EPA's decision to grant a partial waiver approving the sale of gasoline containing E15 for 2007 model year and newer passenger cars and light trucks.

In 2012, the United States Court of Appeals for the District of Columbia Circuit denied a rehearing on a suit brought forth by the American Fuel & Petrochemical Manufacturers (AFPM) and OPEI stating that neither group could prove they had been "harmed" by EPA's decision to allow E15 fuel and therefore, didn't have 'standing.'

This ruling alarmed the outdoor power equipment industry since the judges wanted to see personal or economic injury before they could take action, despite the fact that the EPA itself has admitted there will be mis-fueling

STEC Equipment announces new manufacturing alliances

STEC Equipment is excited to announce another strong year with positive growth. Since changing company names in 2009, from BLEC USA to STEC Equipment, we have forged many new partnerships and have our strongest equipment offering to date.

New for 2013, we are proud to announce several new manufacturing alliances, venturing into new territory and exploring new markets. The first of our new alliances is Trench It, a New Zealand-based manufacturer of trenchers and other drainage related equipment. Known for their unmatched build quality, Trench It machines also offer a host of options including conveyor clean up systems, electric over hydraulic controls and chains manufactured right here in the USA. This greatly increases availability and quality of replacement parts.

We have also launched a new range of roller mowers from UK manufacturer Broadwood International. Branded Wessex Pro-Line, these mowers offer a variety of features and come in a host of sizes from 4 ft to over 18ft of mowing width. Most mowers are rear discharge and fitted with free-swinging blade tips. Blade tip speeds of approximately 18,000 rpm guarantee a high quality of cut and great finish. In both 3-pt hitch and towed models, there are machines to fit any mowing need.

As always STEC is on the forefront of bringing the latest European innovations here to America. We are also offering several new items from our other manufacturers. GKB Machines, producer of the Combinator (fraze-mower) and Eco Dresser (recycling dresser), have created the first-ever aerator for synthetic turf. This machine offers a ground-driven system that de-compacts both crumb rubber and sand-based infill systems. Initial testing shows that the aerator can reduce compaction approximately 10% in Gmax standards. This allows you to bring fields that are unplayable back to a usable condition and lengthening the life of your synthetic surface.

Trilo of Holland has introduced an economical range of their debris clean up equipment. With blowers producing as much CFM as any comparable blower on the market, and new turf vacuum sweeper capable of collecting almost any debris, Trilo has made their high quality products available at an affordable price.

Until now, these products have only been available directly from STEC Equipment's home base in South Carolina. New for 2013, STEC is also pleased to announce a new dealer network stretching across America and into Canada. While constantly growing, we will be represented by the following: Storr Tractor (NY, NJ); Show Turf (FL); A-OK Turf Equipment (RI); Commercial Turf and Tractor (NE, IA, MO, KS, AR); Bonneville County Implement (ID); Turf and Industrial (Northern CA); and Canada-based G.C. Duke (Ontario). These dealers will have access to our full product range including infield groomers, RotaDairon Soil Renovators, GKB Machines, topdressers, laser graders and systems, Trilo, Reist, Trench It, and much more.

and engine and product failures with E15, and a variety of interests (lawn and garden, auto, power sports, motorcycle and marine equipment) have come out against the use of E15.

Insisting on the right to protect consumers before they get hurt economically or personally, The Engine Products Group filed a petition on March 25, 2013, asking the US Supreme Court to review the DC Circuit Court of Appeals' August 2012 decision that none of the trade associations or parties had standing in the case. The group is challenging the EPA decision to grant partial waivers approving the sale of gasoline containing E15 for 2001 model year and newer passenger cars and light trucks. The Court of Appeals dismissed the case for lack of jurisdiction in August 2012.

This appeal to the Supreme Court reflects the seriousness of this issue for the outdoor power equipment and small engine industry. We feel strongly that this challenge to the E-15 partial waiver needs to be considered on its merits, and not held back on a procedural issue.

In the meantime, other movements are underway to halt E15 sales.

• AAA's (Triple A) has called for the sale and use of E15 to be suspended until additional gas pump labeling and consumer education efforts are implemented to mitigate problems for motorists and their vehicles.

