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SPORTSFIELD AND FACILITIES MANAGEMENT

December 2014

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December 2014 | Volume 30 | Number 12

On the cover:
Weston Appelfeller is director of grounds for the Columbus Crew professional soccer club, Columbus, OH. Appelfeller wrote in his STMA Field of the Year application, "This award would provide the staff with an understanding that no matter the circumstances they are faced with, they are the reason this facility is great. It's not about the leadership; it's about the people who do the work that make athletic fields what they are."

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From the Sidelines

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Using STMA's Playing Condition Index tool

Developed to assess the playability of fields, the Playing Condition Index (PCI) from the Sports Turf Managers Association provides a snapshot of that playability at a specific point in time. The continued use of the assessment tool provides invaluable information to the sports turf manager and can help guide field management practices, assist with communication to user groups, can help to substantiate the need for more resources, and as needed provides a way to provide information to the media relations department.

The PCI is in a worksheet form that allows you to allot points for each question and then total the points, and the program is required for those entering their fields in STMA's Field of the Year Award program.

I asked two recent Field of the Year winners to share their experiences working with the PCI. Here's what Noel Harryman, manager of turf operations for the City of Glendale (CO), and Casey Griffin, director of field operations, Albuquerque (NM) Isotopes, had to say:

In your experience, what have been the most notable benefits to your using the PCI tool?

Harryman: "The biggest benefit for us is that the PCI tool gives us a gauge to measure things by. We also try and take pictures frequently to give us a frame of reference. It is really easy to say this is the worst I have ever seen the playing surface. By documenting your work you can show your crew we can make it through this and this is how we did it in the past."

Griffin: "To me, this is a great self evaluation tool that allows you to synopsize your year regarding the playing conditions, where you can look back on it and say this how we did it, this is what we saw and this is what I think we should do in the future."

Have you shared PCI results with others in your organization, e.g., media relations, budget decision makers, etc., and if so, what was your purpose? Have you seen tangible results from doing so?

Griffin: "I share these results with some of my crew members (assistants and interns). It is just another way to get everyone on the same page and present something that allows us to see change on our field and get us thinking on how we remedy those changes if necessary."

Harryman: "I have shared our results with others in our organization. The results that I have seen is a better understand or realization that there is a lot of science and professionalism that goes into being a turf manager. The PCI has also benefited me in giving visual on the impact of certain events and scheduling that occurs."

Do you have any recommendations for turf managers who are considering starting to use the PCI that might help them find it most useful?

Harryman: "The advice that I would give them is to use it frequently to give you the best data and be honest with yourself."

Griffin: "It is a tangible tool that has limitless benefits if used properly. More than anything, I think it can help turf managers by showing how important documentation can be when working on a particular field." ■

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On the list

Christmas will be here in a few weeks, and one cannot help but think of lists. Many of us make lists for certain things to help keep us focused, keep us organized and to inspect our work. This time of year it is always good to make a list of the things you accomplished, a list of the things you did not get to, a list of future projects, and a list of what resources you will need for 2015. Gaining respect, being recognized as a professional, and garnering resources are always easier if you have a list of facts to present to your decision makers.

This season we can also reflect on a more personal note as we all need to assess the past year and determine if we are on the nice or the naughty list. Hopefully by providing safe playable fields, acting in a professional and courteous manner, being active in STMA, and giving it your all puts you on the nice list. We also need to think of the things over the past year that may have qualified us for the naughty list. Did you spend time with your interns or take them for granted and not take the time to teach them? Did you spend time with your employees or did you skip over them and not listen to their input about how the work is going or not listen to their ideas and suggestions? Did you say no to a user group just because? We can all use these examples as learning moments to help us be the go-to professionals we are meant to be so that our user groups and supervisors will keep us on their nice list.

This is also a season of giving and receiving gifts and developing a wish list. Are the gifts we receive on the wish list or are they on the "I did not want that gift" list? We should develop a wish list for more employees, more supplies, better equipment, proper training, networking opportunities, more recognition and more support. If we have done our job we can positon ourselves to achieve and obtain some of the things on our wish list. Some things we may not want or wish for are snow the day before a big game, an irrigation system going off during a game, white grubs, ineffective employees and overuse to name a few (to see what some peers want for Christmas, see page 38). STMA is a resource (gift) that can help to provide information, support, networking and resources to help you do your job. Hopefully you can attend the upcoming conference in Denver and use ideas and face time to help develop and implement your wish lists. Hope to see you there! I wish each of you and your families a Merry Christmas and a safe and happy Holiday Season. ■

▶ The authors evaluating plot establishment early in the study.

Winter overseeded vs. colorant-treated bermudagrass under water restrictions

From the transition zone southward, bermudagrass has become the Cadillac of warm-season turfgrass athletic fields. When provided ideal growing conditions and proper maintenance, bermudagrass offers wear tolerance and recuperative ability that is difficult to match. However, once the colder temperatures and shorter days of fall set in, growth slows and bermudagrass enters a dormancy period, often lasting 4 to 6 months, depending on the location. It is during these late fall and winter months that the cumulative effects of wear can become problematic. Whether for football, soccer, or baseball, turf managers are continually confronted with the challenge of maintaining safe, yet aesthetically desirable playing surfaces for much if not all of the year. Winter overseeding has long been one means of achieving this goal for many transition zone and southern turf managers.

Athletic field managers commonly elect to overseed with perennial or turf-type annual ryegrass due to their rapid germination, desirable color, and wear tolerance, which ultimately provides good physical protection to the underlying dormant bermudagrass. However, while these grasses can provide excellent quality and function during fall and winter, achieving good spring transition back to bermudagrass can sometimes be a challenge. This is often the case during years when persistently cool, wet, and/or cloudy spring conditions prevail. For perennial ryegrass, selective products such as the sulfonylurea class of herbicides have become an effective tool for assisting the turf manager in producing a timelier, consistent, and reliable transition back to bermudagrass year after year. It should be noted that herbicides are generally less of an option for aiding transition of annual ryegrasses due to their lack of sensitivity to sulfonylurea herbicides.

Given concerns with budget cuts and municipal irrigation water restrictions imposed in many areas of the southern US in recent years, some turf managers are finding it increasingly difficult to justify the practice of overseeding, while giving increased consideration to use of colorants during the dormancy period. Although a municipality may allow an irrigation variance during establishment, irrigating every 7 or even 14 days through the fall and winter might not be adequate for maintaining desired levels of density and growth due to excessive play or limited rainfall in many regions. Yet when not overseeded, months of wear and traffic on dormant bermudagrass can become particularly detrimental. The primary objectives of this study were to 1) evaluate and compare winter performance of overseeded perennial and turf-type annual ryegrass blends under limited irrigation and traffic, and 2) evaluate the benefit of fall colorant-treatment to bermudagrass and compare effects to overseeded or dormant turf.

METHODOLOGY

This study was conducted at the Texas A&M University Turfgrass Research Field Laboratory, College Station, from October 2013 through May 2014 on a stand of Tifway bermudagrass grown on a fine sandy

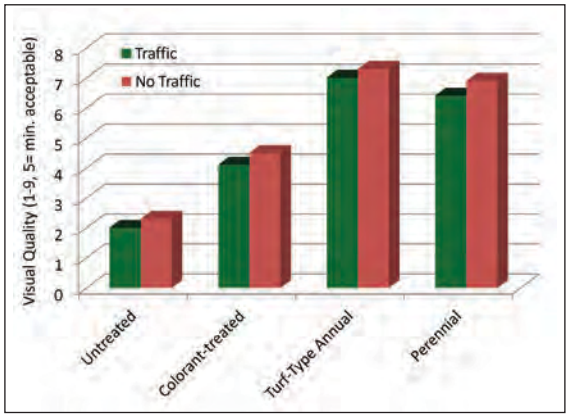
loam soil. Studies were conducted under two different irrigation levels which were intended to simulate various stages of municipal water restrictions. One study received a single (0.8") weekly irrigation and the other received no supplemental irrigation (rainfall only, with 8.6" of rain received over the November- May period). Overseeding was performed in early October with either perennial ryegrass (Futura blend, Pickseed, USA) or turf type annual ryegrass (Panterra SOS 400, Barenbrug USA) at a rate of 10 lbs. per 1000 sq. ft. Non-overseeded plots were either left untreated, or treated with a single early November application of turf colorant (Greenlawnger, Becker Underwood) just before dormancy (~50% green cover remaining in plots) at a rate of 7.5 gallons product per acre. Colorant was diluted to a ratio of 1 gallon Greenlawnger per 8 gallons water before application and applied using 8004VS flat fan nozzles. During the study, simulated traffic was applied to half of each plot using a Cady traffic unit at a rate of 4 passes per week, intended to simulate two football games between the hash marks from 40 yard line to 40 yard line. Overseeded plots were mowed to 1.25" weekly during the study with clippings returned. Monthly during the study, ratings were taken in plots. Data collected included turf quality and cover, percent wear, surface hardness, soil moisture, and spring bermudagrass transition differences in plots.

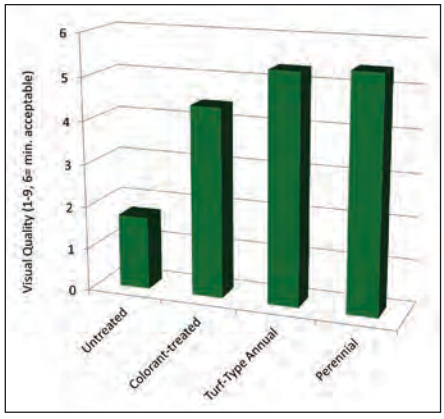
COMPARATIVE PERFORMANCE OF PERENNIAL VS. TURF-TYPE ANNUAL RYEGRASS

Of particular interest in this study was the comparative performance and quality of perennial ryegrass and turf-type annual ryegrass, especially under the context of limited irrigation and traffic stress. Our data indicate that the two offered similar levels of quality from December through April in both 1 day/week irrigation as well as un-irrigated studies. Under the 1 day/week irrigation, winter visual quality averaged 6.9 and 7.3 out of 9 (perennial and annual, respectively) in the absence of traffic (Figure 1). Under un-irrigated (rainfall only) conditions, perennial and annual ryegrass winter quality was also very similar (5.4 and 5.3 out of 9, respectively), just above minimally acceptable quality (**Figure 2**). It should be noted that while overall visual quality ratings were similar between the species, perennial ryegrass did exhibit somewhat darker green color compared to the annual ryegrass. However, slightly superior upright growth, density, and uniformity of the annual ryegrass offset this, contributing to its similarly high quality during the study. The two species also exhibited similar levels of traffic tolerance under the four passes per week traffic level. When averaged across the season in irrigated plots, traffic caused a similar (<10%) reduction in quality in both species (**Figure 1**). How the two would compare under more intensive traffic is also of interest, but could not be gained from this current study. Finally, in May ratings of percent bermudagrass transition, similar levels of bermudagrass were observed (~60%) in both annual and perennial ryegrass overseeded plots.

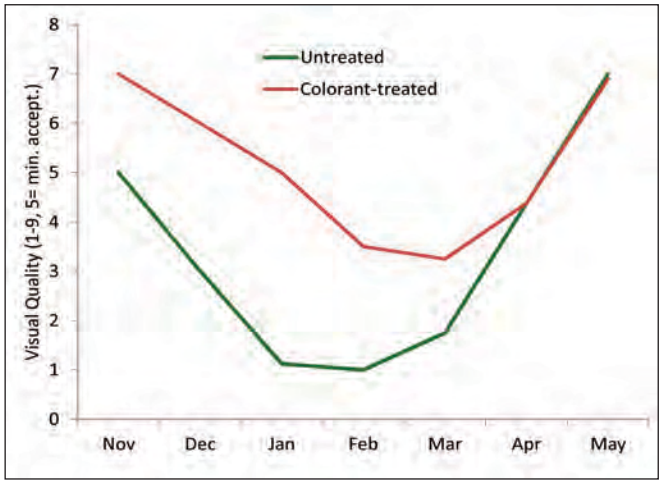
PERFORMANCE OF COLORANT-TREATED BERMUDAGRASS

We were also interested in evaluating the benefit and longevity of a single early November colorant application to bermudagrass. While colorant-treated plots held acceptable quality well into mid-January, ~8 to 10 weeks after treatment (**Figure 3**), mean seasonal quality of colorant-treated plots averaged 4.5 out of 9 in both irrigated and un-irrigated conditions, which was significantly better quality and appearance than dormant turf, but inferior quality to overseeded plots in both irrigation levels (**Figures 1, 2**). Because the colorant effects had noticeably faded by April, no differences in bermudagrass greenup between untreated and treated plots were observed in April or May ratings. Finally, colorant application mitigated the effects of traffic





▲ **Figure 1.** Effect of traffic on visual quality in 1 day/week irrigated plots during bermudagrass dormancy for the colorant and overseeded treatments. Data have been averaged across the December through March period. Values ≥5 are considered acceptable quality. **RIGHT: Figure 2.** Visual quality of un-irrigated plots during bermudagrass dormancy for the colorant and overseeded treatments. Data have been averaged across the December through March period. Values ≥5 are considered acceptable quality.

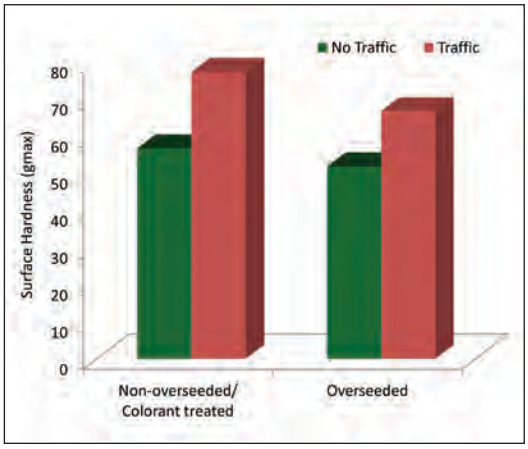


▲ **Figure 3.** Visual turf quality of colorant-treated and untreated dormant bermudagrass in un-irrigated plots during the winter and early spring. Values ≥5 are considered acceptable quality.

only slightly, relative to injury sustained by untreated plots (8 and 13% quality decrease, respectively). Because the effects of the single colorant application were relatively shortly lived, we could speculate that a repeat application of colorant midway through the winter might have allowed for aesthetically acceptable turf during the entire bermudagrass dormancy period as well as facilitated more rapid spring green-up.

