

the drainage into one of our infields and what a difference that made for us.

The price is a little bit more than the traditional drainage. However, I believe it is well worth it. Once they are done it does take some time for the grass to grow back over the lines. The problem that I am having right now is trying to get my overseed to pop. What we did was get some dormant 419 and put it into the lines so that the seed had a base to grow out of and the dormant sod allowed some water to stay for the seed. I would highly recommend it to any sports turf professional.

THOMAS MARKS, HEAD GROUNDSKEEPER, New Orleans Zephyrs

Zephyr Field was built in 1997 by a general contractor who installed round, perforated pipe with 4-inch collector lines and 6 and 8-inch mains to carry the water off as the main drainage collection system. Our staff had to physically move water around

in the grass areas to try and play games after our traditional afternoon thunderstorms.

When a total field renovation was necessary 10 seasons later, sections of that pipe were found to have been absolutely crushed. The manufacturer's specs had not been followed and not enough fill had been put on top of the pipe; you tell what kind of vehicles had been over it because the tire tracks were on the old pipe!

I researched drainage products and called my fellow groundskeepers for advice, and eventually decided on flat pipe. Rich Moffitt from St. Louis rebuilt the field and he also recommended the flat pipe system.

To me the biggest key to this choice was the infiltration rate since it rains somewhere in New Orleans nearly every day. I often get 3-4 inches of rain in an hour on the field. For example, one August day at 3:00 pm an afternoon thunderstorm moved over the ballpark. By 3:30 pm the only things visible on the field were the infield and bullpen tarps. By 3:45 pm the stadium had received



3.17 inches of rain. With help of our front office staff to dump the tarp, we were playing by 7:30 pm.

The 12-inch lines on 15-foot centers are able to dewater the surface fast enough for our team to play. They removed 17,000 feet of 4-inch drain and installed 12-inch flat pipe due to the liner that was 12 inches below the playing surface.

The field began being ripped up in January, new sod was laid the first week of March, and after fertilizing and aerifying, the turf was ready for play by March 30. ■

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Putting the pixels together in turfgrass management

Editor's note: This article was written by an employee of TurfScout



Photo courtesy of TurfScout®

Wilbur Wright pioneered the art of aerial photography shortly after the first airplane flight. What began as a fascination with capturing events, landscapes and architecture paved the way for the science of satellite imaging and remote sensing. Simply put, remote sensing is the act of measuring characteristics of an object without coming into contact with that object. In turfgrass, characteristics measured with remote sensing can be a tremendous asset for: stress detection, monitoring recovery, precision turf management, and irrigation efficiency, to name just a few.

The old adage, "A picture is worth a thousand words," falls short here; remote sensing on turfgrass "Speaks volumes."

How can a camera or sensor measure turf quality and more importantly, how can it "see" what turfgrass managers can't? The amount of light reflected from a surface tells us something about that surface. As different environmental conditions affect a turfgrass (water stress, nutrient deficiency or disease, for example), rapid and predictable changes occur at the cellular level that impact how the plant tissue reflects light. In turf, (and most plants), red and blue light are absorbed for photosynthesis. Healthy turf will absorb more red and blue light than unhealthy turf. In near-infrared wavelengths, healthy turf is highly reflective

and would appear very "bright" to the human eye, if we could see in that region of the light spectrum. In other words, a *decrease* in near-infrared reflectance signals stress while an *increase* signals recovery or improvement in turf quality. This technology has recently garnered the attention of the turfgrass community, but the science behind the sensor dates back to 1950s and has been extensively researched in the agricultural community since the early 1970s.

Over the last decade, the research community has investigated the role of remote sensing in turfgrass. A driving force behind the research has been the ever present demand for a more efficient, conservation-conscious and resource-savvy approach to managing turfgrass. Research shows visible and near-infrared reflectance is sensitive to water stress, nutrient deficiency, disease pressure, and mowing height, for example. As mobile sensors that are easily mounted on mowers or carts are coming to market, the transition from cutting edge technological developments to practical turfgrass solutions has become a reality.