• Congressman Jim Sensenbrenner (R-WI) introduced H.R. 875, which would require the EPA to stop the use of gasoline containing 15 percent ethanol until its harmful effects are investigated further.

• The Coordinating Research Council released a January 2013 report outlining fuel test results that show E15 fuel can damage fuel system components.

• OPEI has formed an industry task group to study the best and most effective ways to communicate the challenges and risks associated with using E15 to the public.

WHAT YOU SHOULD DO RIGHT NOW

Turf managers should visit www.OPEI.org/ethanolwarning for more information and make sure employees are clear on the dangers of fueling up outdoor power equipment with anything greater than 10 percent ethanol fuel.

Specifically, turf managers should:

• Read and follow the owner's manual. The owner's manual will clearly explain what fuels can be used to ensure a properly functioning product.

• Not put any fuel containing more than10 percent (E10) in small engine products, unless otherwise stated.

• Check the gas pump to be sure that it is dispensing E10. Some gas pumps at local gas stations may offer both E10 and E15, or have blender pumps that dispense mid-level ethanol fuels for "flex-fuel" automobiles. Higher ethanol fuel may be less expensive than regular E10 fuel, but putting E15 into an E10 approved product could cause product failure and void its warranty.

• Not assume that the fuel they put in their vehicle can also be dispensed in their gasoline can. Be sure that the gas can is filled only with E10 fuel. ■

Kris Kiser is president and CEO of the Outdoor Power Equipment Institute, an international trade association representing 90 small engine, utility vehicle and outdoor power equipment manufacturers and suppliers of consumer and commercial outdoor power equipment.

Toro Pro Force blowers make debris gone with the wind

The new Toro Pro Force is the most powerful single nozzle turbine-type debris blower in its class. This air power provides fast removal of grass clippings, leaves, aeration cores, or other unwanted debris from your sports fields, golf course or other maintained turf areas, and hard surface areas such as park trails, parking lots or golf car paths.

The Toro Company

Turf Tidy 3000

The Turf Tidy 3000 from Redexim North America is one of the most versatile machines built today. It incorporates dethatching, flail mowing, core collection and debris clean up applications into one machine. The Turf Tidy's fully floating cutting head follows the grounds' contours, ensuring accurate cutting and pick-up. The unique turbo fan makes a clean sweep of leaves, pine needles, paper, aeration cores and grass clippings. The large hopper means less time emptying and its high lift allows greater clearance when tipping; it will easily dump into a utility vehicle or dumpster. The large turf tires mean less ground pressure even with a full hopper.

Redexim North America

Wiedenmann sweeper/blowers

To aid in the clean-up process, there are some new machines on the market that help with this clean-up process. The new Super 600 high dump is a heavy-duty sweeper/verticutter/flail mower collection system by Wiedenmann which is much like the Super 500; however, it has an increased hopper capacity of approximately 80%. The multi-purpose head allows for sweeping, verticutting, and flail mowing while collecting clippings into a 5.9 cubic yard hopper with a high dump reach up to 83". Another new product to aid in the clean-up process is the Mega Twister blower, which has approximately 14,500 CFMs and can swivels 270 on the ground. A third new product for sweeping artificial turf is the new Terra Clean 100 ground driven sweeper. The rotary brush of the Terra Clean 100 brings debris and some crumb rubber or infill onto a vibrating screen that separates the debris from the crumb rubber. The crumb rubber is redistributed back onto the field. This machine can be used either indoors or outdoors with just about any type of tow vehicle.

Wiedenmann North America

New Advocacy Manual created especially for sports turf managers

STMA CHAPTERS AND THEIR MEMBERS have been asking for resources on how to address potential regulations affecting sports field management. In response, the association has developed an in-depth 20-page Advocacy Manual that will help all managers deal with community and state governments, proactively and reactively. This members-only resource takes a down-to-earth, easy-to-understand approach to identifying issues, creating relationships with lawmakers, building coalitions, establishing meeting protocols with lawmakers, communicating with the press, and much more.

The STMA Advocacy Manual was created as a complete turnkey tool kit for those involved in sports field management so they could hit the ground running with these best practices in-hand. As stated in the manual, advocacy is "…**any action taken to influence public policy**. It can take many different forms, but the end goal is always to **persuade lawmakers to take actions that are beneficial** to your group or organization. Letter writing, phone calls, in-person visits, media relations, public awareness campaigns, giving public testimony, conducting and sharing research, and lobbying are all forms of political advocacy."