OVERSEEDING EFFECTS ON SURFACE HARDNESS

Surface hardness is an important indicator of surface performance as it relates to player safety. In this study, we were particularly interested in better understanding effects of irrigation level, traffic, and overseeding on surface hardness (Gmax). Perhaps not surprisingly, surface hardness levels measured using a Clegg Impact Tester were generally higher under un-irrigated conditions in this study. Across both irrigation levels, there were significant differences in surface hardness due to both treatment (overseeded vs. non-overseeded) and traffic (**Figure 4**). Surface hardness was noticeably reduced by reducing traffic as well as overseeding. On average, the hardest surfaces were detected under non-overseeded / trafficked treatments (77 Gmax), followed by overseeded/trafficked (67 Gmax), non-overseeded/non-trafficked (57 Gmax) treatments, and overseeded/non trafficked (52 Gmax). It should be noted that while differences were detected among treatments, to our knowledge, none of these levels would be considered high enough to be deemed a safety concern.



▲ **Figure 4.** Clegg surface hardness (Gmax) within irrigated plots during the study period. Overseeded treatment is average of annual and perennial ryegrass plots.

While winter overseeding with perennial ryegrass will continue to be commonly practiced within the sports turf industry, information on feasibility of alternative options for accommodating winter play in the context of water shortages will allow turf managers to make appropriate decisions in managing and protecting their turf during dormancy. Factors such as budget, irrigation/rainfall availability, and event schedules need to be taken into consideration. For situations where high traffic is received during bermudagrass dormancy, perennial ryegrass has been the standard, but with the development in improved turf-type annual ryegrasses, a more affordable option may be available for more limited budgets with little sacrifice in aesthetics. Turf managers with limited events may wish to consider fall colorant applications just prior to dormancy as an option to save time, maintenance, and resources. However, single applications appear to be relatively short lived, and repeat applications midway through the dormancy period may be necessary. All situations are different, and thus, various options should be considered by the turf manager. ■

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Establishing turfgrass areas from seed

Turfgrass establishment is most commonly accomplished with seed, although sod can also be used. Sod offers the advantage of an "instant lawn" whereas seed takes much longer to produce a green turf. Establishment with seed is much less expensive than with sod. Establishing with seed is not an easy task that should be taken lightly. Following proper establishment procedures can produce a healthy turf that one can be proud of for many years to come.

LATE SUMMER SEEDING IS OPTIMAL

The best time to seed a cool-season turfgrass (Kentucky bluegrasses, perennial ryegrasses, tall fescues and fine-leaf fescues) lawn is in the late summer to early fall. Adequate soil moisture, warm soil, and limited weed pressure allow for excellent seedling growth. Between August 15 and September 15 is optimum seeding time in [cool-season] regions, and September 1 to September 30 is optimum in the transition zone. It is critical to seed as early as possible within these windows. Even when

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seeding within these windows, waiting one week to seed may mean the stand will take 2 to 4 additional weeks to mature.

Table 1. Purdue University 's Turf program phosphorus recommendations for newly planted turf and for annual fertilization of established turf. Soil test values

New sod or seed				Annual applications
range	ppm	lbs P/acre	(lb. P_2O_5/1000 ft_2)	(lb. P_2O_5/1000 ft_2/yr)
Low	0-13	0-25	1.5	1.5
Medium	13-25	26-50	1.0	1.0
high	25+	51+	1.0	0

Table 2. Recommended seeding rates for lawns in Indiana and Illinois. Seed Blend or Mixture

	Seeding rate	
	lbs./1000 ft_2	lbs./acre
100% Kentucky bluegrass	1.5-2.0	65-87
85-90% Kentucky bluegrass + 10-15% perennial rye	3.0-4.0	130-175
50-70% Kentucky bluegrass + 30-50% fi ne fescue	4.0-5.0	175-220
100% tall fescue	6.0-9.0	261-348

DORMANT AND SPRING SEEDING

Seeding in spring is difficult and often unsuccessful. However, there are circumstances that warrant a spring seeding:

thin turf due to winter damage; and poor turf density due to poor recovery from previous year's problems, i.e., grub damage, drought damage, etc.

If a spring seeding is necessary, consider doing it before the ground thaws from winter. This is called "dormant seeding" because the seed will lie dormant until the soil temperatures warm in April or May. Depending on your location, dormant seeding can be done as early as Thanksgiving and as late as March. The benefit of dormant seeding is that as the soil heaves and cracks during the winter, crevices are created for the seeds which provide ideal germination conditions. Additionally, dormant seeding is easier to schedule than spring seeding, because spring rains often make it difficult to seed after March. Dormant seeding is more effective in the [more northern] regions because weather remains cold enough to delay germination until spring. Occasionally, warmer periods in [more southern] regions could allow for germination and seedling death with ensuing cold weather.

SUMMER SEEDING

Summer seeding should be avoided. Areas seeded in summer will succumb to heat and drought stress because of their limited root systems summer seedlings are out-competed by summer annual weeds resulting in a thin weak sward.

PREPARING THE SEEDBED

A soil test should be taken from the site. The test will determine fertilizer recommendations for the area. Correct any deficiencies in nutrients or pH by following the recommendations on the soil test report. Use a rotary tiller or other cultivation equipment to work the soil to a depth of 4 to 6 inches, incorporating fertilizer or other soil amendments. Do not work wet soil because clodding usually results; in addition, overtilling will destroy soil structure and is not desirable. The soil should be allowed to settle after tilling or compacted slightly with the tires of a tractor or other suitable implement. Heavy rains and/or irrigation will hasten settling. Allowing time for the soil to settle will prevent undulations and difficult mowing in the future. Just before seeding, rake the area to finish grade.

After the area is at finish grade, apply a "starter fertilizer" to enhance seed germination and development. Starter fertilizer is high in phosphorus which is listed as the second number in the analysis on the fertilizer bag. For instance, a 16-22-8 fertilizer contains 22% P2by weight. Apply the fertilizer according to the label; refer to Table 1 for the proper amount of starter fertilizer to apply.

SEEDING

Seed should be applied using a drop spreader because rotary spreaders do not disperse the seed uniformly. However, spreaders typically do not come with calibration information about seeding turfgrasses. The easiest way to apply seed uniformly is to set the spreader adjustment very low, sow one half of the seed in one direction, and then sow the other half at right angles to the first direction of seeding. It might take three or more passes in a single direction, but it is well worth the time to get a uniform seeding. Seeding rate recommendations are presented in Table 2.

After the starter fertilizer and seed have been applied, the area should receive a light raking followed by a light rolling to ensure good seed-soil contact. A roller designed to be filled with water, but left empty, is perfect for this job. It is critical to maximize the seed-soil contact for quick germination and establishment.

MULCHING

Mulching the area will prevent erosion and conserve water. Therefore, mulching is most important when it is impossible to adequately irrigate newly-seeded areas. One bale of clean (weed-free) straw per thousand square feet will give a light covering that will not have to be removed after germination. Many people apply too much mulch, which can shade seedlings and require removal later. Apply the mulch very lightly so you can still see approximately 50% of the soil through the mulch layer. Some professionals use hydromulch which is a paper-based mulch blown on the soil by a specialized sprayer, which is an ideal method.

WATERING

Seedlings are susceptible to desiccation, and the seedbed should not be allowed to dry. A newly seeded area will need to be irrigated two to four times daily depending on the weather. Water frequently enough to keep the top 0.5 to 1.0 inch moist, but avoid over-watering and saturating the area. Once the seedlings are two inches high, gradually reduce the frequency of irrigation and water more deeply. After the turf has been mowed two or three times, deep and infrequent irrigation is most effective.

MOWING

Mowing will encourage the turf to fill in quickly. Mowing should begin when the first few seedlings are tall enough to mow. You may only mow 10% of the plants in the first mowing, 20-30% of the plants in the second mowing, and so on. Most wait too long to mow a newly seeded area, so mow early and often. Initially mow Kentucky bluegrass, perennial rye, and fine fescue at 1.5 inches and tall fescue at 2 inches. After the first three to four mowings, you can adjust your mower to the permanent mowing height which is 2 to 3.5 inches for Kentucky bluegrass, perennial rye, and fine fescue and 2.5 to 4 inches for tall fescue. As always, never remove more than 1/3 of the grass blade at any one mowing.

Avoid using broadleaf herbicides in newly seeded areas until seedlings have been mowed at least three times.

FERTILITY

New seedlings have poorly developed root systems and thus they cannot effectively absorb nutrients from the soil. Therefore, it is important to fertilize frequently after seeding to encourage establishment. Apply 0.75 to 1.0 lb N/1000 ft2 4 to 6 weeks after germination and again 8 to 10 weeks after germination. Assuming seeding in mid-August, these applications would be mid- to late September and again mid- to late October.

WEED CONTROL

There is little weed pressure in the fall so weed control may not be needed. Broadleaf weeds may become a problem in the fall, but these can be easily controlled with a broadleaf herbicide application in October or November, after the third or fourth mowing. Avoid using broadleaf herbicides in newly seeded areas until seedlings have been mowed at least three times. Quinclorac and carfentrazone are the only broadleaf herbicides that are safe to use on seedling turf.

Annual grasses such as crabgrass can be easily controlled with preemergence herbicides applied in the spring. With dormant seedings or seedings made very late in fall where the area is not fully established by winter, avoid applying a preemergence herbicide in early spring because it may damage late-developing seedlings. In this case, consider using a postemergence crabgrass herbicide later in summer to control crabgrass. Do not use preemergence crabgrass controls (except siduron) at the same time as a spring seeding. As a general recommendation, delay use of these materials until new seedlings have been mowed four to eight times, depending on the herbicide. Check the herbicide label for exact recommendations. Siduron is the only preemergence herbicide that can be used at the time of seeding, but will only control crabgrass for only 3 or 4 weeks. Quinclorac can be used for postemergence control of summer annual grassy weeds in seedling turf with little risk to the desired seedlings. ■

Zac Reicher is now with the University of Nebraska-Lincoln's Department of Agronomy and Horticulture: Turfgrass Science; Cale Bigelow is Professor, Purdue University Department of Horticulture and Landscape Architecture; Aaron Patton is Associate Professor of Agronomy and Extension Specialist, Purdue University Department of Horticulture and Landscape Architecture; and Tom Voigt is Associate Professor and Turfgrass Extension Specialist, University of Illinois Department of Natural Resources and Environmental Sciences. See the Seed Calculator at www.turf.purdue.edu

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Pro-active solutions for fall overseeding

Editor's note: *This article, written by Jerad Minnick (growinggreengrass.net), is reprinted here with his permission as well as the permission of the Ohio Sports Turf Managers Association, which originally published it in their chapter newsletter.*

The fall season is the most ideal time for cool season field cultivation and overseeding. Consistent rainfall and cool night temperatures help existing cool season grasses recover quickly, while higher soil temperatures created from the summer heat make an ideal time to get quick germination and growth on seed.

However, fall is also one of the most high traffic times of the year on many cool season fields. To avoid having to close fields completely, grass field managers are challenged to be creative and pro-active on fall field maintenance practices to meet the demands. Let's re-examine some cultivation and overseeding approaches.

CULTIVATION

Fall is a wonderful time for cool season turfgrass to recover from summer stress and grow roots for fall and winter play. But black layer from consistent watering, thatch from clipping and stressed or dying turfgrass and compacted soils from limited

De-compaction allows for deeper rooting of existing turfgrass, allows better irrigation and rainfall infiltration...

cultivation during summer stress limit what existing grass and new seed can do. Before overseeding and fertilization are considered in a fall maintenance program, cultivation should be Step #1.

De-compaction aeration softens the soil deep; examples of solutions include: deep tine aerator; soil wave aerator (e.g., Imants Shockwave, Redexim VertiQuake); soil air refresher (e.g., Koro Recycling Dresser). De-compaction aeration is softening the soil down below a 6-inch depth. De-compaction allows for deeper rooting of existing turfgrass, allows better irrigation and rainfall infiltration, and softens the entire field surface for safety and playability.

Timing: De-compaction aeration should take place a minimum of 3x during the fall season (or as much as budget allows). A deep tine or soil wave machine can be run the same day as a field event, so even if the field is under high traffic de-compaction aeration can take place. Soil air refreshing deep for de-compaction requires a 7-10 day break and also can take place at the end of the fall season.

Surface aeration opens up the surface; examples of solutions include: rapid tine aeration (coring tines/solid tines/needle tines/knife tines); linear slicing (blades or solid slicing rollers); and soil refreshing aeration. Surface aeration has multiple positives in the fall. Surface aeration is any type of aeration that vents the surface (top 3-4 inches) for air, water infiltration, and to soften the field for player safety. Using hollow tines to core aerate removes organic matter build up and/or sod layer and creates channels for air and topdressing (if it fits into the budget). Core aeration is labor intensive with the clean up of plugs, but the benefit outweighs challenge. Core aeration and solid tine aeration equally create holes for seed to fall into for seed to soil contact when overseeding. Slicing can open more surface area than most tine aeration methods to open the surface of the field as well and promote healthy plant growth

Timing: The type of surface aeration used is to be dictated by the schedule of use. Core aeration could require a break of up to 7-10 days. On native soil, solid tine aeration and/or slicing can take place with play on the field immediately after. Sand could need a 3-5 day break in order for the surface to become stable again before play. Soil air refreshing down to a 4-inch depth requires a 5-7 day break to grow in the slices.

VERTICUTTING

Examples of solutions: There are a wide range of sizes and types of verticutting machines available. Verticutting is extremely effective in the fall, especially in conjunction with overseeding. Verticutting removes some thatch build-up, opens up the black layer that can build during summer with heavy watering, and will promoted Kentucky bluegrass density and durability. Like core aeration, the clean up from verticutting can labor intensive. But just as core aeration, the benefit outweighs the challenge.

Timing: Verticutting can take place with a 3-5 day break and in no effects stability or playability of a field. For practice, a field could be verticut the same day as play.

The cultivation technique of universe fraze mowing has now proven to be a valuable practice. This is especially true in the fall on Kentucky bluegrass in combination with overseeding. Similar to verticutting, universe fraze mowing promotes Kentucky bluegrass density and durability while removing thatch and organic build-ups. But instead of removing 11-15% of material like verticutting, universe fraze mowing removes up to 100% of the material to the desired depth. That depth is set above the growing point of the Kentucky bluegrass to allow re-generation. Universe fraze mowing also removes *poa annua* plants that are short rooted from summer stress, the *poa annua* seed bank on top of the field, and other weed seed that has accumulated. Universe fraze mowing also helps smooth the field surface.

