Sports Turf Manager
FOR BETTER, SAFER SPORTS TURF. WINTER 2014. VOL. 27. NO. 4.

You Cannot Manage What You Have Not Measured

R.W. Sheard, PhD., Retired Professor, University of Guelph

Sports field managers are continuously being called upon to make decisions regarding the management of the athletic fields under their care. These decisions must reflect not only the safety of the athlete using the field but also the best use of the taxpayer's money used in the maintenance of the fields.

Basic to the making of those decisions is a knowledge of the composition of the rootzone used for growing the grass on the field. This knowledge comprises a simple, relatively inexpensive, particle size analysis of the soil material making up the rootzone. Once obtained, this data is a permanent signature of the field and will not change.

If managers decide they need additional advice from a consultant, the first item the consultant is going to request is this basic information. If it is not available, the consultant will proceed to take samples and have the analysis performed before offering advice on the problem. If they don't then they are not the person for the job.

When managers have this basic information on file then they are in a position to generate a classification system for their fields, which may be one to meet their own needs, or a system based on that developed by Sports Turf Canada™ and outlined in the Athletic Field Construction Manual available from the association. The latter system is primarily based on the rootzone material, knowledge which is critical to the proper management of the field.

Further information which should be available for each field is the fertility status of the field. This data can be obtained at little additional cost on the same sample as was used for particle size analysis. The fertility status is constantly changing, hopefully improving with time and a good fertility program. Managers should have proof, however, that this is occurring.

Concurrent with the fertility analysis is a record of the fertilizer material applied to each field, both amount and analysis. Such a record is often hard to create as staff are often reluctant under pressure of time, and using poorly calibrated equipment, to generate the necessary data.

Thus for each field, from A to Z, a folder in a file drawer, or a computer file should contain: (1) particle size analysis, (2) fertility analysis, and (3) analysis, amount, and date of application of any fertilizer material.

Now the sports field manager is in a position to make decisions.•

Inside Features

Sports Turf Manager

Volume 27, Issue 4, ISSN 1201-3765

is the official publication of
SPORTS TURF CANADA™
328 Victoria Road South
Guelph, ON N1L 0H2
Tel: (519) 763-9431
Fax: (519) 766-1704
E-mail: info@SportsTurfCanada.com
Web: SportsTurfCanada.com

SPORTS TURF MANAGER
is published quarterly by Sports Turf Canada™ for free distribution to its membership. An annual subscription may be obtained for $129/year. Please direct advertising inquiries to Lee Huether at the STC office.

EDITORIAL COMMITTEE
Ken Pavely, Ben Tymchyshyn and Lee Huether

PUBLISHER
Jackie Ranahan
Mach One Communications
Tel: (519) 846-0446
E-mail: jackie@thinkmachone.com

CANADA POST PUBLICATIONS MAIL SALES AGREEMENT No. 40031883

SPORTS TURF CANADA™ OFFICE HOURS
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President's Desk

BY TENNESSEE PROPEDO

With winter fast approaching turf managers are busy preparing their fields for hopefully what won't be a repeat of the extended bitter winter we received last year. Just like at the North Pole, things are happening at lightning speed at Sports Turf Canada™ as we get ready to move into 2015. The new member referral program is in full swing and runs until January 31. Help us grow the association and share the passion for better, safer sports turf! Now is the time to send in your nomination for an association member for the prestigious 2015 Sports Turf Manager of the Year award. The extended deadline is January 15. You don't require long time service in the industry to be nominated, this award is to honour a member for their proactive and progressive efforts within the profession and the industry. So what's that innovative new idea, tool, or plan of action that has made a difference to your operation, community or our profession? Now is your time to be recognized.

In this edition of the magazine you will have an opportunity to meet Ray Walsh, Operations Manager for the City of Saint John, New Brunswick in our member and facility profile section. As well there are articles emphasizing the importance of knowing the composition of your rootzone, your field's fertility status and the tools & techniques required to do so, and how to create and paint a sports field logo. This was demonstrated to all that were in attendance at the Sports Field Training Day in Surrey, British Columbia this past summer.

Remember, January is the beginning of the conference season right across the continent starting with that of the Sports Turf Managers Association, then the Atlantic Turfgrass Research Foundation, the Ontario Turfgrass Symposium, followed by the Western Canada Turfgrass Association. See the Event Calendar on page four for dates, locations and links for registration. And don't miss the Early Bird registration dates – significant savings are available! The Sports Turf Canada annual meeting of members is at the close of the first day of the OTS. We'll send you more information in January. Come on out and try to attend a least one of the events. These conferences/education forums are a perfect opportunity to network and learn new techniques in our ever changing profession.

The first offering of our Synthetic Sports Turf Field Safety & Maintenance Course was presented in November to enthusiastic reviews. Let us know if you are interested in hosting one in your area; this course is the definitive guide for the maintenance of synthetic fields. On behalf of the Board of Directors and Staff here at Sports Turf Canada we would like to extend our wishes for a very merry Christmas and a safe and prosperous New Year.•

Sports Turf Manager

FOR BETTER, SAFER SPORTS TURF. WINTER 2014.