All well and good, but many people try to persuade lawmakers with little success…how does this resource differ from those that have come before it? According to the manual, the key to successful advocacy is "…the **ability to effectively communicate with lawmakers**, and to be seen by lawmakers as a **trustworthy source of credible information**. After all, who knows more about your industry than you and your colleagues in the Sports Turf Managers Association?"

Some sample sections of the manual include:

- "Identifying Advocacy Priorities"
- Communicating with Lawmakers – Phone calls, letters and emails
- Communicating with Lawmakers – Meetings
- Anatomy of a Lawmaker Meeting
- Communicating with Lawmakers – More ways to build relationships
- Working with Alliances and Coalitions
- Communicating with the Media
- Social Media and Advocacy
- Hiring a Lobbyist

The STMA Advocacy Manual can be found in the "Knowledge Center" (Members Only) under the "Environmental Stewardship" tab.

STMA has also produced a comprehensive list of **Environmental Regulations that Affect Sports Fields** (in the Members Only "Knowledge Center" section under the "Environmental Stewardship" tab) to help sports field managers stay in compliance with their state's requirements. The document includes state/federal laws and regulations covering pesticide and fertilizer licensing/certification, pesticide and fertilizer use, school IPM, integrated pest management, and water use and quality topics. These specific areas were researched and included for their applicability to the management of sports fields.-Shant S. Thomas, STMA Sales & Marketing Manager and STMA staff ■

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, Scott Grace, scott@sundome.org

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 -FORMING - Contact Clayton Dame, Claytondame@hotmail.com or Brian Bornino, bornino@purdue.edu

Iowa Sports Turf Managers Association: www.iowaturfgrass.org.

Kentucky Sports Turf Managers Association: www.kystma.org.

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

Nebraska Sports Turf Managers Association: sphillips4@unlnotes.unl.edu

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

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

Sports Turf Managers of New York: www.stmony.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.

Chapter Sponsors

Save up to 80% on top services and products for your business

See our deals and save

greenmediaonline.rapidbuyr.com/deal

Leverage the buying power of millions of businesses

Landscape and Irrigation | ARBORAGE | greenmedia deals | SportsTurf | OPE

Powered by RAPIDBUYR

Please fill out this form in its entirety

❑ **Yes, please start/continue my FREE subscription to *SportsTurf***

FOR FASTER SERVICE visit our website at www.sportsturfonline.com/subscribest or fax to 845-856-5822

❑ No, thank you.

Which version would you like to receive?

❑ **Print** ❑ **Print/Digital**

Signature: (required) Date:

Name: (please print)

Title:

Company:

Address:

City: State: Zip:

Phone: Fax:

Email: (required)

May 2013 - Expires October 2013 - RS1305

1 What is your company's primary business? *(check **ONLY ONE**)*

F ❑ Sports Complex
T ❑ School, College or University
G ❑ Athletic Field and/or Park Architect/Designer
P ❑ Park
H ❑ Other (please specify)_____

2 Which of the following best describes your title? *(check **ONLY ONE**)*

A ❑ EXECUTIVE/ADMINISTRATOR — President, Owner, Partner, Director, General Manager, Chairman of the Board, Purchasing Agent, Athletic Director

B ❑ MANAGER/SUPERINTENDENT — Superintendent, Landscape/Ground Maintenance Manager, Foreman, Supervisor

C ❑ GOVERNMENT OFFICIAL — Government Commissioner, Agent, Other Government Official

D ❑ SPECIALIST — Architect, Designer, Consultant, Agronomist, Horticulturist, Certified Specialist

F ❑ COACH E ❑ Other (please specify)_____

3 Do you have the authority to buy, specify or recommend products and/or services for your business or organization?

Y ❑ Yes N ❑ No

4 Yearly operating expenditures (excluding salaries)

F ❑ Over $1 million
E ❑ $500,001 - $1 million
D ❑ $100,001 - $500,000
C ❑ $50,001 - $100,000
B ❑ $25,001 - $50,000
A ❑ $25,000 and under