For an example, see *www.sportsturfonline.com* and read the article by Julie Adamski about a Kentucky bluegrass field that went **from seed to play in 35 days**.

Timing: The depth or aggressiveness of Universe fraze mowing varies depending on the window of time the field as off. A light Universe fraze mow cleans the very top of a field and can take place in a window of 10-14 days. Going more aggressive to remove more organic and poa annua can require up to 21-35 days, depending on the age of the field and the amount of prior maintenance.

OVERSEEDING

Once fall cultivation is addressed/planned, overseeding should be addressed. Overseeding in conjunction with the cultivation can added effectiveness to both practices. When preparing to overseed, consider a few different things:

Seed selection: New genetics in fescue, Kentucky bluegrass, and ryegrass are changing what is possible for fields and overseeding. Fast germination, increased aggressiveness for spreading and filling in, and stronger roots for establishment and quicker playability all exist. Also lowering demands for dark green color is being replaced with an appreciation for aggressiveness and durability unlike ever before. All lead to a new world for seeding. For an example, see www.sportsturfonline.com and read the article by Julie Adamski about a Kentucky bluegrass field that went from seed to play in 35 days. That feat has provided an example and confidence for grass field managers exploring using new seed varieties.

Additionally, the genetic improvements now make fescue and ryegrass capable of existing on high traffic fields together, in with Kentucky bluegrass, or even on their own. No longer do grass field managers have to hold their breath during disease stress times with these varieties. Do your homework on what is available from the seed companies you have existing relationships with, but consider possibly branching outside those relationships as well to find what

is working for others. Keep in mind with seed; the old proverb "you get what you pay for" is 100% true.

Seed to soil contact: When seeding, no matter the variety you select, seed to soil contact is important. Soil contact ensures the seed is not sitting in the thatch layer or laying on top of the ground where is could dry out quickly or struggle to push roots down into the soil. There are a few different options for overseeding to will help promote seed to soil contact.

1. Seeding in conjunction with cultivation: Seeding following core aeration, solid tine aeration, verticutting, or Universe fraze mowing can promote seed to soil contact. Aeration holes give the seed cavities to fall down into the soil. This is effective especially for fields still in play during seeding as the crown of the plant grows below the surface where it is protected from cleats. Do not aerate too deep though if doing so to promote seed. Verticutting cleans some thatch out and creates linear channels for seed. Universe fraze mowing cleans the thatch completely from the top, but it still needs an additional cultivation to work the seed into the soil. Keep in mind that when seeding in conjunction with cultivation, the more surface area that is opened up, the better success seeding will have.

2. Using a penetrating seeder: Several different seed application machines are available on the market. With a seeder, just as when cultivating for seed, the more surface area that is penetrated the better off the seed application will be.

3. Seeding before heavy traffic: Our forefathers in grass field management have handed down this method through years of use. Applying seed to the high traffic areas of a field 1-2 days before a heavy use will allow play to create the seed to soil contact. An example would be seeding the center of a football field prior to play. Keep in mind that if using any clean up techniques following the heavy traffic, it could also pick up the seed. Follow the high traffic event with a deep irrigation cycle to settle in the seed to ensure success with this technique.

4. Topdressing to cover seed: Topdressing with sand, compost, or even lightly with the field's native soil will create seed to soil contact. Keep in mind that too much topdressing burying the seed can be a bad thing.

These are just a few ideas to help solve the complex challenge of fall cultivation and overseeding. Yes, there are many, many other ideas for meeting the challenge. Make sure to ask questions of your fellow grass field managers to create more possibilities to meet the challenge. Follow colleagues, STMA Chapters, and sports field managers around the world on social media to witness the creativity that others are using. Share your experiences equally for others to learn from your lessons to help build creativity and idea generation. ■

John Mascaro's Photo Quiz

John Mascaro is President of Turf-Tec International

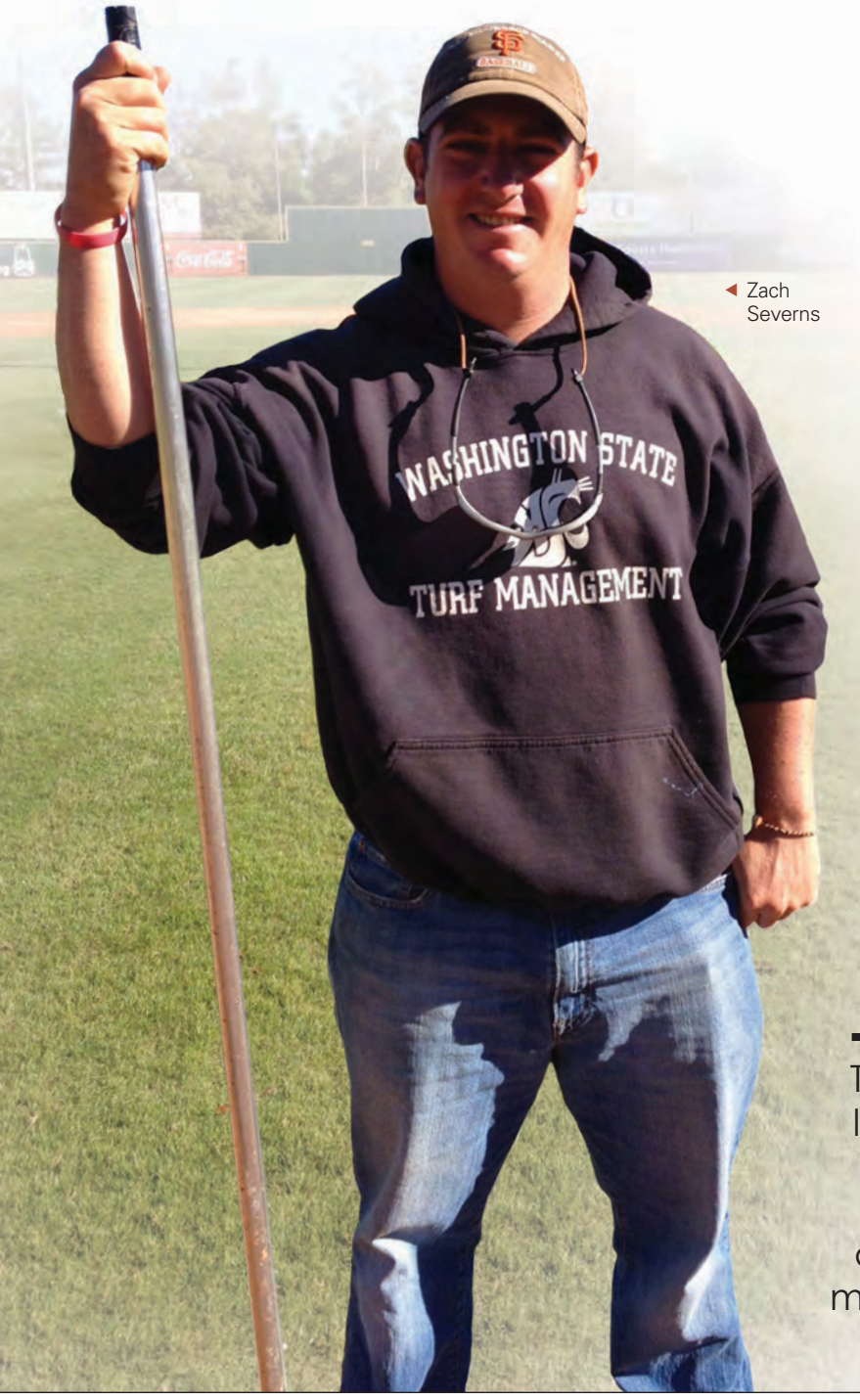
Can you identify this sports turf problem?

Problem: Missing tire
Turfgrass area: Private boarding high school
Location: Dedham, Massachusetts
Grass Variety: 50% bluegrass/50% ryegrass

Answer to John Mascaro's Photo Quiz on Page 25

Background illustration courtesy of istockphoto.com

11 steps to get the most out of internships



Zach Severns

Internship programs have become a very important part of the turf industry and they can be beneficial for both students and employers. Internships should be designed for both parties to get the most out of each other during the internship, and after. As head groundskeepers we are responsible for providing a strong educational and fun experience. Doing this will only strengthen the industry. Interns are responsible to give their all and really invest into an internship program, because it could take them to great places later. In order for a great internship to take place, a number of things have to happen. If certain steps are not taken, an internship can fail and both parties will speak ill of one another and bridges will be burned. Some of these steps may sound like common sense, but they are common mistakes in failing internships.

STEP 1:
How to find a quality internship

The best way to find an internship for the first time would be to register with STMA or teamworkonline.com. These websites and organizations can provide students with job fliers that give descriptions on what constitutes a particular internship. As for head groundskeepers (especially at minor league parks and smaller facilities) make a vibrant and attractive flier that will attract motivated students. After the first internship, a student's network will grow and it will be much easier to find internships and jobs through word of mouth.

The goal of the resume and cover letter process is **to sell yourself and get noticed**, so be confident but not cocky! Take the time and use quality paper, and if at all possible mail instead of email a resume and cover letter (unless specified).

STEP 2:
resume and cover letter

The number one rule when putting together a resume is be professional; while making a resume and cover letter act as if you are the one doing the hiring. Be your own worst critique. If something jumps off the page at a critical person then you have nothing to worry about. Part of being professional is to check with references before using them on a resume. Show them the courtesy of how much they are respected by asking for their blessing. The goal of the resume and cover letter process is to sell yourself and get noticed, so be confident but not cocky! Take the time and use quality paper, and if at all possible mail instead of email a resume and cover letter (unless specified). Mailing shows that the time was taken to do it right.

STEP 3:
Interviewing

The interview process can be the most stressful part of the entire process for a student, but it is important to relax and just be yourself, because that is who you will be during the whole internship. Most interviews are done over the phone or in person at the STMA conference. Sound confident, be confident!

During an interview don't stress and give a bad answer; if you don't know something, you simply don't know. If you get caught not knowing an answer, convey to the interviewer that you are eager to be exposed to situations that will allow you to broaden your horizons and obtain a better understanding. There is nothing worse than to give a hasty answer, if you have to take a few seconds to gather your thoughts and then answer. Internships were invented so that newcomers to the industry can learn something they didn't know.

STEP 4:
Having more than one job offer

This is a good problem to have; the question is how to choose which one? Timing will probably be an issue because organizations also have to fill their positions in a timely manner. It is important not to panic and make a rash decision. Weigh the options of places that have offered a position, use your personal preference of what you *need* (not what you *want*) to learn and what you can improve. There are different preferences that will come into play such as being close to home, wanting to move and experience life, or willing to do anything to rise in the industry (this will most likely involve moving around).

If an organization is taking a long time to respond, it is ok to give them a call or an email to check the situation. Remember that the squeaky wheel gets the grease, but don't screech! Now, after committing to a job, it is wise not to back out after committing unless something catastrophic happens. When telling an employer that you didn't choose them, be respectful and simply tell them that the opportunity was appreciated and the place that was chosen was a better fit for what you want and need for a career. Be respectful and don't burn a bridge. Look at it as a way to get your name out in the industry. Every time you meet someone new in the industry it is a way to increase your network of contacts, because they might be helpful down the road. People in this industry are not just fellow turf managers; they potentially could become some of your closest friends.

STEP 5:
What to look for in an internship

When first starting out in the industry, a good fit would be to go to a place that has long hours and a small crew. It sounds tough, but that's exactly what it makes you and will be beneficial in the long run. This will help decide if this career is really for you, and will provide the opportunity to master the basics of the job.

The best place to take advantage of such internships is in Minor League Baseball. Once an internship or two have been completed, now is the time to learn the technical knowledge of the industry. Theses specifics consist of climate, growing conditions, different sports, different working environments (state systems vs. private organizations), and different skills that need to be improved. It is good to experience them all if possible so one knows exactly what they want for a career. Other specifics come into play when choosing an internship, especially a good living situation. It is important to be happy at home so it does not affect the quality of work and attitude at work; no one likes negativity. Make sure to be financially stable; most interns are poor college students and employers will take that into consideration. Look for an internship that will invest into a student's future, and will teach as much as possible and help further your career.

STEP 6:
Employer standards

Employers are looking for individuals with motivation, not necessarily experience. If a student is excited about their job, that excitement will go much further than experience. They will be teachable, willing to learn and willing to work hard to succeed. Employers need interns just as much as interns need employers. Interns need to go to a place where there employer is excited and passionate about their field and passing on knowledge. Don't work for someone who will not invest into your passion to succeed. In the grand scheme of things employers want students to follow in their footsteps, or else everything we do in sports turf management is pointless. YOU ARE THE FUTURE! We are just as excited to see the industry grow as you are to grow in it.

STEP 7:
When the work starts

There are two types of workers: people that *want* to work and people that *have* to work. It all starts with attitude, if the glass is half full then the best can be made of any situation. If an intern is stuck in a situation that hasn't worked out like it should, make a decision to work hard and get the most out of the situation. Come in to work every day with a positive attitude and an outlook that something productive is going to happen that day. Remember that internships are only for a few months, so make the most of it. No matter how bad the situation, don't leave without a good recommendation. Good references are up to the intern. Don't cheat yourself and let others decide the outcome; control your own fate

by working your hardest. Be personable, at some point a path will be crossed of two workers that don't work well together. Avoid complaining and listening to it. If each person is doing their job to best of their ability, then they shouldn't have time to worry about the other person. Try to make friends with everyone on the crew, it will make work that much more fun.

STEP 8:
Don't be afraid to be a leader

Everyone is different so try and motivate others by learning their personalities. This will help in the future when you are a supervisor. If the crew is ever divided don't take sides, but remain neutral and do your job. Be the first person to work and the last one to leave (if possible), people will notice. Try and read the head groundskeeper's mind; if he gives the crew off the day after a home stand but he is coming in, step up and ask him if he needs help. If there is a passion for the job, then this should be easy. Be proactive not reactive, know there is always one more thing that can be done to make the whole operation run smoother.

STEP 9:
When times get tough

Negative things are torn apart easily and good things take time. Keep working hard and know that this is being done to build a career. If you need to vent (everyone does) call home or a friend. Learning is happening even when it doesn't seem to be, so stick with it because you never know where it will take you.