TurfScout is already delivering remote sensing to the turfgrass industry. The company processes raw light reflectance and GPS data to create maps and charts of turf quality designed to help turf managers improve quality, prevent problems and save money. The set-up is nearly

How refueling propane-powered equipment works

MORE THAN TWO DOZEN MODELS of propane-fueled commercial lawn mowers are available from brands well known to sports turf managers. Propane-fueled mowers reduce greenhouse gas emissions by almost 50% and carbon monoxide emissions by more than 80% compared with gasoline mowers.

Refueling is easy thanks to a proven model adopted from another market: the forklift industry. This mature business model applies the exact same methodology to the propane-fueled commercial mower market. Propane providers replace empty cylinders with full counterparts through a just-in-time inventory schedule that meets a sports turf manager's needs, ensuring that a propane mower fleet will never have too much or not enough fuel on hand.

Cylinder exchange programs usually include installation of a storage cage in a centrally located spot that is easily accessible to personnel. When a mower cylinder is empty, appropriately trained personnel can access the cage and refuel their mower in a matter of minutes by removing the empty cylinder and installing a full replacement from the cage, using all relevant safety measures and personal protective equipment.

In addition to on-site refueling, there are currently thousands of propane refueling stations across the country with locations in every state.

For fleets that require a large propane volume, a propane provider can install a no-spill dispenser on-site that turf managers can use to refuel empty mower cylinders, as well as tanks for vehicles fueled by propane autogas. Depending on storage necessity, longevity, and available space, this on-site refueling infrastructure includes underground or above ground storage tanks for longer-term use. After installing the dispenser, propane providers facilitate training on how to safely refill both propane cylinders and propane autogas vehicles.

In addition to on-site refueling, there are currently thousands of propane refueling stations across the country with locations in every state. To learn more about propane-fueled commercial lawn mowers, vehicles fueled by propane autogas, and available refueling options, visit www.poweredbypropane.org. -*Brian Feehan, VP, Propane Education & Research Council* ■



>> PROPANE CYLINDERS are typically installed horizontally on a mower, and are either located in the mower's rear, or on the sides, as shown here.



turnkey, and making maps is as easy as downloading photos from your digital camera. Our team has automated the science of making "Smart Maps and Charts." Smart Maps and Charts of turf quality are available almost immediately from our website. Without being an expert in mapping or remote sensing technology, the turfgrass manager or consultant can now use objective measurements of turf quality, and the "big picture" view of Smart Maps, to refine inputs, such as water, nutrients and pesticides, evaluate turfgrass response and recovery, streamline resources and labor, and take action before a problem has taken the turf.

Ongoing turf breeding research at the University of Georgia's Tifton campus has been geared toward the identification of more stress tolerant grasses for the future. "Preliminary results of a 48-day drought study during 2010 indicate that spectral reflectance data collected by TurfScout correlate very well with traditional visual ratings of turfgrass quality, as well as with newer methods of estimated % green cover using digital image analysis," says Brian Schwartz, PhD. Schwartz says the only difference between these techniques to date has been that spectral reflectance data is predicting the visual assessments by about 3 days. For Schwartz's turfgrass breeding program, this means that he can effectively identify drought tolerant genotypes in the field using quantitative data taken by workers without years of training and experience with visual ratings. For the turfgrass manager, it could allow the detection of stressed areas well in advance of visual symptoms, thereby giving them a chance to apply treatments before anyone else ever knew there was a problem.

You also can track and manage disease control and nutrient management with Smart Maps. How effective is your program? Did a particular product prevent otherwise inevitable stress? Or did the product speed recovery time? Dave Spak, PhD, with Bayer Environmental Science is currently using reflectance data as a component of their Plant Health Initiative. Spak says, "Measuring plant health through radiometry has become a routine evaluation in many of our product programs, particularly our fungicide program. Although we still rely on human element and visual evaluations, this technology takes the subjectivity out of quality evaluations. Also, the technology has the ability to detect plant stresses that may not be visible to the naked eye.