"There are two seasonal diversions that can ease the bite of any winter. One is the January thaw. The other is the seed catalogues." ~ Hal Borland

SPORTS•TURF™ CANADA

WHAT'S ONLINE
SportsTurfCanada.com

Your email address must be registered with us to log-in to the Members Only Section

Login to the Members Only Section

- Registration Form for STC members for the Sports Turf Managers Association Annual Conference & Exhibition in January
- 2015 Board of Directors Slate of Nominees and information for the STC Annual General Meeting as it becomes available

Inside this issue...

REGULAR COLUMNS, DEPARTMENTS & SMALL FEATURES

Deadline for Spring 2015 Sports Turf Manager: March 6

Event Calendar

Association Events are Highlighted in Green

January 15
Sports Turf Canada™
Sports Turf Manager of the Year Award
Nomination Deadline
www.sportsturfcanada.com/Awards&Scholarship

January 13 to 16
Sports Turf Managers Association Conference & Exhibition
Denver, CO
www.stma.org
STC members can register at STMA rates!

January 26 to February 20
University of Guelph
Turf Managers' Short Course
www.turfmanagers.ca

February 17 to 19
Atlantic Turfgrass Research Foundation
Atlantic Turfgrass Conference
Halifax, NS
www.agsa.ca

February 18 & 19
Ontario Turfgrass Symposium
The Evolution of Green
University of Guelph
Guelph, ON
www.turfsymposium.ca

February 18
Sports Turf Canada Annual Members Meeting during the Ontario Turfgrass Symposium
University of Guelph
Guelph, ON
www.sportsturfcanada.com

March 10 to 12
Western Canada Turfgrass Association Conference & Tradeshow
Victoria, BC
www.wcta-online.com

Introducing New Member Referral Program

An opportunity for you to refer colleagues for association membership, and in return, receive incentives and prizes. With your help, we can grow Sports Turf Canada™ and share the passion for better, safer sports turf.

How It Works

- Connect with a colleague in the sports turf industry and discuss the benefits of Sports Turf Canada membership.
- Have the prospective new member:
  - complete the membership application and forward with payment to Sports Turf Canada
  - email to Sports Turf Canada your name and municipality/ organization/ company as the referring member. Your referral information must be provided at the time of application.
- In British Columbia and Alberta, Sports Turf Canada membership is via the Western Canada Turfgrass Association (WCTA). Have the prospective new member:
  - complete the membership application and forward with payment to the WCTA
  - email to Sports Turf Canada your name and municipality/ organization/ company as the referring member. Your referral information must be provided at the time of application.
- Referring member will receive a $10 coffee card and entry for Sports Turf Canada prizes; winners to be announced February 18, 2015.

Terms & Conditions

- All Sports Turf Canada members in good standing, with the exception of the Sports Turf Canada Board of Directors, are eligible to participate in the Member Referral Program.
- There is no limit to the number of referrals you can make.
- Only one referral allowed per membership application.
- Referral must be made and information provided at the time of application. Payment must be tendered with application.
- The Member Referral Program runs from November 1, 2014 to January 31, 2015.

Qualifying New Members

- Must be from a current non-member municipality, organization or company.
- May not have been a member of Sports Turf Canada since 2010.
- Student membership is not eligible for this program.

New & Returning Members

British Columbia

Wendy Wiederick
City of Coquitlam, BC

Ted Sophonow
City of Kelowna, BC

Dan Allen
Brent Tremain
Brad Waters
Township of Langley, BC

Ross Rivers
Ross Rivers Enterprises Ltd.
Parksville, BC

Ontario

Therese Linseman
City of Waterloo, ON

Brad Walker
All Treat Farms
Arthur, ON

Help to grow Sports Turf Canada!

SPORTS FIELD LOGO PAINTING

Mike Hebrard, Athletic Field Design, Clackamas, Oregon

Figure 4

Figure 1.

At the recent West Coast Sports Field Training Day attendees participated in Mike Hebrand's session and assisted with the creation of the Softball BC logo.

With branding becoming more of an identifier for schools, parks and facilities these days there is an interest, if not necessity, to place logos on athletic fields. Recognizing a school mascot, special event or other branding logo is a constant reminder of who we are and what we have become.

After being in the business for over 30 years, I have always had an interest in logos and how they are created. Never having been formally trained on how to even attempt the process, I began doing simple logos where I coached or worked. One of my first logos was a falcon, much like the old Atlanta image, marked with a simple chalker and counting steps at a junior high school where I taught. Soon after, I began marking fields for games and events with graphics such as this logo.