STEP 10:
What employers are expecting

The turf industry is like none other, as employers we are expecting interns to come in and be meani ngful, not to just make coffee runs. The first nine steps will set up what an employer is looking for and #10 is to set up an intern for success. We are looking for individuals who are on time and ready to work, willing to perfect a task and improve as turf managers, take ownership in the field, and try thinking a few steps ahead. Look at the job in an aspect of "it's on me" if the job does not get done. If something out of the ordinary is going on, get involved and learn as much as possible. If you were the head groundskeeper going home for the night, your job is not done. Be proactive as an intern and keep an eye on the radar and shoot him a text if something is out there, and see if you can do something for him to take some of stress off of him. During the day run scenarios through your head of what steps you and the crew should take if certain circumstances take place throughout the day and week. This is not just to help the head groundskeeper but shows that as an intern you are thinking ahead and ready to take on your own field early on in your career.

STEP 11:
What to take away

Acknowledge the fact that you have been through multiple internships, there's more ways than one to do a job. Find what works most effectively for the situation. If an internship was bad don't burn a bridge by talking bad about it, just know in your mind that it was something not to do.

If an internship ends at an outstanding place (which they should), then take what was learned and put it to use at the next one. Know that when you get your own field you can do things your way, until then do it the supervisor's way. Take weekly notes of what has been done, so you can refer back when it's your turn to be in charge. Records go a long way and will be helpful in the future.

Have an exit meeting with your supervisor to tell them what you have learned and thank them for the opportunity. Keep in touch with them and the rest of the crew. Someday they will be needed for work or a place to stay when traveling to a new job, or a job reference. You form a bond with people with whom you often spend 15-hour days! ■

Zach Severns is head groundskeeper of the Augusta Greenjackets. He interned (in order) for the Fresno Grizzlies, Milwaukee Brewers, Washington Nationals, LSU, and Louisville Bats. He also was foreman for Palouse Ridge Golf Club during college while also taking care of the pitching mounds for Washington State University baseball.

WHAT DOES A SCOTSMAN DO
after winning an STMA Field of the Year Award?

Editor's note: *We are giving some space to Andy Yeaman, who was in charge of a 2013 winner in STMA's Field of the Year Awards but had left that facility by the time this magazine covered his winning field. Yeaman emigrated from Scotland 8 years ago to get married; here is his turf management story.*

Andy Yeaman

Deciding to move to the USA from Scotland and get married was a big deal but one that I was ready for. But a question remained: What was I going to do for work? My background in agriculture must stand me in good stead to do something right, I thought. Moving was one thing but now I was up for a bigger challenge—changing careers.

Working on farms and running my own small ag contracting business had been a valuable exercise and had stood me in good stead for things to come. Land work had always been in my blood and was handed down to me from my father who had worked on farms and had also been a small business owner running his own agricultural contracting company all his adult life. A good work ethic was paramount; I learned how to manage men and budgets and how to be a diplomat, which seemed the hardest to grasp as it does not come naturally to me and definitely is not my strong point!

There were a few jobs here and there but eventually I found a small liberal arts college in Deerfield, IL that needed a grounds supervisor, and so I moved to Trinity International University where I started my career in sports fields and grounds. I found out about the STMA and applied for its Field of the Year Award in the same week. Being new to sports fields this may have seemed a little naïve but actually it has been a good decision because I maintained some momentum which maybe I would not have done otherwise.

I have since changed jobs and now am the grounds manager for Adlai E Stevenson High School in Lincolnshire, IL, replacing the well-respected and retiring Jeff Green, who had been at the school for 27 years. This was no small feat as Jeff is well known in the business, and put the fields in at Stevenson. The one thing I didn't have to worry about was people understanding the work it takes to get results, and who endorsed sports fields and the management that they demand. Stevenson is a large school consisting of around 4,500 pupils, many of whom play soccer, football, lacrosse, field hockey, tennis and baseball among other sports. Stevenson has a winning culture that will be expected to continue during my time here.

Working at Stevenson has been a good transition, having a great crew of guys and the backing of a wonderful institution which is hungry for success is a great feeling, Not only do I have their backing in the workplace, Stevenson endorses wholeheartedly the STMA and my involvement with a professional and educational body for which I thank them.

The STMA has been great for me, and to win College Football Field of the Year nationally was amazing. Now though we have to keep the standard up and endeavor to do it all again, which is what grounds and sports turf managers do everyday. ■

Andy Yeaman is grounds manager for Adlai E Stevenson High School in Lincolnshire, IL.

John Mascaro's Photo Quiz

Answers from page 19

John Mascaro is President of Turf-Tec International

This athletic field was constructed in the 1970's out of a sand, silt and clay base with 12 inches of native loam sand for the rootzone. The current sports turf manager has been at this facility for 15 years and this field from time to time had small depressions appear. One particularly wet year, the area had heavy spring rains that included two floods where a portion of this athletic field, which borders a river, was underwater. After the floods, six large sinkholes appeared in the field with one being as large as a car. When they excavated to find the problem, they dug down approximately 12 feet and found decayed stumps and logs. Apparently, at the time of construction, it was common practice to bury stumps when clearing land areas. The areas were repaired by removing the turf, tamping the bottom of hole until the soil was firm, and then the holes were filled with a good rootzone mix and tamped firm. The area was then topped with some native loam sand and overseeded with some pre-germinated seed.

On this particular day of the photo, the Sports Turf Manager was on a Bobcat when the tire fell into this 3-foot deep sink hole. Knowing the history of the field, and witnessing some of the larger holes, the Sports Turf Manager feared that this might be the end so he quickly bailed out of the machine "just in case." Luckily it was a smaller hole and the repair was made fairly quickly and without loss of much time—or any employees.

Photo submitted by Peter Thibeault CSFM, Sports Turf Manager at Noble and Greenough School, Dedham, MA.

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.

COOLER by the Lake

▲ **From left:** Joe Ranthum, Steve Ems, University of Wisconsin's Bucky Badger, Michael Boettcher and Eddie Warczak.

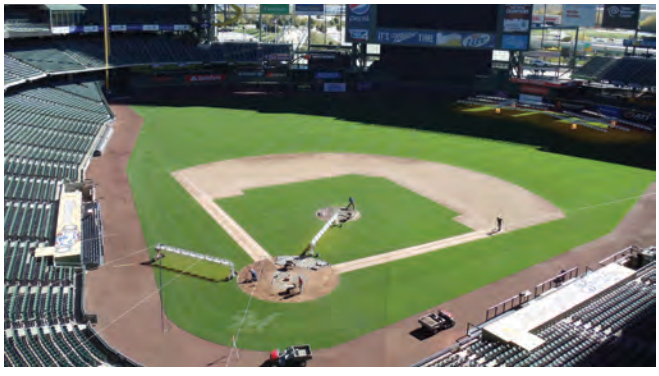
Miller Park, home to MLB's Milwaukee Brewers is "cooler by the lake" in more ways than one. Less than 5 miles from Lake Michigan's western shore, Miller Park is generally (and literally) 5-7° F cooler than Wisconsin's more inland areas. Figuratively speaking, Miller Park also is "cool" with its stunning convertible roof, impressive architecture and colossal matrix scoreboard.

Then, there is that expanse of rich green grass. The field looks cool even when Milwaukee's summer temperatures (and humidity) rise, thanks to the work of Michael Boettcher, Eddie Warczak and their grounds crew. In fact, they resurfaced the field in 2013 ahead of the 2014 season.

The almost 100 percent sand field was sodded with a blend of four premium Kentucky bluegrass varieties. "We select varieties based on several traits, including shade tolerance, wear tolerance, color, disease resistance and the ability to withstand lower mowing heights," says Boettcher, Miller Park's grounds director.

Boettcher also has instituted an aggressive overseeding program. Areas receiving heavy traffic are overseeded every week during the playing season. The entire field is overseeded three times each year. "We receive seed shipments throughout the season and do the blending ourselves," Boettcher says, adding that sometimes perennial ryegrass is used in addition to the bluegrass. Rotary spreaders are used to overseed the field while drop spreaders are used along the edges.

The field's sand base handles just about any rain event, even as much as 1 inch of rain in a half hour. With its modified rootzone and sub-drainage system, the field was built to last. Boettcher credits his predecessor, Gary Vanden Berg, "for doing several things right from the start." Vanden Berg passed away from cancer in 2011, after managing



the grounds at Miller Park and Milwaukee County Stadium before that for more than 20 years.

Last year was only the second time that the field has been completely resurfaced after Miller Park opened in 2001. "Each time, we have improved the grass surface. We pay attention to research and take advantage of new opportunities," Boettcher says.

ROOF PROS & CONS

Because Miller Park's right field is generally shaded by the ballpark's massive roof, the grounds crew uses high pressure sodium grow lights. The lights' wavelengths are appropriate and beneficial for growing grass when the Brewers play out of town.

When the roof must be closed during rainstorms, high temperatures and high humidity can create just the right conditions for fungal growth so Boettcher has developed a preventative fungicide application program. "We must prepare and protect the field from disease," he says. Boettcher and Warczak also develop fertilizer and herbicide programs at the beginning of each season, but closely monitor weather patterns and adjust applications with the conditions. "We get lake effect snow and rain. But sometimes, we're also lucky in that storm systems coming from the west are knocked out by cool breezes coming off the lake," Warczak says.

Wisconsin winters can be the stuff of legends. The winter of 2013-2014 was particularly harsh, the coldest winter Milwaukee had experienced in 35 years. The National Weather Service reported that Milwaukee had 27 days at or below 0° F. To protect the field from the elements as well as preserve moisture, a breathable woven plastic cover is used from the end of November through the end of February each year. In addition, all of the field's clay surfaces are covered with 2-inch thick insulated boards to prevent frost damage.

The roof and Milwaukee's climate definitely present challenges. "But every park has challenges and the roof here serves its purpose," Boettcher says. Because of the roof, Brewers fans, some who drive several hours to get to Miller Park, know that they will get to see a game even on a cold or rainy day, he explains. "Regardless of the challenges, the roof is important for our organization and baseball in Wisconsin."

Another benefit of having the roof is that it allows the grounds crew to get work done in inclement weather, says Warczak. Rain or shine, Boettcher and Warczak understand that they are responsible for managing a high quality field for players and fans alike. In addition to managing the MLB field, the groundskeepers are responsible for managing Helfaer Field, which hosts as many as five Little League games a day during the baseball season.

Steve Ems is the grounds supervisor at Miller Park; and Joe Ranthum, landscape manager, is responsible for the venue's 60 acres of landscaping as well as assisting with field activities. During the peak season, the grounds crew is made up of approximately 40 part-time employees.

"We hire interns and part-time staff as a team. We look for good attitudes and the ability to work hard," Boettcher says.

Wisconsin winters can be the stuff of legends. The winter of 2013-2014 was particularly harsh, the coldest winter Milwaukee had experienced in 35 years. The National Weather Service reported that Milwaukee had 27 days at or below 0° F.

Interns are generally students who are working on a 2- or 4-year degree in Turfgrass and/or Landscape Management, or individuals who have recently graduated from such a program.

Warczak sheds light on what the crew does on a typical game day. Beginning at 7:00 am, they check the condition of the field covering to make sure it is still providing the appropriate level of moisture; walk the field to repair divots; and patch the pitcher's mound, home plate, bullpens and other areas. During the game, the field is dragged three times. The crew also does a variety of "housekeeping" types of jobs in the grounds maintenance shop.

TOOLS: FROM EQUIPMENT TO EDUCATION

To keep Miller Park, Helfaer Field and the landscaping in top condition, the groundskeepers have a number of tools available to them. This includes four greens mowers, three riding mowers and several

walk-behind mowers, all made by Toro. They also use a Pro Core 648 aerator, a Gehl skid loader, a 5800 Multi-Pro sprayer with a 20-ft. boom, several utility vehicles and three John Deere utility tractors. Toro Sand Pro equipment is used to groom clay surfaces and warning tracks.

Boettcher and Warczak also draw upon their educational and career experiences in managing Miller Park. Boettcher received his BS degree in Horticulture from the University of Wisconsin-Madison in 2006. His studies focused primarily on sports turf and landscape management. Boettcher served an internship with the Milwaukee Brewers when he was a student and another internship for the Boston Red Sox just before graduating from UW. He then took a job as a landscaping foreman at Wisconsin's McKay Nursery. He worked as a herd manager for a purebred Angus farm before returning to sports turf in 2009 when he landed the second assistant landscaper manager position at Miller Park.

Originally from Osseo, WI Boettcher grew up on a family-owned beef cow/calf operation. "I grew up loving the land and agriculture. I like natural grass because of the connection of working the land and cultivating a crop. The smell of the soil is incredible after we do an aeration," he says of the field at Miller Park.

Warczak grew up in Oshkosh, WI and got his degree in golf course management from Anoka-Hennepin in Minnesota in 2006. He played baseball in high school and began working for free for the Midwest League's Wisconsin Timber Rattlers at the Fox Cities Stadium in Appleton, Wisconsin.

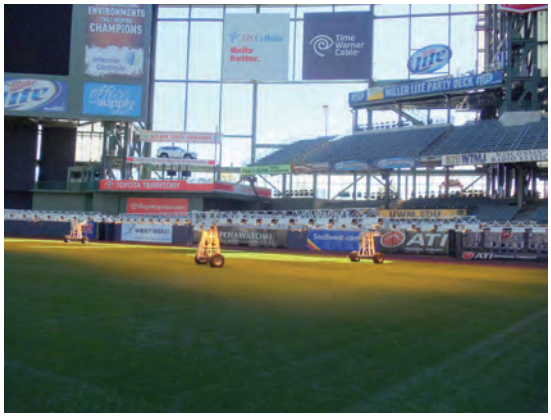
Warczak was eventually hired as assistant groundskeeper, and at the end of the 2007 season, became head groundskeeper of the Neuroscience Group Field at the Fox Cities Stadium. In 2008, his field won the Sports Turf Managers Association Professional Baseball Field of the Year. Warczak was hired by the Brewers as grounds manager at Miller Park last February.

"It's nice working your way up from high school to the minor leagues and then to the major leagues," Warczak says. There are many more resources available to grounds managers in the major league, he notes. "In the minor leagues, you have to be creative and use the same equipment for multiple purposes."

There is another benefit, and Warczak smiles as he says, "With the roof at Miller Park, there are not as many tarp pulls."