Lastly, use of GPS and TurfScout allows us to rapidly process and manage the huge volumes of data which was a major hurdle in the adoption process. As we are still learning how to use this tool, we expect the innovation in the area of remote sensing in plant research will continue to evolve."

In another example, Harsco Minerals, manufacturer of specialty micronutrient fertilizer Excellerator, decided to look at this technology in conjunction with TurfScout as a way to capture reflectance as an indirect indicator of turf quality following Excellerator applications to three golf course greens. "We were happy to find that the reflectance data revealed clear areas of turf response to Excellerator-

treated areas compared to areas on the same green not receiving treatment. We were able to see the hidden beneficial effects on turfgrass such as significant improvement in root growth. We also saw enhanced turf health from Excellerator applications that may go unnoticed by the naked eye," says Marty Campfield, global product manager. "Having been involved with GPS and GIS for many years, it seems clear that the marriage of these technologies has created an innovative approach to capturing on-the-go reflectance data."

Because sensors can be mounted on a mower or cart, mapping may be integrated into routine operations and Smart Maps available in minutes. The application of this

kind of approach spans both research and golf course management. Bruce Martin, Ph.D. at Clemson University is currently using Smart Maps and Charts to support his research program and evaluate turfgrass management strategies. "TurfScout has created a very convenient way to couple objective reflectance data, such as NDVI and RVI measurements [both are near-infrared and red reflectance indices], with precision GPS to create maps, manage data and provide a near real-time evaluation of experiments in progress. I think the data and their programs for data management enhance and help to validate our more subjective ratings. Both are needed, along with 'ground-truth' measurements and examinations of stressed turf to provide a good evaluation of turf management strategies," says Martin. ■

Dana Sullivan, Ph.D. has more than 10 years experience in precision agriculture and remotely sensed data analysis.

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www.toro.com



Turfco improves T3000 spreader and sprayer applicator

Turfco introduces a series of upgrades to its T3000 applicators. The T3000 maintains the overall compact design that can fit through a 36-inch gate while still offering 6- and 9-foot wide spreading widths. Operators will enjoy the optional electric start. A 16-amp charging system provides turf professionals with greater versatility in mounting accessories. Cruise control helps maintain speed while freeing operators' hands to control spreading and spraying. A new variable speed diaphragm pump features Viton® valves for extended life and minimized maintenance. The T3000's unique, adjustable, high-pressure, high-velocity systems creates larger droplets with less drift and fewer callbacks. An improved spinner design is longer lasting and easier to maintain.

www.turfcodirect.com



Sprayers from John Deere

The HD200 and HD300 models offer a choice of centrifugal or diaphragm pumps, manual or automatic rate controls, and boom options that come standard with an electro-hydraulic lift. No tools are needed for tank removal, and storage stands allow the operator to get more out of the vehicle, even while not spraying. The optional CleanLoad chemical agitator makes it easy to load chemicals by ensuring that every last drop is used, and a jet agitator makes sure the tank solution is mixed thoroughly. Controls are mounted at the operator's fingertips and can be removed without tools for storage. Durable 11-gauge booms feature bi-directional breakaway to protect the boom. And, a common wiring harness makes control system changes a breeze.

www.johndeere.com



LT Rich Products' Z-Max sprayer

Z-Max sprayers cover up to 200,000 square feet of liquid application per fill and hold more than 320 lbs of granular product. Powered by a 16-hp Vanguard electric start using Hydro-Gear Pump and Parker Wheel Motors, this unit can cover even the largest of properties. With a 4.0 gpm pump this unit can create constant by-pass agitation and able to spray wettable powder products. Give yourself more security with the Locking Caster System for more side hill stability, 2, 6, 8 or 10-foot spray width options, 50-foot Cox hose reel to reach those hard to get areas and the ability to interchange the nozzle tips.