5 Please also send a free subscription to the following people at the same location

Name _____ Title_____

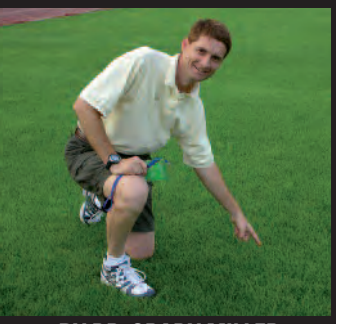
Name _____ Title_____

SportsTurf ADVERTISERS' INDEX

Advertiser	Page #	Web Address
Aquatrols	2	www.aquatrols.com
Barenbrug USA	48	www.barusa.com
Beam Clay	44	www.beamclay.com
Covermaster	17	www.covermaster.com
CoverSports USA	21	www.coversports.com
Cub Cadet	47	www.cubcadet.com
EcoChemical	31	www.eco-templine.com
Ewing Irrigation	3	www.ewing1.com
Graco	35	www.graco.com
Hydraway Drainage Systems	33	www.hydraway.net
Johnston Seed	24-25	www.johnstonseed.com
PBI Gordon	13	www.pbigordon.com/q4plus
PBI Gordon	19	www.pbigordon.com/katana
SEAGO	44	www.seagousa.com
Sod Solutions	15	www.sodsolutions.com
SportsTurf Managers Association	11	www.stma.org
STEC Equipment	23	www.stecequipment.com
SubAir Systems	29	www.turfbreeze.com
TifSport Growers Association	9	www.tifsport.com
TurfTec	44	www.turf-tec.com
TurfTime Equipment , LLC	44	www.TurfTimeEq.com
Wiedenmann North America	27	www.wiedenmannusa.com
World Class Athletic Surfaces	29	www.worldclasspaints.com

Q&A

Never stop learning



BY DR. GRADY MILLER
Professor, North Carolina State University

Questions?
Send them to Grady Miller at North Carolina State University, Box 7620, Raleigh, NC 27695-7620, or email grady_miller@ncsu.edu

Or, send your question to David Minner at Iowa State University, 106 Horticulture Hall, Ames, IA 50011 or email dminner@iastate.edu.

I understand your position as a turfgrass faculty member, but a synthetic turf surface allows me to prepare our team regardless of the weather conditions. Preparation is what wins games. A synthetic turf field has consistent footing and requires less maintenance during the year. I know NFL has data suggesting it may not be as desirable as natural grass and there have been medical studies that link it to injuries. But the other schools in our conference have them and use them and do not express the negatives that keep coming up. I used them at my previous school and liked them, but most importantly they allowed my team to be better prepared for games. Preparation wins games. So, why not have a synthetic field?

Coach Dave Doeren,
North Carolina State University

The comments above may be slightly paraphrased, but they reflect how I remember our coach's opening comments a few weeks ago. About a week before this conversation, rumors starting swirling that our new head football coach [Doeren] wanted to change our stadium field to a synthetic turf. This started an unexpected barrage of negative e-mail directed at him and our athletic director. Soon after I was asked to visit the athletic offices in the stadium to have some dialogue on the subject.

Exactly 1 year ago I wrote a brief essay for *SportsTurf* people in general (athletes, parents, boosters, etc) want synthetic turfgrass fields. Based on my experiences I figured I would hear from our coach more of the same reasons I have heard before. I was wrong.

Coach Doeren and his staff had researched the pros and cons and they did not base their justification for the synthetic surface on the typical reasons. It was not about having fast game fields or the inability to manage natural grass surfaces. It was primarily about team preparation and winning.

The bestselling book "Outliers" details the concept of the 10,000-Hour Rule. The book's author gives examples where scientists have tried to determine if there is such a thing as innate talent. The answer has been yes, but they almost always point out that to have achievement there is also a need for preparation. But after significant analysis, scientists also found that even with the gifted (e.g., Mozart, Bill Gates, The Beatles), that innate talent seems to play a smaller role in achievement than preparation plays. The magic number that kept coming up in their analysis of outstanding performance, regardless of the activity: 10,000 hours of dedicated practice.