Boettcher and Warczak belong to both the STMA and Wisconsin's STMA. Membership in these organizations, they say, enables them to share knowledge, successes and failures with their peers; and to stay abreast of the industry's latest research findings and innovations. ■

Lynn Grooms is an independent writer living in Mt. Horeb, WI. Like Michael Boettcher, she is a graduate of the University of Wisconsin-Madison.



Update on the 2014 STMA Student Challenge winners

UNIVERSITY OF MARYLAND

Dr. J. Kevin Mathias reports:

As the winning 4-year school at the 2014 STMA Student Challenge, the University of Maryland is using the $4,000 award from SAFE to enhance student instruction for the lab component of a course titled "Surveying and GPS Applications in Agriculture."

Currently the University of Maryland offers a 2-year academic certificate and a baccalaureate program in Turfgrass Management. The two-year program added a Sports Turf Management option in 2009. The major emphasis of the 2014 SAFE award was to further enhance field labs for assessing field hardness and field moisture conditions on athletic fields using GPS and GIS technology. In order to accomplish this, we purchased an additional Field Scout penetrometer and soil moisture meter that will be used to assess intramural field conditions on the University of Maryland campus.

▲ **Students** enrolled in the "Surveying and GPS Applications in Agriculture" class take field hardness data on the intramural fields at the University of Maryland.

One of the major goals of this course is to expose students to different instruments that can assess field conditions and then tie these devices to GPS units. GIS software is then used to allow a visual display of data that provides important insight for field management decisions. For example based on student field studies on several of the intramural fields this past year a geo-spatial map was developed which showed excessive field compaction at the 4-inch depth.

Based on this lab activity field manager Alex Steinman, Sports Turf Manager for Intramural Fields, used this information to schedule a subsoil aerification using a Verti-Quake unit. Alex commented that the GPS-GIS data logging and visual data display of this student lab exercise allowed him to make an informed decision on the type of aerification equipment needed to solve their sub-surface compaction problem.

As an educator it is extremely rewarding to see how new technology is introduced to students in various course work at the University of Maryland and then implemented within the workplace. The commitment of SAFE to promote safe, playable, and sustainable athletic fields by awarding such grants has enhanced our sports turf educational program at the University of Maryland over the past 2 years and we are extremely thankful for this support.

MT. SAN ANTONIO COLLEGE

Brian Scott, professor of horticulture, reports:

We are in the process of purchasing and installing a nice storage shed beyond center field of Dr. Kent Kurtz Stadium. Our existing "storage" area for all of our turf equipment is beyond repair; it leaks when it rains and it is located quite a distance from the field, making it a huge logistical issue. That is not very exciting but housing your equipment is a huge part of getting the job done correctly and in a timely manner.

Some new things in our program: We have modified nine certificates to require fewer, more specific skill set oriented classes that took effect July 1. We also started an internship program with USC. We have six students working at the Coliseum part time and as part of the game day crew. We also do the same thing at UCLA's Jackie Robinson Stadium, where former student Chris Romo is the sports turf manager. Another student, Cody Chavez, was hired full time as Scott Lupold's assistant at UC-Irvine working on the baseball and soccer fields. Another graduate, Giovanni Murillo, is now an assistant sports turf manager at Oklahoma State University. And we are getting ready to begin irrigation internships with Valley Crest, one of the largest landscape contractors in the country. ■

Checklists to mitigate risks for parks & rec managers

Editor's note: *The following checklists are reprinted here courtesy of Rebecca Auchter, grounds maintenance manager for Cranberry Township, PA. Auchter says she designed the checklists with risk mitigation in mind. Thanks to Auchter and Cranberry Twp for allowing us to reproduce her work.*

Shelters

Location:
Date:
Inspected By:
" PLACE A ""Y"" IN THE BOX IF THE ITEM MEETS THE STANDARD OR ""N"" IF IT DOES NOT.
MARK SECTIONS ""N/A"" THAT ARE NOT APPLICABLE."

A. Grounds

- ☐ Grass is mowed and trimmed.
- ☐ Surfaces do not present trip and fall hazards.
- ☐ Ground is free of litter and debris.

B. Shelter Structure

- ☐ "All surfaces are clean, sanitary, and free of graffiti."
- ☐ "Electrical panels, plugs, and lights have safety covers in place and are working properly."
- ☐ "All surfaces are cleanly painted with no rotten lumber or rusted metal evident, no loose siding or trim pieces."
- ☐ Concrete has a smooth surface and no large cracks or holes that may cause tripping.
- ☐ Roof is free of leaves and branches and shingles are intact. No leaking or holes are observed.
- ☐ Staples and nails from temporary signage or banners are removed and do not cause any protrusions or sharp edges.

C. Grills

- ☐ Grills are operational and have minimal rust and metal deterioration.
- ☐ Grill racks are operational and secure to main body and have minimal grease build-up. Used charcoal is removed.
- ☐ "Grill foundations are intact and do not create a tripping hazard. Grill is secure, sturdy, and no vandalism is observed."

D. Tables

- ☐ "Tables are clean, free of rust, broken or rotten lumber. No graffiti is evident."
- ☐ Table tops and seats are smooth with no protrusions and have no sharp edges that present a hazard. All staples are removed.
- ☐ Correct amount of tables are present for the shelter.

E. Trash Receptacles

- ☐ Sufficient barrels are available in high traffic areas.
- ☐ Barrels are not overflowing and have liners in place.
- ☐ Receptacles are cleanly painted with no rusted metal or graffiti visible.
- ☐ Lids are in place where appropriate.

F. Signage

- ☐ Emergency and Parks Hotline signs are in visible locations and secured properly.
- ☐ Signs are readable and not faded or broken.

G. Water Fountains & Hose Bibs

- ☐ Drinking fountains are operational and no leaks are present.
- ☐ "Drinking fountain bowl and drain are clean, working, and free of debris."
- ☐ Hose bibs are operational and no leaks are present.

NOTES

Athletic Field Envelope

Location:

Date: Inspected By:

" PLACE A ""Y"" IN THE BOX IF THE ITEM MEETS THE STANDARD OR ""N"" IF IT DOES NOT. MARK SECTIONS ""N/A"" THAT ARE NOT APPLICABLE."

A. Grounds

- ☐ Grass is mowed and trimmed.
- ☐ Surfaces do not present trip and fall hazards.
- ☐ Ground is free of litter and debris.

B. Bleachers & Benches

- ☐ Hardware and bracing are structurally sound and intact.
- ☐ Seating surface is clean and free of protrusions. No catch points or sharp edges are exposed.
- ☐ "Nails, bolts, or screws are flush with the surface."
- ☐ "Painted surfaces are in good repair without major chipping, peeling, or cracking."
- ☐ Handrails are secure with a smooth surface free of protrusions or sharp edges.

C. Field Accessories

- ☐ "Goals, tackling sleds, pitching screens, etc. are in good repair and do not present a safety hazard. Refer problems to correct Athletic Association."
- ☐ Scoreboards are structurally sound and exterior repairs are not apparent. Associations will inspect electronic function.

D. Fences/Netting/Screens

- ☐ Fence fabric is free of holes and is properly tied to the upright and crossing supports.
- ☐ Fence posts are secure in the ground and are straight upright. Crossbars are properly tied to the uprights.
- ☐ Safety caps are on all chain link style fences surrounding playing surfaces.
- ☐ Netting is secure on uprights and does not have holes.
- ☐ Backstop screens are properly secured and do not have rips or holes. Refer problems to correct Athletic Association for repair.

E. Dugouts

- ☐ Structure is sound. Roofing appears intact and no leaks are evident. All lumber appears solid with no rotting visible.
- ☐ Seating surface is clean and free of protrusions. No catch points or sharp edges are exposed.
- ☐ All surfaces are cleanly painted with no rotten lumber or rusted metal evident. No graffiti in sight.
- ☐ "All electrical enclosures are secure, GFI's have covers in place, lights and electrical plugs work, no wires are exposed."

CONTINUED ON PAGE 32

CONTINUED FROM PAGE 31 (Athletic Field Envelope)

F. Lights
- ☐ Musco lights are operational.
- ☐ Light poles are structually sound with no visible damage at the connection to the concrete footer.
- ☐ Electrical junction boxes and conduit are secure.

G. Trash Receptacles
- ☐ Sufficient barrels are available in high traffic areas such as dugouts and bleachers.
- ☐ Barrels are not overflowing and have liners in place.
- ☐ Receptacles are cleanly painted with no rusted metal or graffiti visible.
- ☐ Lids are in place where appropriate.

H. Signage
- ☐ Emergency and Parks Hotline signs are in visible locations and secured properly.
- ☐ Signs are readable and not faded or broken.

NOTES

Athletic Fields- Game and Practice Field Playing Surfaces

Location:
Date:
Inspected By:
" PLACE A ""Y"" IN THE BOX IF THE ITEM MEETS THE STANDARD OR ""N"" IF IT DOES NOT.
MARK SECTIONS ""N/A"" THAT ARE NOT APPLICABLE."

A. Grounds
- ☐ Field has a dense stand of grass and no bare areas are present.
- ☐ "Field has a dense stand of grass but thinning is evident in goal mouths, outfield player positions, and commonly expected wear areas."
- ☐ "Field has good grass cover on most of the field but bare areas are evident in goal mouths, outfield player positions, coach's boxes, or like."
- ☐ "Turf is thin or sparse on the majority of the field and bare areas are evidient in goal mouths, outfield player positions, coach's boxes, or like."

B. Turf Uniformity
- ☐ Turf has a uniform dark green color and different turf species are blended evenly so the field is visually consistent.
- ☐ Turf has a uniform dark green color but some patches of different turf species are noticeable.
- ☐ Turf has a medium green color with many patches of different species evident throughout the stand.
- ☐ Turf is light green and many different grass species are unevenly blended to create a patchwork of grass cover.
- ☐ Turf appearance was not judged because un-irrigated fields are dormant and off color.

C. Turf Weeds
- ☐ Broadleaf weeds or annual grassy weeds are evident in less than 1% of stand.
- ☐ Broadleaf weeds or annual grassy weeds are evident in less than 10% of the stand.
- ☐ Turf shows significant populations of broadleaf weeds and annual grassy weeds covering 25% or more of the area.

D. Mowing and Trim
- ☐ Turf is cut at an appropriate height for use and all trim in the playing area is no more than 30% higher than the mowed grass.
- ☐ Turf is too high or low for the intended use and all trim in the playing area is no more than 30% higher than the mowed grass.
- ☐ Turf is too high or low for the intended use and all trim in the playing area is more than 50% higher than the mowed grass.

E. Field Contour (Turf Areas Only)
- ☐ Field is level and sloped or crowned to provide surface drainage of water away from the playing area.
- ☐ Field is mostly level with some uneven high or low spots that will impede surface drainage.
- ☐ Field is somewhat level but has multiple high or low spots that will impede surface drainage or drop offs that may be

tripping hazards.

☐ Field has many high and low areas that will impede surface drainage and drop offs that may be tripping hazards.

F. Field Contour (Baseball/Softball Infields Only)

☐ Infield mix is level and slopes or is crowned to provide surface drainage of water away from the skin.

☐ "Infield mix is mostly level but has some high and low spots around bases, pitching area, and homeplate."

☐ "Infield mix has significant high and low areas especially around bases, pitching area, and homeplate."

G. Pitching Mound (Baseball/Softball Fields Only)

Is the mound covered or is a cover evident in the vicinity? Circle one: YES NO

☐ Mound is in good repair. Table around pitching rubber is intact. Landing area slope is correct.

☐ "Mound is in average state of repair and is shaped correctly. The table and slope show minor wear at the pitching rubber and landing area less than 3"" deep."

☐ "Mound is badly worn and correct shape has degraded. There are wear areas at the pitching rubber and landing area 3"" or deeper. "

"H. Field Transitions or ""Lips"" (Baseball/ Softball Fields Only)"

☐ The infield mix makes a smooth transition to the turf areas.

☐ "The infield mix to turf transition has a lip in some locations but does not exceed 3"" high."

☐ "The infield mix to turf transition has a lip in many areas and some locations are at least 6"" high. "

NOTES

Playgrounds

Location:

Date:

Inspected By:

" PLACE A ""Y"" IN THE BOX IF THE ITEM MEETS THE STANDARD OR ""N"" IF IT DOES NOT. MARK SECTIONS ""N/A"" THAT ARE NOT APPLICABLE."

A. Play Equipment

☐ Play equipment meets ASTM and National Playground Safety Institute standards.

☐ Play equipment is free of graffiti.

☐ Age appropriateness for the play equipment is noted with the proper signage.

B. Benches & Picnic Tables

☐ Hardware and bracing are structurally sound and intact.

☐ Seating surface and table tops are clean and free of protrusions. No catch points or sharp edges are exposed.

☐ "Nails, bolts, or screws are flush with the surface."

☐ Painted surfaces are in good repair with no rotten wood or rusted metal visible.

☐ No graffiti is visible.

CONTINUED ON PAGE 49

TURF RECYCLING:
the ongoing evolution of an industry

The three Rs used to be tongue-in-cheek shorthand for "Reading, Writing and 'rithmetic." These days, it's more about "Reuse, Recycle and Reduce."

The importance of being eco-friendly has permeated every level of our society, including the sports world. Now, sustainability—once limited to setting up waste containers for paper and plastic at a ballgame—starts when the stadium is built. Owners want an earth-friendly, energy-efficient building.

The trend has certainly hit the artificial turf industry. Now, as the first generation of fields is hitting the end of its useful life, the question is increasingly being asked: What to do with the material that will be taken out? After all, a football, soccer or lacrosse field is a lot of square footage, and the owners who had that field put in would like to know that as it is being removed, they have done their part in helping the environment.

Mark Heinlein, of Turf Reclamation Solutions (TRS), is hearing the questions all the time. But, he admits, the answer isn't always easy.

"I think there are a couple issues that need to be clarified upfront," Heinlein states. "The first issue is what you mean when you use the term, 'recycling.' Strictly speaking, recycling means making new products from waste materials. This is not happening in the turf industry to any extent. In the field reclamation business, recycling normally means either reusing or repurposing the materials."

Heinlein defines reuse as taking up the field surface itself and putting it someplace else as another field. Repurposing, he says, means using the materials for something other than a field, adding, "Because the reclaimed materials are not being processed into new materials, it's confusing to refer to it as recycling."