www.z-spray.com



Field Commander is versatile

The Field Commander by Kromer is available in five different configurations to meet the needs of today's athletic field maintenance managers. The Field Commander can be equipped with a large capacity 65 gallon tank with an integral fresh water rinse tank. The Kromer easy fill system pumps liquids from a storage container directly into the tank so no more lifting. You can configure your Field Commander with four sizes of spray booms reaching up to a maximum of 163 inches. In addition there are multipurpose spray guns located on the tank that will give you 25 feet of spraying range.

www.kromerco.com



TurfEx releases new electric-powered sprayer attachment for ZT mowers

The new US250 sprayer from TurfEx features a universal mount that allows it to attach to the front of most available zero-turn mowers. This unique mounting system stays within the mower's footprint, unlike competitive tow-behind units. Furthermore, the US250 is completely electric powered, meaning there are no engines or hydraulics to maintain. Driven by a 12-volt electric motor, the sprayer draws its power from the mower's battery. The pump is rated at 2 gallons per minute at 60 psi, and the corrosion-resistant polyethylene tank holds up to 25 gallons. To apply liquid, the US250 features an adjustable spray wand, which is attached to 25 feet of hose. This makes the unit ideal for many turf care applications, including weed spraying, tree and flower watering, and pest control.

www.trynexusfactory.com



New sprayer from EarthWay

EarthWay's new S25 Spray-PRO Mark III push sprayer is designed for spraying ice control products, pesticides, herbicides, and fertilizers. The Mark III has an all-new adjustable spray system that makes sidewalks and parking lots easy to manage, as well as the ability to apply precise amounts of liquid. Use it on any area that your boom sprayer will not go. No gas, no batteries, no problem.

www.earthway.com

Gravelly Turf Stadium 80

Gravelly offers the Stadium 80 sprayer, part of the Gravelly Turf line, to its ever growing line of turf machinery. The compact design of the Stadium 80 has an 80-gallon, low profile tank designed for maximum visibility. A lockable spill tank lid with anti-siphon fill and low center of gravity helps prevent chemical spills. Available with an engine-driven Silver Series™ roller or 12-volt electric diaphragm pump, the Stadium 80 also features a spray gun, 25-foot hose and a low-maintenance, 10-foot, three-way folding boom with electric on and off controls.

www.ariens.com

Jacobsen's new riding greens mower

Jacobsen has introduced its GP400 ride-on triplex greens mower. Replacing the G-Plex III, the GP400 retains many of the features of its predecessor including a swing-out center reel for easy maintenance and adjustment and the cutting units with 7, 9 or 11-blade reels. There's a choice of engines; a Briggs and Stratton V twin, air cooled gas engine, or a Kubota 3 cylinder diesel engine. A new tank design incorporates the fuel and hydraulic reservoirs in a single molded unit providing better weight distribution and improved stability. As the fuel tank empties it has less effect on the machine's centre of gravity and a sump in the bottom alleviates fuel starvation on slopes.

www.jacobsen.com

Husqvarna sprayers

The BP5 backpack sprayer's standard features include: high grade Viton/Nytril O-rings, seals and gaskets, pistol grip with built-in filter, brass wands, and extra long hoses. All sprayers come with a CD-ROM that covers all aspects of field maintenance to reduce downtime. Heavy-duty blow-molded tanks with UV inhibitors are ergonomically designed for comfort - with adjustable, heavily padded shoulder straps that follow the contours of the body and eliminate stress points. With no exposed parts, the internal piston pump is protected for the rigors of everyday use but, is easily repaired. Spraying pressures from 15 to 168 psi, tank holds 5.3 gallons and has a brass wand.

www.husqvarna.com



Better infield skin moisture control

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deep into your skinned infield. Annual reconditioning with smaller amounts of product will be needed to maintain optimal results.