The NCAA rules limit practice time for college athletes. Considering all the NCAA stipulations, I am sure keeping up with countable hours of practice requires athletic associations to employ "timekeepers" just to stay in compliance. But even if rules were violated, it would be impossible for a student-athlete to reach 10,000 hours of practice under the direction of a coach. Does this swing the pendulum back toward the importance of talent to have high achievement? I will leave that as a rhetorical question.

Getting back to the synthetic turfgrass issue, there is no question that with our super-wet and cool spring that natural grass fields were difficult to keep in good shape. The athletic department staff wants to maintain the integrity of their fields and provide a great surface for practice. As the fields deteriorate so does the traction. This can lead to more injuries. And the nature of practice is repetition, often in the same location of a field. Repetitive drills on soggy fields can quickly deteriorate field conditions and can ultimately lead to field failure. What is a team to do?

Well, they start thinking about synthetic turfgrass as an option. As I stated a year ago, "There may be one trait or issue that becomes the tipping point in favor of one surface over the other." Our coaching staff had reached that tipping point—our current field situation was limiting their preparation time. Our coach's experience had taught him that preparation gave his team a better chance of winning games. Concurrently, other schools may not have had practices limited by field conditions. So, the solution was to have an all-weather playing surface. A temporary fix was to trek to a local high school that had a synthetic field. But that trek time is also part of countable hours of practice according to NCAA, resulting in less available field time.

The question was then where to put a synthetic surface? Our coach previously had a synthetic stadium field, so why not at NCSU? Well, we are a land grant university (aka an Ag school). This was a big part of the resistance to putting synthetic turf in the stadium. It just did not match the legacy of our University's history.

So, after the resistance, the decision was made to change one of the three natural grass practice fields to synthetic. An indoor practice facility would be an even better solution, but cost prohibitive at this time. Will the stadium ever have synthetic turf? Perhaps one day. But for now we are going to concentrate on preparation and winning and stick with tradition come Saturday. ■

Smart Factory Financing Available*

IT'S NOT JUST THE TOUGHEST COMMERCIAL ZERO-TURN. IT'S THE SMARTEST.

Featuring steering wheel control and four-wheel steering, Cub Cadet's TANK™ SZ commercial zero-turn rider delivers unmatched stability and unbelievable maneuverability on any type of terrain. All with the Cub Cadet Signature Cut™ for beautiful results. Plus, the TANK™ SZ is built with the thickest steel in the industry and comes with a lifetime warranty† on its frame. Giving it backbone to go with brains.

Prove to yourself what makes Cub Cadet the smartest choice. To find a dealer near you for a test drive, visit cubcadet.com.

AMERICAN INGENUITY AT ITS BEST

Cub Cadet

* Subject to credit approval on a Cub Cadet credit card account. Not all customers qualify. Additional terms may apply. Please see your local Cub Cadet retailer for details.
Cub Cadet commercial products are intended for professional use.
† See your local Cub Cadet independent dealer for warranty details.

Kentucky Bluegrass Engineered for Superior Sod Performance & Turf Health

HGT™

healthy grass

TECHNOLOGY

Fast Germination and Aggressive Establishment

Excellent Sod Formation and Sod Sheer Strength

Outstanding Traffic Tolerance and Wear Recovery

Early Spring Green-up/Outstanding Summer Performance

2005 NTEP Trial: Top Category or Best for 16 Traits*

*Data for Barvette HGT

PATENT PENDING

Available in ***TURF BLUE*** *- Premium Bluegrass Blends*

BARENBRUG®

Great in Grass®

www.barusa.com

The Only Supercharged Bermudagrass.

The industry's top-rated bermudagrass varieties have now been supercharged with Yellow Jacket® enhanced seed coating. The result is a supercharged seed that germinates and establishes better while reducing water consumption and establishment costs. Yellow Jacket acts like a sponge around the seed, holding water and nutrients for the seed to draw on as needed for germination.

The Yellow Jacket® Advantage

- Provides moisture during seed germination
- Improves rooting and establishment
- Absorbs and releases nutrients to seedlings
- Improves handling of small seed
- Increases drought tolerance

ZEBA COATING TECHNOLOGY

Exclusively From

BARENBRUG®

Great in Grass®

www.barusa.com