All images courtesy of Turf Reclamation Solutions

While reusing the turf in another location might sound enticing (and even altruistic, since there is always the idea of donating something that is no longer needed), Heinlein notes, it often is not feasible from a practical standpoint.

"There are some fields that should not be reused. They have little or no useful life left and it's only a matter of time, and sometimes that's a very short time, before that repurposed surface will have to be taken out. To me, that's just making disposal someone else's problem."

Reusing the current infill in a new surface, meanwhile, is the more popular option by far. Heinlein cites the savings to the field owner (who does not have to purchase new infill) as one of the reasons.

"Any infill you can reclaim is something you don't have to buy. Often, the contractor will give the owner some credit for this; they might say, 'If you want to re-use the infill, we'll knock this much off our bid.' That way, both the owner and a contractor get a benefit."

Something to be aware of, he points out, is that as technology has changed over the years, infill has changed as well. Many of the early fields were built with infill materials, most often sand and rubber, neither of which met tight specifications or quality requirements.

"Today," Heinlein notes, "the industry is much more aware of the impact of the infill characteristics. When we were a brand-new industry, we did not have the knowledge that comes with experience. There wasn't a lot of information available on sand sizing, rubber sizing, even the sources of rubber. Our infills now are technically much more predictable than in the past."

While the technology exists to take out an old carpet surface and create new components with it, Heinlein notes, it is just now becoming available to the turf industry.

"Old carpets can be processed and pelletized into feedstock for molded plastic parts, such as pallets and field underlayments," he notes. "We have a proven process for this, but right now, cost is a deterrent."

And as first generation of fields starts to wear out, the clock is ticking. A better option needs to be found and needs to be made available. Even the most recent edition of the book, "Sports Fields: A Construction and Maintenance Manual," by the American Sports Builders Association, included chapters on sustainability and field recycling. Heinlein, who authored those segments of the book, says the demand is out there.

"By 2016, we will see about **1,000 fields** reaching their end of life every year," says Heinlein.

"By 2016, we will see about 1,000 fields

Synthetic turf is commonly made of a mix of polymers. This makes recycling difficult. The new trend is to manufacture carpets with single polymer materials that can be recycled more easily."

reaching their end of life every year," says Heinlein. "That's an unbelievable number, when you think about it. The average field is about 80,000 square feet. Multiply that by 1,000 fields per year and you have 80 million square feet of turf, every single year. Landfilling is just an unacceptable practice from a sustainability standpoint."

However, Heinlein adds, new systems for recycling artificial turf surfaces are being developed in the US and Europe. He is confident that the technology will be successful and eventually accessible and affordable.

In addition, he notes, "We're starting to see turf manufacturers focus on making carpet that are easier to recycle. We didn't have that 15 years ago. Synthetic turf is commonly made of a mix of polymers. This makes recycling difficult. The new trend is to manufacture carpets with single polymer materials that can be recycled more easily."

The industry continues to evolve and Heinlein says the demand for earth-friendly solutions will continue to rise. He has seen it in the number of calls his company receives from those in the industry.

"There have always been people who do not simply want to throw something away. Repurposing the carpets and infill is part of the answer but we need solutions for a much greater volume of material. We get questions from architects, owners and others, all of whom are asking about their options. They want to do their homework. It's good for us, obviously, but it's better for the industry because it shows a growing awareness. If given equitable choices, nobody would choose to say 'Here, take my 80,000 square feet of turf and throw it into the landfill.' They want a better answer. We want everyone to be able to say, 'Hey, look, this facility is 100 percent recycled.' It drives the industry to a better place." ■

Mary Helen Sprecher is a free lance writer who wrote this article on behalf of the American Sports Builders Association (ASBA), a non-profit association helping designers, builders, owners, operators and users understand quality sports facility construction. The ASBA sponsors informative meetings and publishes newsletters, books (including the Sports Fields book mentioned in this article) and technical construction guidelines for athletic facilities including sports fields. It also offers voluntary certification programs in sports facility construction and maintenance, including sports fields. Available at no charge is a listing of all publications offered by the Association, as well as the ASBA's Membership Directory. Info: 866-501-ASBA (2722) or www.sportsbuilders.org

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Home phone _____ Work _____ Cell _____

Fax _____ Email _____

Signature _____

Direct Supervisor Name _____

Membership Category:

❑ Sports Turf Manager	$110
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Please select the primary facility type where you are employed:

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

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❑ Commercial	$295
❑ Commercial Associate* (Additional member(s) from the same commercial company)	$75
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❑ Chapter Dues (contact headquarters for amount) Chapter name) _____	$_____
❑ Contribution To SAFE Foundation (research, education and scholarship):	$_____
Total Amount Enclosed:	$_____

Payment Method:

❑ Check ❑ Money Order ❑ Purchase Order #:_____

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Name on Card _____

Card #: _____ Exp. Date: _____

Signature: _____

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

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Facility name:

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SPORTS TURF PROFESSIONALS: what do you want for Christmas?

Editor's note: *Once again this year we asked, for fun, a chimney full of sports turf industry professionals what they would like for Christmas that they might use in their work. Here are their anonymous (!) responses:*

Dear Santa,

All I want for Christmas is some newly graded fields... oh and, as always, a bigger budget would help.

I would like an earlier spring with no March snowstorms.

A fun answer is a bug that eats artificial turf; I am a grass man! Professional answer is an assistant.

All I want for Christmas is to not have a repeat of winter like last year.

I would like the equipment to continue operating without any major repairs. With the budget situations of today it's imperative we maintain the equipment to the best of our ability and pray nothing major happens to it.

No winter and a cure for cancer!

Nice comfortable waterproof boots that last longer than 3 months

I would like for Christmas….People to stop thinking synthetic turf is the answer for everything!

The item I would like for Christmas would be a topdresser.

I would like a mild winter to grow in new sod. Knock on wood!!!

One thing to wish for Christmas this year would be mild temperatures this winter. Sorry, Santa, leave the cold air and snow in the North Pole. Having a mild winter would be great for the turf here in transition zone here in North Carolina. Now that I have made this wish we will probably get a foot of snow and record ice storms!

I would like a new computer with updated software.

Slit-seeder. A Seed-A-Vator if I can be picky.

I think I would like to see a more positive attitude toward the industry. I think the longer you are in the sports turf field the more jaded you become as to your role and influence. We are over worked and under thanked for the countless hours we put in. Our own attitude is the only thing that we have a direct way of changing in order to make out jobs stay gratifying.

I would love a calm, non-windy, cloudless sky on days that I need to paint fields, logos, etc.
For Christmas I would like a First Products VERTIcutter!

Since we have to be in multiple places at once I would like a transporter beam that would allow us to teleport in a 5,000 mile radius. Beam me up, Scotty! ■

THE BEST BOSSES ARE…

What every employee wants from you as a leader

Do you ever feel overwhelmed as a manager? Being overburdened by the responsibility of having to figure out what others want and need of you is a familiar feeling shared among leaders. Fortunately, there is a "best practice" for obtaining just the kind of information needed to increase your leadership effectiveness—*ask* them what they want.

The following 10 traits have emerged when front line staff, supervisors and middle managers have been asked to describe the traits they look for in a boss. As you read through their "wish list," think about the kind of boss you are, you want to be, and what you look for in a good boss.

Employees want bosses who are:

INNOVATIVE. Good bosses have good ideas but their role in innovation is more as facilitator than consummate mastermind. They are not threatened by the talent of their employees, and cultivate a working environment that allows each person's creativity to come forward. They facilitate innovation.

COACHES. Good bosses provide important education and guidance that helps an employee see how his or her work is contributing to the larger goals of the organization. They help employees build confidence by giving stretch assignments that require demonstration of new skills and right-sized risk, then feedback that allows needed course corrections to be made early enough to avoid a major failure. When employees do fail, good bosses encourage reflection and identification of learning that can be applied to future endeavors.

CARING. Good bosses listen to their employees and show an interest in their opinion. They provide opportunities to talk openly, showing interest in their employees' opinion. They encourage personal and professional growth, sometimes by giving access to resources (like professional development experiences) and sometimes by removing barriers.

STRATEGIC. Good bosses can make hard choices and have the finesse needed to get people behind even sometimes unpopular decisions. They are able to secure resources for important initiative worth pursuing. Strategic bosses are decisive (not to be confused with closed-minded or dogmatic). Once a decision has been made, they stick with it and avoid changing directions quickly or sending mixed messages.

VISIONARY. Good bosses are also visionary managers, able to clearly see and build a commitment toward a compelling future state. They articulate a sense of direction, map out the path and shepherd the process.

DEMONSTRATE TRUSTWORTHINESS. A good boss is genuine, has integrity, and behaves in a manner consistent with his word and values. Employees trust bosses they know to be intelligent, capable and have a demonstrated track record of acting in their best interest. They give and receive (even invite) feedback, affirmative and constructive. They are fully aware of their scope of power in the organization and in their relationship with employees, how an off-handed comment or unpleasant glance may ruin someone's entire weekend.

ACCESSIBLE AND ADAPTABLE. Good bosses are able to balance how they give support and direction with the freedom employees need to do their work, acknowledging the level of experience and expertise over his domain. They understand that each employee comes to the workplace with unique experiences, needs and cultural lenses that will require individualized attention and support, and can adapt their own style to ensure effective communication and levels of productivity.

PASSIONATE. A good boss has a fire their belly about something, particularly the vision, mission of the organization and the people with whom they work and who their services are meant to touch. They are the first to roll up their sleeves to contribute, and model the level of motivation and quality required for achievement of organizational goals. They help employees stay connected to their own passion by encouraging the sharing of ideas and then helping to shape them to fit within and be supported by the larger organization.

CHAMPIONS. People want to know that the person to whom they report is on their side, even when mistakes are made. Champions look for opportunities to catch their employees doing a good job, and go out of their way to point it out. They don't take the credit for their employees' work, and they don't throw an employee under the bus, ever. They "influence up" by being a conduit between their employees and higher level decision makers, often helping their employees develop the language and influence strategies needed to take an idea to the top of the organization.

FUN. Good bosses are willing to laugh and value a work environment that encourages meaningful relationships between colleagues. They inspire us by making the connection from our head to our heart about the importance of our work and our value to the organization.

Here's the leadership next step: reflect on the list and identify qualities you are modeling. Think about where there is room for growth in your leadership practice, growth that will lead to increased levels of motivation and engagement. Finally, begin today encouraging your employees to share their own needs allowing for timely adjustments. ■

DeEtta Jones is a leadership strategist, social justice advocate and author. She has more than 20 years of experience working with individual leaders and teams in some of the world's most prominent universities and corporations. For more information visit http://www.deettajones.com.

For more information on these and other products, please visit *www.greenmediaonline.com/productportal.*

Protecting your curb appeal this winter

Editor's note: *This article was written by Richard Behan, the president of Nordic Auto Plow.*

We all know that you should not judge a book by its cover, but let's face it, the "cover" displayed by most universities is a big reason why students choose where they plan to live for the next 4 years of their lives (sometimes 6 years or longer!). Unless a student receives a scholarship from just one college, incoming freshmen's traditional fall routine is for the family to drive and check out various campuses. They will do advance prep work by Googling which are the most beautiful campuses in addition to checking academic standards and costs.

First impressions are made at the curb—are the buildings modern, full of achitecture, are they stately with centuries of history, how are the grounds, landscaping and vistas? Lets not forget the stadium, the center of weekend life and college pride; the grandure of its entrance, the field, the stands and facilities are as important to them as the record of the teams playing there.

A common trend among universities includes raising funds by selling paver brick engravings. Students, alumni and corporations will pay $100-150 for special mentions engraved onto special bricks. The facility management has a stewardship responsibility of keeping them in pristine condition. The task of maintaining miles of paths, walkways, entry ways and roads on the campus is a monumental task, especially if you live in the Snow Belt region. As last winter showed many in the Midwest and Northeast, snow is not a thing of the past. Most colleges have spent hundreds of thousands of dollars on these paver bricks, stones and ornamental ground coverings and spend more each spring trying to repair them after the brutal winter takes their toll on them.

The same challenges exist for the walk ways surrounding the stadium and the field turf, whether natural or artificial, and the surrounding tracks. Snow, ice, and slush can be harsh on the turf and interfere with stadium events held year round. Many stadium fields are covered with synthetic tarps during the winter that costs tens of thousands of dollars and removing snow and water from them without ripping or tearing the tarp is a tricky task. Furthermore, while drainage systems have been installed in most stadiums, standing water can still occur which must be removed to hold events.

There are significant challenges of maintaining these beautiful, image creating surfaces described above. The traditional methods of clearing snow from the ground surface are steel, sharp edged plow blades pushed by utility vehicles and trucks. These are great for concrete and blacktop surfaces which are smooth and crack free; however, they are not surface friendly. Pot holes are a major problem for municipalities and universities alike; the steel edges of the blades rips up the raised ground caused by the ice formed under the surface. Paver bricks are not immune to the scraping, scratching and lifting caused by the elements and the steel plow blades. There has been a steady acceptance in the industry of attaching rubber or polyurethane cutting edges to their plows. Polyurethane cutting edges are very quiet in operation and exhibit better abrasion characteristics than rubber and most metals, but it comes at a higher costs. They are perfect for streets made of paver brick and work quite well when attached to smaller vehicle plow blades, but don't try them on your turf!

Good old fashion manpower is another method: getting a team of workers out there with snow shovels has always been an option. Traditional shoveling has dwindled as a viable alternative to plowing except in the tightest of areas. Budget cuts, worker compensation claims, and employees missing work are reasons for this. Anyone who has ever shoveled a sidewalk knows how frustrating it is to get the shovel blade caught on cracks. The standard shovel requires bending, twisting, and strenuous lifting which makes this task the least desirable of all methods. Shovel types have improved recently as companies have introduced snow pushers that are easy on the back and some even come with wheels. Most of these shovel blades are short in height and thus can only be used under limited snow fall conditions. One must be careful when clearing the turf, however, since the sharp edge can tear the tarp or snag on the grass.

Snow blowers are an efficient method of clearing sidewalks and paths, but they are not paver brick friendly. Like the steel blades attached to ATVs, they can leave rust marks and scratches on the expensive ground covering. Power brushes are a welcomed advance in technology and are great to clear light snow from paver bricks and even stadium turf. There are units which are pushed like snow blowers or they can be attached directly to utility vehicles. They can be quite expensive though, ranging from $3,000 to $9,000 per unit. While they don't harm the bricks and stone, they can cause problems when used on turf. They have a tendency of ripping the grass or removing the lower rubber base of the synthetic turf.