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www.readyplaysports.com

A large advertisement for the Buffalo Turbine Cyclone KB4 track blower. The top half features the product name "CYCLONE KB4" in large, bold, red letters, with the slogan "Engineered to Perform. Built to Last!" in a script font below it. The background shows the blower in action on a track, blowing a large pile of orange and yellow leaves. The bottom half of the ad contains logos for NHRA (Official Sponsor) and PGA (Official Licensed Product), along with the Buffalo Turbine logo. Contact information is provided: www.buffaloturbine.com, Ph: 716.592.2700 / Fax: 716.592.2460. A note states: "All Buffalo Turbine products are manufactured in the U.S.A. and feature a one year warranty."



Allen overcomes drainage issues, wins College Softball award

MICHIGAN STATE TURF GRADUATE KARI ALLEN, CSFM, working with just a seasonal crew, won two 2010 Sports Turf Managers Association Field of the Year Awards, one for her work on the Village of Lisle (IL) Sports Complex at Benedictine University softball field and another for the baseball field. This month we highlight her winning the College Softball award.

Benedictine University, in a suburb 25 miles west of downtown Chicago, is a Catholic university in the Benedictine tradition that offers 19 athletic programs and competes in the Northern Athletics Conference in Division III. Their softball field (Kentucky bluegrass, perennial ryegrass and annual bluegrass) was built in 2004, has never been renovated, and sees about 850 hours of action a year. Allen reports she overseeds selected areas with both 100% perennial ryegrass and a 70/30 Kentucky bluegrass/perennial rye mix. The soil is native loam with no sand.

“Within the sports complex I am responsible for 28 acres in addition to the softball field,” Allen said in her award entry. “This includes three other grass fields, one synthetic field, and seven common landscaped and grass areas. Outside the complex I am

responsible for laying out and painting whatever type of field necessary on an open area which is rented out. I also have to help lay-out and paint logos when needed around campus.”

DRAINAGE CHALLENGES

“The greatest challenge I face on the softball field is drainage. Games are commonly played with kids sloshing around on a wet outfield. There is no subsurface drainage system, and the field was not properly graded during construction. There are areas of the field where the grade noticeably allows for water to run toward the skin rather than away from it.

“The skinned area, however, is graded for excellent positive runoff. The incorrect slope, along with high and low areas, is so vast, the only way to really fix it would be a total renovation. With that option being out of the question, I find other, inexpensive ways to deal with the inconsistent runoff and outfield drainage.

“We had the field DryJected a couple of years ago and I did notice some improvement from that. That is also when I began topdressing areas that hold water with calcined clay, several



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*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.

"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."

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times throughout the year. I have noticed that these areas are more playable after a rain event than they were before implementing this strategy.

“While more expensive per ton than sand, my ordering calcined clay doesn’t raise an eyebrow. Furthermore, I know we would not be able to make the commitment necessary to begin a sand topdressing program on this field, and would likely add to the problem at hand with potential layering issues.

“I also try to combat drainage issues by at least swinging by the softball field and hitting the trouble areas whenever I have the aerator hooked up for any other reason. I am unable to aerate as aggressively as I would like throughout the year due to field use and access to equipment, but I try to make up for it come fall. I also try to stick with the light and frequent irrigation philosophy so that water doesn’t end up running from higher areas to lower areas. If need be, I hand water an area as well.”

“This softball field gets a high amount of use. After the college season, there are generally two youth baseball or softball games played each weeknight, and a tournament every weekend, consisting of approximately 14-15 games plus a skills competition.

“Depending on the level of play, bases can be set at 60, 65 or 70 feet, and the mound is moved anywhere from 35 feet to 50 feet. For this reason, the wear tends to be spread, and we can usually stay on top of repairing it before a hole gets made. Wear is spread in the outfield as well, and tends to not become noticeable. We have kids stand on the warning track when swinging bats and hitting wiffle balls before games and try to get them to move off the foul line to play catch as well.

“Another challenge is the small amount of manpower available. To combat this, I use time-saving measures whenever I can. For example, I spray pre-emergent herbicides on the warning tracks because there tends to be annual bluegrass and some crabgrass that pop up there.”

Allen works for Sodexo, which manages 35 college facilities throughout the country; the company’s team at Benedictine also includes Peter Charcut, who has more than 35 years grounds experience.

SportsTurf: What changes are you planning to make to your maintenance plan for 2011, if any?

Monthly maintenance plan

March

- ✓ Spray herbicide (pendimethalin) on warning track only for preventative control of annual bluegrass and crabgrass

April

- ✓ Aerate with 5/8-inch solid tines
- ✓ Fertilize with ammonium sulfate 0.5 lb. N/M
- ✓ Take and submit soil samples for testing
- ✓ Mow 3x/week
- ✓ Spray herbicide on warning track only for control/preventative control of broadleaf weeds

May

- ✓ Fertilize with 25-5-15 0.5 lb. N/M
- ✓ Spot topdress with calcined clay
- ✓ Mow 3x/week
- ✓ Spray herbicide (glyphosate) along outfield fence on warning track as needed

June

- ✓ Fertilize with 25-5-15 0.5 lb. N/M
- ✓ Spot overseed areas

showing wear and areas prone to wear

- ✓ Mow 2-3x/week

July

- ✓ Aerate with solid tines
- ✓ Fertilize with 25-5-15 0.5 lb. N/M
- ✓ Spot overseed areas showing wear and areas prone to wear
- ✓ Spot topdress with calcined clay
- ✓ Mow 2-3x/week
- ✓ Spray herbicide (glyphosate) along outfield fence on warning track as needed
- ✓ Add warning track material as needed

August

- ✓ Fertilize with 18-3-18 0.5 lb. N/M
- ✓ Mow 2x/week
- ✓ Spray fungicide (curative application)

September

- ✓ Aerate entire field in two directions with solid tines
- ✓ Fertilize with 18-3-18 1.0 lb. N/M

- ✓ Spot overseed areas showing wear and areas prone to wear

- ✓ Spot topdress with calcined clay
- ✓ Mow 2x/week
- ✓ Spray herbicide (glyphosate) along outfield fence on warning track as needed

October

- ✓ Re-sod badly worn areas
- ✓ Aerate entire field in two directions with hollow tines & remove cores
- ✓ Fertilize with 18-3-18 0.5 lb. N/M
- ✓ Spot topdress with calcined clay
- ✓ Mow 2x/week
- ✓ Edge entire infield
- ✓ Have skin re-graded
- ✓ Add warning track material where needed

November

- ✓ Fertilize with 15-0-30 1.0 lb. N/M (dormant fertility application)
- ✓ Spray fungicide on entire field for snow mold prevention





Allen: I'm kicking around the idea of using some vitrified clay on the skin to aid in moisture management this year. There are pros and cons to that in my situation here, but I think the pros may outweigh the cons. I actually made several changes to my maintenance plan for 2010, and hope to continue the implementation of those practices this season.

The main tasks I am speaking of are increased aerification, spot topdressing troublesome areas with calcined clay, and seed banking in common wear areas. One change I will be making is delegating all responsibility for carrying those 50-pound bags to my young, strong student workers, and having my boss, Peter Charcut, make all chemical applications. No, I have neither gotten lazy nor acquired a larger crew—if all continues to go well, my husband, Jay, and I will be having a baby in September!

ST: What's the best piece of turf management advice you have ever received?

Allen: As my greatest sports turf mentor, Raechal Volkening has given me tons of useful advice, whether she's realized it or not. One thing she stressed to me 10 years ago, when she was more confident in my ability to be a head groundskeeper than I was, is "If you're faced with a situation you've never dealt with before, pick up the phone. Chances are, a fellow STMA member has been there, or knows someone who has conquered the challenge you're experiencing."