I am aware of certain innovative souls who have attempted to modify their plows' cutting edges to get a rounded edge. Some have welded rounded steel pipes to the bottom of their plows or cut a slice into large PVC tubing and bolted it to the blade. These modified plow edges work great for a limited time but must be used with extreme caution. The PVC can crack and dislodged itself from the plow resulting in sharp edges once again making ground contact when least expected.

If it's not clear by now, facility managers have a very important role to play in attracting students to their campuses. Their task is not easy; they must keep the grounds in pristine condition and safe for foot and vehicle travel and must do so while dealing with brutal winters conditions. Special attention must be taken when dealing with paver bricks, etched stones and stadium turf in order to keep the curb appeal beautiful and long lasting. ■

Richard Behan, President of Nordic Auto Plow, is co-inventor of a lightweight, rounded edge plow blade for UTV's, ATV's, Z-Turns, passenger cars and has patents pending for a 2' & 3' wide adjustable, rounded edge snow pushers and rounded cutting edges for steel blades. www.nordicplow.com

Deere unveils Michelin Tweel Turf tires

The new MICHELIN X TWEELTURF is an airless radial tire sold exclusively for John Deere ZTrak 900 Series models with 54-, 60- and 72-inch deck sizes. Unlike traditional pneumatic tires, these virtually eliminate tire downtime and are nearly maintenance free. The X TWEEL TURF has the same dimensions and bolt pattern as a standard 24x12x12 tire, and features automotive rubber technology, allowing the tread to last up to three times longer than standard turf tires. The first commercial MICHELIN X TWEEL airless radial was introduced in October 2012 for use on skid steer loaders. In 2013, the MICHELIN X TWEEL SSL was selected as one of the Contractors' Top 50 New Products by readers of Equipment Today.

John Deere

DEWALT launches battery-powered outdoor equipment

DEWALT launched its first battery-powered Outdoor Power Tools at the 2014 GIE Expo. The line includes two 40V MAX* Brushless String Trimmers, two 40V MAX* Brushless Blowers, and a 40V MAX* Hedge Trimmer. The cordless outdoor tools run on the DEWALT 40V MAX* Lithium Ion battery platform with EXTREME RUNTIME (XR) on the brushless units. The 40V MAX* Brushless String Trimmer comes with either the 4.0Ah Lithium Ion battery or the 6.0Ah Lithium Ion battery for 50% more battery capacity. The String Trimmer features a 15 Inch cut swath, dual-line bump feed head, and a patented gear drive design that provides amplified torque and maintains cut speed under load. A variable speed trigger allows the user maximum control over speed and runtime while a padded auxiliary handle offers comfort for long use.

DEWALT

New Bobcat S450 skid-steer loader

Bobcat Company has expanded its M-Series skid-steer loader lineup with the launch of the new S450, a loader that provides operators with improved comfort and performance and is less than 5 feet wide for working in tight jobsites. With a spacious cab, a 20 percent increase in auxiliary hydraulic pressures and a non-diesel particulate filter (non-DPF) engine, the 49-horsepower S450 replaces the K-Series S130 skid-steer loader. The Bobcat® S450 is designed to serve a wide and challenging spectrum of tasks. By not requiring a DPF in the S450 engine, operators won't spend time cleaning the filter, completing the regeneration process or replacing the filter. The radius-lift-path S450 loader has a low operating weight and an optimal reach for loading or unloading palletized materials from trucks or backfilling around foundations.

Bobcat

Bayer CropScience launches non-selective herbicide Specticle Total

To help turf managers more effectively manage areas of unwanted weeds and grasses, Environmental Science, a division of Bayer CropScience LP, announced Specticle Total, a non-selective herbicide with unparalleled residual control. Specticle Total not only kills existing weeds, it prevents new ones for up to six months. It is easily mixed in a backpack sprayer and can be used in both landscapes and hardscapes. Specticle Total provides you fast, effective control with visible results in hours. It is rainproof in 30 minutes and uses less active ingredient, which results in less herbicide in the environment. Specticle Total can be used in a variety of landscape and hardscape areas, including mulched areas and around ornamental plants and grasses.

Bayer CropScience

Host of Super Bowl XLVIII acquires turnkey turf protection system

MetLife Stadium, host of Super Bowl XLVIII and home to the NY Giants and NY Jets, recently acquired a turnkey outdoor temporary flooring system from Matrax, Inc. to cover the synthetic turf during non-football events. Other systems that MetLife had used in the past did not meet their performance expectations as these products were poorly designed and could not support fully loaded 40' tractor trailers weighing 40,000 lbs. Previously, the trailers had to be unloaded in the parking lot and components of the stage shuttled in on smaller, lighter duty vehicles. This process was costly and time consuming. Furthermore, one of the previous systems caused damage to the synthetic turf it was intended to protect. Where other field covering systems are designed from a flooring perspective, Matrax was engineered with temporary road building and heavy vehicular traffic in mind. It was also designed to be easily installed, stored, and transported

Matrax, Inc.

Gravely introduces the Atlas JSV utility vehicle

Gravely introduces its Atlas JSV utility vehicle with a 1,900 lb. payload and 2,000 lb. towing capacity. Supported by an on-demand, true all-wheel drive system and De Dion rear suspension, this Jobsite Vehicle (JSV) provides the heavy-duty traction and suspension required to maintain full ground clearance and a smooth ride even when carrying maximum loads. The all-steel MX-18 JobBox features a 1,250 lb. capacity, steel walls to prevent bowing, and four integrated tie-down points to secure cargo. The extra-large 48" x 57" bed easily accommodates standard wooden pallet. Electric cargo bed lift is standard on all Atlas models. The Atlas JSV-3000 fits three adults comfortably across one bench seat and the Atlas JSV-6000 crew model fits six adults across two bench seats. Both models are available with a 1-cylinder, 570cc Polaris® DOHC gas engine or 3-cylinder, 1028cc Kohler® Diesel engine. All engines provide a 10-gallon fuel capacity and ground speed of 35 mph.

Gravely

COLUMBUS CREW STADIUM PITCH

■ **Category of Submission:** Professional Soccer
■ **Sports Turf Manager:** Weston Appelfeller
■ **Title:** Director of Grounds
■ **Education:** Bachelor of Science in Agriculture, Turfgrass Science, The Ohio State University
■ **Experience:** Columbus Crew Stadium, Director of Grounds, January 2012-Present; PPL Park/ Philadelphia Union, Assistant Groundskeeper, May 2011-December 2011; Boston Red Sox, Grounds Crew Supervisor, March 2008-May 2011; Columbus Crew Stadium, Director of Grounds, June 2007-February 2008; Columbus Crew Stadium, Assistant Groundskeeper, February 2006-June 2007
■ **Full-time staff:** Weston Appelfeller, Ben Jackson & Mitch Litz
■ **Part-time staff:** Ryan Martin, Will Forister, Gary Rasor & Reese Overly
■ **Original construction:** 1999
■ **Rootzone:** Loamy 81%, Sand 19% Other: Clay and Silt
■ **Turfgrass variety:** Kentucky bluegrass & perennial ryegrass
■ **Overseed:** We overseed with perennial ryegrass once a month. This varies between 3 and 6 lbs of seed per 1,000 sq. ft depending on amount of activity expected.
■ **Drainage:** Longitudal drainage system. Water flows through 4-inch pipes to the middle of the field and meets the 8-inch main and flows from the field.

WHY STMA SHOULD CONSIDER YOUR FIELD A WINNER?

Our field has seen an extreme amount of activity over the past year. From college football to a three day Rock and Roll festival, we no longer take care of a soccer stadium; we take care of an entertainment venue that hosts soccer games. Our staff has given up their time to provide the best possible playing surface. We feel our playing surface throughout the season is one of the best in soccer, no matter what activity we have recently had on the field. Our staff has made every effort to continue to improve on the success our field has had in the past. Our stadium is 15 years old, older than any other professional soccer stadium. We have only replaced our field once in that time.

Our field has very little *poa annua* which helps us provide the best footing possible. We have deep roots consistently throughout the season, which helps us deal with the extra events we host on a regular basis. We follow the advice we learn from our peers about field maintenance and try create new ways of field management to better our field.

We push the limits of what our field can handle to provide the best experience for the fans of whatever event we may have. We realize the importance our field has to the Crew organization and its ability to raise income. We work closely with stadium management to implement all event ideas and will do whatever it takes for our field to be consistent through these events. We deserve field of the year because no other stadium sees the rain, snow, cold, heat, and events like football, soccer, concerts, yoga, human foosball, etc. that we do while continuing to have a high level surface.

In 2010, our facility won field of the year. Brett Tanner was the Director of Grounds during that season. He has since moved on but we still have a lot of the same staff he had that season. This award would provide the staff with an understanding that no matter the circumstances they are faced with, they are the reason this facility is great. It's not about the leadership; it's about the people who do the work that make athletic fields what they are.

SportsTurf: What attracted you to a career in sports turf management?

Appelfeller: Growing up I had a love for taking care of lawns, sports and farming. When I realized there was a career that combined all three I knew I was set. From my freshman year of high school I set a goal to be a Sports Turf Manager.

ST: How do you balance your family life with work demands?

Appelfeller: Early on in my career work was everything. I got married in college and my wife learned early on the demands of groundskeeping. Now, as a father of two kids I realize that family is everything. I meet the work demands head on, but I realize that as groundskeepers we need to balance life outside of work better. Having great employees that share the same drive and determination makes it possible to focus more on life away from work.

ST: How do you see the sports turf manager's job changing in the next 5-10 years?

Appelfeller: I think as sports turf managers we are evolving. We are trying new practices and eager for knowledge. As we move forward I believe we will rely less on what we have always known to work and push for trying new inventions. Whether it's pushing bermudagrass to the north or fraze mowing, we are in an exciting time and the future is only going to get brighter.

ST: Do you plan any adjustments, large or small, to your maintenance plan in 2015? Did you purchase any new equipment or product for this year?

Appelfeller: We are always looking to improve what we are doing here at Columbus Crew Stadium. At the end of each year we evaluate what we have done, and look for ways to make the fields stronger and more durable. This year will be no different. As our season comes to a close, we have begun to review what has worked and what will need improved. Our budget hasn't allowed for us to upgrade our equipment and so we will go into next season armed with the same fleet of equipment.

ST: What's the greatest pleasure you derive from your job? What's the biggest headache?

Appelfeller: The greatest pleasure I derive from my job comes from working with a great crew to accomplish one goal. Working with a tight knit group to provide the safest, most playable, and visually appealing fields is very rewarding.

The biggest headache comes from balancing extra event schedules and the personalities that come with them. Our motto is to try to never say no when it comes to field usage. We would like as little activity as possible on our playing surface, but understand in order for our team to be successful we need to host extra events. Balancing these events with what is best for the health of the turf is the toughest issue.

STMA would like to thank Carolina Green, Ewing, Hunter Industries and World Class Athletic Surfaces for their continued support of the Field of the Year Awards Program.

Equipment list

- Toro 3100 D Reelmaster
- John Deere 2653 B
- John Deere Gator TX
- John Deere ProGator
- Toro SR70 Deep Time Aerifier
- John Deere Aercore 1000
- John Deere 4320 Tractor
- John Deere 4100
- John Deere ProGator Sprayer
- Cone Spreader
- Anderson Sr-2000 Spreaders
- Edger
- Ty-Crop Topdresser
- John Deere TC125 Core Harvester

For more on the latest news, please visit *www.sportsturfonline.com* and *www.stma.org*.

How to convince your employer to send you to the STMA conference

It's time to begin planning your trip to the Annual STMA Conference. This year, STMA will be in Denver from January 13-16, 2015. How can you convince your employer to send you?

Continuing education and industry connections are crucial to your success and the success of your sports facility. Here are some suggestions to help your employer understand how your attendance at the Annual STMA Conference and Exhibition can add value to the overall operation of the facility. At the end of the article is a 1-page document you can present to your employer that outlines the costs and benefits of your attendance.

Educate yourself on the Conference and Exhibition

• Provide an overview of the size and scope of the Conference. It may be helpful to give your employer a copy of the conference brochure. There is an online version also available at stma.org.

• Pinpoint specific sessions you plan to attend, and tie their relevance to your sports facility.

• Highlight the trade show hours you plan to attend.

• Cite the suppliers and equipment manufacturers you plan to meet.

• Discuss the networking opportunities you will have with peers who share challenges similar to the ones you have.

• Detail the CEUs you will receive toward recertification.

•Explain how innovations in products, new research, and cutting edge management techniques continually change, and why it is important to stay abreast of those changes.

• Reinforce how the success of your sports fields ultimately depends upon the continued professional development of you and your staff.

Know the Cost

• Make a case for efficient and effective use of your facility's training dollars. By attending the STMA Conference and Exhibition, you will be exposed to the most relevant education and technology available in one place, making it the most effective use of training dollars.

• Show how the conference registration fee includes almost all your meals.

•Research airfares and drive times. Denver has low airfare costs from almost anywhere in the US. You may be able to beat the cost of airfare while spending a reasonable amount of time in the car.

Have an Action Plan

• Develop a plan for how operations will continue in your absence. Make sure you are accessible by phone or by email to address any concerns that might arise in your absence.

• Promise to prepare and present a report on the information you learned and how you plan to put it into practice at your facility.

• Demonstrate how you will share the technical information learned with your staff for their continuing educational development. ■

STMA, MiLB announce 2014 Sports Turf Manager of the Year Awards

Since 2004, STMA and MiLB have honored members who manage fields in Triple-A, Double-A, Single-A and Rookie divisions. Three of the four honorees are multi-year winners, showing continued excellence and loyalty to top-notch professional baseball facilities.

Award winners include:

• Triple-A - Joey Stevenson, Indianapolis Indians (Indianapolis, IN)

• Double-A - Brock Phipps, Springfield Cardinals (Springfield, MO)

• Single-A - Keith Winter, Ft. Wayne Tincaps (Fort Wayne, IN)

• Short Season or Rookie - David Yearout, Spokane Indians (Spokane, WA)

"The Minor League Baseball 'Sports Turf Manager of the Year' award is a dedication to our members who have an intense passion to provide the finest playing surfaces," says Kim Heck, CEO of STMA. "Each day, they face new challenges and these devoted individuals consistently create novel solutions to provide pristine and safe sports fields."