An equally effective piece of advice that I now think of often is, "Remember, it's just grass. In the grand scheme of life, it's just grass. It isn't really, but it is." I can't remember exactly who told me that, although a couple people are coming to mind. We can so easily and unintentionally make our fields the first priority in our lives, or get worked up over details that are out of our control, especially for those at high profile facilities. While there are very important aspects to our jobs, we need to make a conscious effort to keep our priorities straight.

ST: Speaking of which, how do you balance your work and personal time?

Allen: Work/life balance is not a big issue for me in my current position. I punch a clock and work a standard 40-hour week. The weekly daytime hours are when the fields are experiencing the least amount of use and I am able to perform necessary maintenance. Student workers are scheduled to cover the evening and weekend events.

Having said that, I do understand that many turf managers are working 80-100+ hrs per week in season. I've been there and am very fortunate to have a husband who, in addition to helping out around the house, is a sports fan and sometimes comes to the ballpark to hang out with me during games. I used to bring my dogs to work too, where they got lots of attention and playtime (and had the job of chasing seagulls off the field). Whether you're working 30 or 130 hours a week, I've found that it's very necessary to take your vacations and holidays and spend time with your family away from it all. Make sure the people you value know they're a priority in your life.

ST: What's your most valued piece of equipment and why?

Allen: I would have to say my mower is my most valued piece of equipment. I'm tempted to say the aerator, but people aren't going to complain to me if the field's not aerated. The grass on our softball field grows the most consistently throughout the season, compared with our other fields. The soil is a native loam and holds nutrients better than our sand-based baseball field, and the soil's not nearly as compacted as that on our practice fields. If I didn't have the other pieces of equipment we use regularly on this field, I could get by. I don't know what I would do without our mower, though. Even though they're not pieces of equipment, I also value my student labor tremendously. I would not be able to produce a quality surface without them.

ST: Are you yet involved in "sustainable" management practices? If so, what are you doing?

Allen: I do not use any of the latest technology/equipment that is available, or methods that would require any sort of renovation to implement. However, I believe responsible turf managers have been practicing "sustainable" management at least as long as I've been in the business, longer I assume.

First and foremost, we implement good cultural practices to keep the turf as full and healthy as possible, which also limits pest infestation. We build a fertility program based on soil test results and plant needs, rather than blindly applying fertilizer. We irrigate based on turf needs and the weather forecast, particularly considering evapotranspiration rates, which means there are weeks I'm adjusting irrigation run times almost daily. Integrated Pest Management is a form of sustainable management. We identify pests and make more spot treatments than blanket applications of pesticides. We scout for insects; I have found a few grubs but not in quantities meeting thresholds to require insecticides, so I have not treated for grubs.

Sometimes we use a backpack sprayer with herbicide to spot-treat weeds, and I'll also mix herbicide in a spray bottle to carry with me on the mower and hit weeds when I see them. Our fungicide applications are more curative than preventative, and we always use the lowest rate that will work in our situation. We monitor weather conditions and make applications accordingly, insuring the greatest efficacy, and limiting things such as leaching, runoff, and volatilization. I do not believe 100% "organic" for example, is the way to achieve sustainability. Rather, educated and responsible turf managers can be counted on to be environmental stewards. ■

Kudos to Committees!

THE 2011 STMA COMMITTEES have been appointed and are beginning their work. Thank you to everyone who volunteered. STMA relies on committees to serve as the “pulse” of the membership and help to guide the development of programs and services to achieve the association’s strategic plan.

The STMA Strategic Plan is in its final year, all of our strategic platforms are well advanced, and its objectives are nearly complete or are ongoing. These accomplishments are truly amazing; and it is directly attributable to the outstanding work of STMA’s committees and task groups.

STMA made significant progress on all six of its strategic platforms. These platforms include:

1. Enhance Members’ Value to Employers;
2. Position Members as the Authority on Sports Field Management;
3. Use Chapters to Serve Members;
4. Leverage Synergistic Partnerships;
5. Make the Conference the “Must Attend” Event for the Industry; and
6. Become a Model for a Well-Governed Association.

The plan and its progress are more than 15 pages in length. Overall, the plan’s objectives focused on continuing education opportunities for our members, outreach to other organizations, groups and individuals that can help STMA and its members gain influence, and major governance changes.

In the area of education, STMA has brought dozens of educational bulletins and best management practices (BMPs) to the membership, a webcast, podcast, online courses and DVDs. The conference education program has been expanded and all are audio taped, and STMA now holds a regional conference each summer. One re-

sult: our certification program has more than doubled in numbers of members who have earned the CSFM designation.

Our outreach to other organizations, groups and individuals continues to grow. We established collaborative relationships with the National Recreation and Park Association (NRPA); USA Football, the Canadian Sports Turf Association (STA); the Institute of Groundsmanship (IOG) in the UK; Collegiate Event and Facility Managers Association (CEFMA); the American Sports Builders Association (ASBA); and many others. In addition, many other green industry organizations recognize STMA’s education programs and award CEUs to their members for attending our education programs.

STMA also became a co-sponsor of the ASBA certification program for field builders and a sponsor of the 2nd edition of *Sports Fields: Design, Construction and Maintenance*. The development and implementation of the Playing Conditions Index (PCI) [see p. 24] has allowed STMA members to validate the resources necessary to manage fields for safety and communicate specific information to employers on the playability of fields that are assessed using the PCI. The chapter network grew by seven chapters bringing it to a strong 33.

In the area of governance, STMA has structured a formal committee process and engaged hundreds of volunteers. The Governance Task Group spent nearly 2 years researching, developing and implementing a new governance system for STMA, which required major bylaws changes. This system defined the ascension process to the Presidency, combined the Secretary and Treasurer positions, added two new Director positions, and allowed the immediate past president to vote in board meetings. These changes were strongly supported by the member-

ship, who voted in favor of them in 2008 for implementation in 2009.

More than 20 committees and task groups have been focused on helping STMA achieve its strategic plan. Noted below is the list of the 2011 committee chairs who will take STMA through its final year of the plan. The STMA Board of Directors will be conducting a Strategic Planning session at its summer meeting with a professional facilitator to create a new plan for 2012 and beyond. ■

2011 STMA Committees and Chairs

- Awards** - Allen Johnson, CSFM
- Bylaws** - Mike Trigg, CSFM
- Certification** - Ron Hostick, CSFM
- Chapter Relations** - Co-Chairs Amy Fouty, CSFM and David Pinsonneault, CSFM, CPRP
- Conference** - Mike Goatley, Ph.D.
- Conference Education** - Pam Sherratt
- Conference Tours** - Jeff Salmond, CSFM
- Conference Exhibition** - Co-Chairs Chad Price, CSFM and Rene Asprien
- Editorial** - Jay Warnick, CSFM
- Environmental** - Kevin Trotta, CSFM
- Ethics** - Ken Mrock
- Finance & Audit** - Martin Kaufman, CSFM
- Historical** - John Mascaro
- Information Outreach** - Darian Daily
- International** - Abby McNeal, CSFM
- Membership** - Jody Gill, CSFM
- Commercial Membership** - Rene Asprien
- Nominating** - Chris Calcaterra, M.Ed., CSFM, CPRP
- Past President’s Advisory Council** - Chris Calcaterra, M.Ed., CSFM, CPRP
- Scholarship** - Mike Tarantino
- Student Challenge** - Raechal Volkening, CSFM
- Technical Standards** - Beth Gertal, Ph.D.
- Website** - Jeff Fowler

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