Stevenson is being honored for the third time, also winning in 2011 and 2012. Last year, he won this magazine's first annual "Mowing Patterns" contest. ■

The destination has been reached; the journey continues

The Sports Turf Managers Association is in its final month of its 3-year strategic plan. The progress by the board and committees has been tremendous; so much so that the plan is virtually complete, except for on-going initiatives. A new association strategic plan begins January 1, 2015.

The strategic plan guides the work of the Board of Directors. It is a roadmap that provides continuity for the association as the Board members change each year. Having a plan in place keeps the focus and momentum on advancing the mission of the association, rather than redirecting as each new President takes office. In addition to providing stability, achieving the plan contributes to the very important financial health of the association (see "Audit Results" sidebar).

Achieving the plan

Four strategic platforms laid the foundation for the 2012-2014 plan. These platforms primarily focused on improving the services and the value that members receive from STMA. The plan also targeted external audiences to help expand members' influence in their work environment.

The strategic platforms and their top goals and objectives to accomplish include:

Platform 1: Attract and Retain a Vibrant and Engaged Membership.

Goal: Grow and sustain a membership of 3,800 by the conclusion of 2014.

Objectives: Recruit non-members; help chapters grow; engage those who are on the periphery of sports field management.

Platform 2: Be Recognized as the Leader in Industry Education.

Goal: Provide educational resources that are vital to the success of members and advance the profession.

Objectives: Develop education that is relevant, affordable and accessible; develop significant learning opportunities at the national and regional conferences.

Platform 3: Gain Respect and Recognition for Members and the Profession from External Audiences.

Goal: To increase awareness of the profession and visibility of members with employer groups, the media, sports organizations, athletes and international organizations.

Objectives: Create an association-wide marketing plan; use the environmental stewardship of members to raise awareness of the profession and enhance the image of STMA members; protect and advance the work of members through government relations outreach; develop relationships internationally that will raise the awareness of STMA.

Platform 4: Create Excellent Value for Commercial Partners.

Goal: To validate the importance of commercial members to STMA.

Objectives: Provide a conference and exhibition that meets exhibitor expectations; provide sponsorship opportunities that achieve commercial partners' goals; provide information to commercial partners about STMA members that helps them grow their businesses.

The Board reviews its progress to these goals and objectives at their board meetings, and adjusts as necessary.

Although the association did not reach its membership goal of 3,800, the Board acknowledges that this was a "more-than-a-stretch" goal. They were pleased with the recruitment programs developed by the Membership Committee to help grow and retain members. One of the programs, the "Free Conference Registration with a New Membership" and its companion program that provides

RESULTS OF STMA 2013 ANNUAL AUDIT

Revenues, Gains and Other Support	
Membership dues	**$247,991**
Chapter fees	**17,750**
Annual meeting	**639,576**
Certification program	**26,330**
Magazine and book royalties	**57,044**
Contributions and sponsorships	**29,000**
Investment income	**146,952**
Other	**2,261**
Total revenues, gains and other support	**$1,166,904**
Expenses:	
Programs:	
Membership services	**$217,975**
Annual meeting	**522,555**
Total Program Services	**$740,530**
Supporting services:	
Management and general	**$101,806**
Governance & board expenses	**54,729**
Membership development	**208,319**
Total supporting services	**$364,854**
Total expenses	**$1,105,384**
Change in net assets	**$61,520**

(The change in net assets for 2012 was $19,890)

STMA dollars to members who recruit new members is proving to be highly successful. STMA should reap the benefits of a larger membership in future years. Our retention statistics show that members who attend conference are more likely to continue to renew their memberships.

Other plan accomplishments include the development of a strong international outreach program, an environmental facility certification program, and a public relations program that has resulted in hundreds of media hits promoting members. Our conference continues to grow, we are better engaging commercial members, have created government relations tools, strengthened our chapter network, and have greatly enriched our educational resources for members. Outside organizations know us and work with us on collective issues.

Building a new plan

During its summer meeting, the STMA Board of Directors created a new plan that builds on the successes of its previous plans. Working with facilitators from Leading Associations, they created a new mission and vision, added new layers to some of the previous goals, and shifted direction from growing the association in numbers to growing STMA's influence.

STMA's new mission better states why the association exists: *STMA advances professionalism in sports field management and safety through education, awareness programs, and industry development*. Its previous mission: *To be the recognized leader in strengthening the sports field management industry and enhancing members' competence and acknowledgement of their professionalism*, now serves as the vision for the association.

New strategic goals include:

Goal 1: Communications Plan - Develop and implement a comprehensive communications plan that focuses on brand awareness, public relations and marketing.

Goal 2: Increase the reciprocal value between STMA and its Commercial Members; expand the mutual commitment and engagement of Commercial Members in STMA.

Goal 3: Environmental Stewardship - Position STMA members as environmental stewards.

Goal 4: Natural Grass Benefits - STMA promotes the benefits and possibilities of properly managed natural grass for athletic surfaces.

Goal 5: Education Programming - Provide education to all members where they are and where they need it.

Objectives and tactics are currently being developed by Committees for the Board of Directors approval. Goals 2 and 5 build on last year's plan. Although environmental stewardship and marketing and public relations were objectives in the previous plan, their importance to achieving our mission is so great that they are now core goals in the new plan. New to our plan is to make known the benefits of natural grass athletic fields.

As with all of STMA's initiatives, members are stakeholders in this plan. As STMA advances these goals, members benefit through access to more services and resources. A larger association with a vibrant membership also has a more powerful voice in the industry. The profession becomes better understood and our members become more highly valued for the work that they do.

STMA will be reporting on its progress to the new plan as work is accomplished. Look for regular updates. ■

Renew your 2015 Membership; a Member Benefit that is not used much, thankfully!

It is that time of year—membership renewal time. The easiest and fastest way to renew is to go online. Log in to your members only page. Click on the Membership, Merchandise and Online Registration and select the correct dues renewal category. Are you taking full advantage of all that your membership offers? There are dozens of new educational resources for members only under the Knowledge Center tab at STMA.org. STMA also is debuting a new webinar series, which is being recorded so that you can watch and listen at your convenience.

STMA has a membership benefit that we hope you'll never need to use, the extension of your STMA membership at no cost to you, if you lose your job. We know that organizations are cutting back, which could adversely affect your job security. STMA stands behind its members and will assist any member in any category who loses his or her job by continuing their STMA membership, at no charge for 6 months. This benefit relies on the honor system, and if you become employed during this 6 month period, the association assumes that you will pay your regular membership dues.

This membership extension allows you access to very important job search benefits on the Members Only side of the website. You'll be able to view job listings, post your résumé, access career information and actively network with your peers using the online STMA Membership Directory. Your membership continues seamlessly, with all rights and privileges of your membership category. STMA's membership year is calendar based, January through December. As this year draws to a close, if you are affected by a job loss, please call STMA to activate this benefit.

There are very few rules. You must have been a member of STMA for at least 1 year. If you have not found employment after 6 months, STMA will offer an Affiliate Membership to you at the $50 member rate. ■

Chapter Spotlight: Texas STMA

STMA will be highlighting accomplishments from select chapters in every issue of *SportsTurf*. If you have new developments or success stories in your chapter, please email Sales & Marketing Manager Shant Thomas at sthomas@stma.org. We look forward to highlighting your chapter!

Editor's note: This update is from Texas Chapter President Rusty Walker, CSFM. It first appeared in the Fall 2014 TXSTMA newsletter, Sidelines.

"Exciting times for TXSTMA! We have finally hired a new part-time chapter executive. Her name is Carol Cloud and along with Carol we will be getting some extra help from her husband, Brian. Both Carol and Brian have a background in the turf industry being the former Chapter Executives for the North Texas Golf Course Superintendents Association. They have hit the ground running since mid-September and haven't slowed down much. They have already added another form of communications with you, our members, that will come out bi-weekly called*Scoreboard*. If you know of some industry news or you have a story of interest please feel free to share that with Carol. We would love to have our membership news highlighted in this publication. There will be another form of e-communication coming at you also called "Quick Hits" that could feature job openings and timely industry news, etc. These two new forms of e-communications will be a great opportunity for our Affiliate Members to get some new optional advertising formats. Please introduce yourself to Carol and Brian at our annual meeting in December.

I hope you all have plans to join your fellow Sports Turf Managers at the Texas Turfgrass Association Annual Conference in Ft. Worth on December 16-18, as well as join us at the TXSTMA Annual Business Meeting and Luncheon on December 17 from 11:30-12:30. We will be electing our new officers for 2015 as well as giving away two free registrations to the National STMA Conference on January 13-17 in Denver, Colorado." ■

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

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

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.

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.

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1 What is your company's primary business? (*check **ONLY ONE***)
F ❑ Sports Complex G ❑ Athletic Field and/or Park Architect/Designer
T ❑ School, College or University P ❑ Park
H ❑ Other (please specify)_____

2 Which of the following best describes your title? (*check **ONLY ONE***)
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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 C ❑ $50,001 - $100,000
E ❑ $500,001 - $1 million B ❑ $25,001 - $50,000
D ❑ $100,001 - $500,000 A ❑ $25,000 and under

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World Class Athletic Surfaces	23	www.worldclasspaints.com

CONTINUED FROM PAGE 33 (Playgrounds)

C. Surfacing

- ☐ Fall surface is clean and free of litter and debris.
- ☐ "Wood Carpet surfaces are loose, level, and free of compaction."
- ☐ Surface material is well drained and no evidence of standing water is apparent.
- ☐ Rubber surfaces are free of major holes and tears with minimal deterioration.
- ☐ Rubber surfaces are secure to the base material and curbing.

D. Trash Receptacles

- ☐ Sufficient barrels are available in high traffic areas.
- ☐ Barrels are not overflowing and have liners in place.
- ☐ Receptacles are cleanly painted with no rusted metal or graffiti visible.
- ☐ Lids are in place where appropriate.

E. Signage

- ☐ Emergency and Parks Hotline signs are in visible locations and secured properly.
- ☐ Signs are readable and not faded or broken.

G. Fences

- ☐ Fence fabric is free of holes and is properly tied to the upright and crossing supports.
- ☐ Fence posts are secure in the ground and are straight upright. Crossbars are properly tied to the uprights.
- ☐ Posts have caps in place.
- ☐ Gates and hardware are functional with all hardware in place.

Q&A with Dr. David Minner

Professor, Iowa State University

Questions? Send them to David Minner at Iowa State University, 106 Horticulture Hall, Ames, IA 50011 or email *dminner@iastate.edu*.
Or, send your question to Grady Miller at North Carolina State University, Box 7620, Raleigh, NC 27695-7620, or *emailgrady_miller@ncsu.edu*.

All for one

I have finally convinced my high school to purchase a riding reel mower for our showcase baseball field. It is a good used reel mower but unfortunately it does not easily change mowing heights so I am faced with the challenge of selecting an "all for one" deal; that is a single mowing height for both the infield and outfield. What should the mowing height be and what am I getting myself into with this type of mowing strategy?
— Chris Hill, head baseball coach, Story City, IA

I know the history of this field since it is just down the road from my office and it gives me the opportunity to let you follow the decision process. Chris is a coach and also has become an excellent, self-made groundskeeper who instills baseball facility pride in his players and community. About 5 years ago this small town decided to give the old baseball facility a face lift that resulted in new dugouts, fencing, and concession area. The infield was also re-graded, seeded with Kentucky bluegrass, and top-dressed to make a very tight grass surface. After re-grassing, the field was mowed at a tight ¾ inch height with a borrowed walk behind striping mower specifically made with a rear roller. The appearance and playing quality of the infield was identical to many of the MLB fields I have visited.

The mower was great for the schools' needs, but with only enough funds to buy one mower, this 20-inch walk behind mower was not sufficient to mow the expanse of both infield and outfield. The outfield has been a different story since it was a Kentucky bluegrass/perennial ryegrass mix that was dominated by ryegrass. The outfield was never laser graded so there are surface undulations that cause high and low spots exceeding one inch. The outfield was mowed at a 2-inch height with a 72-inch rotary deck mower and the surface has always played rougher compared to the infield.

Last year Chris used the rotary deck mower to mow the infield at 1 inch and the outfield at 2 inches and the result was a less than desirable infield playing quality compared to the walk-behind striping mower.

And this brings us to the root of this question: With the new riding reel mower what single mowing height should be used when mowing a very smooth infield that will tolerate a ½ inch and a rougher outfield that is bumpy and has never been mowed lower than 2 inches, with a rotary mower?

» The maximum height I suggest for this infield situation would be 1 ½ inches; my preference would be 1 inch for the infield but that would cause scalping and a rough ride on your bumpy outfield.

I'm sure some of you are thinking just get a more versatile mower that will mow both heights since there are some really good easily adjustable striping riding rotary mowers on the market that could mow a smooth infield at about an 1 ¼ and then also mow the rougher outfield at any height desired. But the choice given here is a riding reel mower that will be set at one height. The maximum height I suggest for this infield situation would be 1 ½ inches; my preference would be 1 inch for the infield but that would cause scalping and a rough ride on your bumpy outfield. But grasses both infield and outfield will perform well at a mowing height of 1 ½. It is difficult to tell how well the bumpy outfield will take reel mowing at that height. I do believe that repeated reel mowing does help smooth the surface over time because of the micro rolling that occurs. The rotary deck mower without rollers that has been used in the past has done nothing to smooth the field and in fact when it is mowed slightly wet the wheel tracks just add to the bumpiness.

If you are getting into the reel mowing business there are some additional things to consider such as, bed knife/reel adjustments, back lapping, bed knife grinding, selecting the right number of blades on the reel to match the ground speed and clip rate. It's winter now but get a plan together. In the spring just as the grass begins to green up take whatever rotary mower you can find and set it just below the planned reel mowing height of 1 ½ inches. Mow the entire field to remove all the dead grass; the field will immediately appear greener but that's not what you are looking for. What you are trying to do is to get the height below the planned reel mower height. Then immediately start mowing on a routine schedule with the reel mower when the grass reaches the 1 ½ inch. If the outfield is simply too bumpy try some light rolling to make the reel mower more effective. All for one and one for all sounds good but a versatile mower that cuts cleanly and is easily adjusted between mowing heights of 1 inch to 2 inches is what is really needed for your field.

Enjoy the winter; spring baseball is just around the corner. ■

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