As I got my feet wet perfecting my technique, I realized that I needed to find a way to enlarge these graphics so that they worked in proportion with the size of the field. Believe it or not, a 15' high letter was too small for a big field. Playing around with my computer, I noticed that in the PowerPoint program, there are background grid lines that could be used for my layouts right on the slides themselves. To a blank slide, I add a line and copy it on the vertical axis. As I move the copied image, I can line it up stopping on one of the grid lines. I do the same for the horizontal axis then "Group" all of the lines so they stay together. I then colour the centre lines red for easy reference (Figure 1) and use them to line up my image on the slide. I use different slides for portrait or landscape, as different images may be wider or taller. Once I import my image, I zoom it out so that the outside of the logo reaches the farthest lines. Then I "Send it to Back" under the "Arrange" menu. I now have a logo with lines drawn across to grid out to a larger size using a 1" square grid. Using an engineering

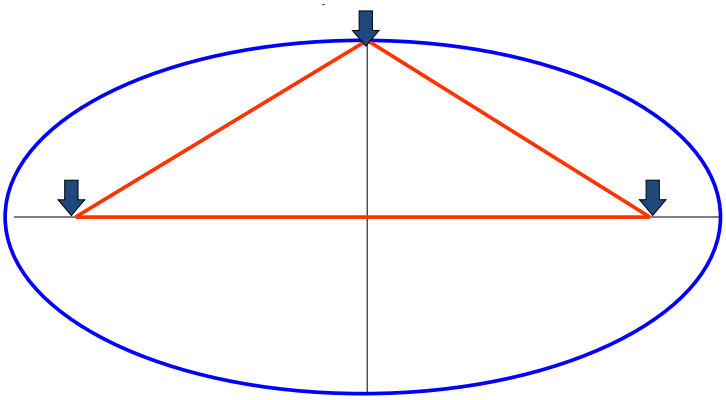

Figure 2: Elipse Formula.

From centre of ellipse measure half the width in both directions and mark with pin, measure half the height to the top and mark with pin. Using half of the width measure from the top along the width axis and mark in both directions. Wrap string around all three pins and tie off. Remove top pin. Use marking device and keeping string tight and mark in a clockwise direction all the way around the ellipse.

tri ruler I can rotate the artwork so that the desired measurements fit the needs of my final dimensions. I then set up a centre line in both axes for proper placement. I measure from the centre strings to layout a top, bottom or width.

When at the field, I like to use an inverted spray chalk (usually available at surveyor stores) to copy the artwork. I can wash it out with a quick rub of the shoe and water if I don't like the layout or if I make a mistake. I measure off the centre line or add other grid lines to pinpoint a start or stop or a curve in the outline. After making enough reference points I begin painting the outline with a straight bender board flat or on its side to get a smooth arc. Then I simply fill in with the appropriate colour.

I use geometric formulas to create ovals (Figure 2), or stars (7:6 ratio, Figure 3) in order to speed up the process or develop better accuracy. A star has five points just as a pentagon does. I used the ellipse formula to lay out the Green Bay "G" and the Cincinnati "C".

Specialized tools such as my "disc" (Figure 4), attaches to an airless nozzle and adjusts to different width tips. It cuts the spray to a sharp edge as it rolls along the turf. Along with square 2" tubing, I'm able to quickly layout the straight lines and roll along the curves. The disc can be removed and filled in. Another one of my techniques is what I call a "text box". Select a flat piece of cardboard and cut out a rectangle the size of the letter or number you wish to use. Align on a string and freehand the letter or number inside of the opening and move the text box using the edge as spacing for the next letter (Figure 5). I usually start in the middle and work one way or the other. Remember an "I" is a half space and a "W" is a space and a half. If you do miss space your text, you can always place a star or image at the shorter end.

Another popular painting is school or mascot names in the end zones. Once deciding the height of the letters, (usually 15' or 20'; the end zone is 30' deep and 160' wide in American football), place strings at the top and bottom of the desired height. With a little computer layout or a drawing large enough that you can measure from (engineering ruler preferred), start where you want the letters to begin and mark every start and stop of each letter with a small line or dot. Then using the 2" square tubing or stencil board, align and paint a reference line. I have done "S's" making two ellipses stacked on top and overlapping in the middle with pretty good results. Most of the time I have these requests there is not sufficient time to order and ship a stencil or cost might be prohibitive. This technique can be used for other lettering for special events as well.

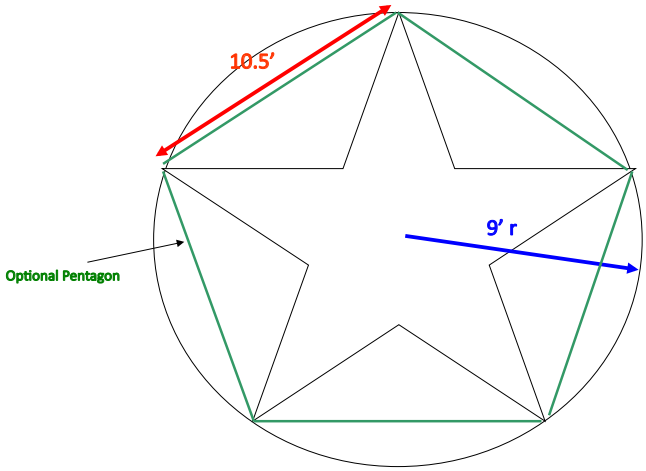

Figure 3: Star Formula.

The best way to describe the process is by using a 7:6 ratio. Say your radius is 9', multiply by 7' (63') divided by 6' equals 10.5' or 9' X 7' divided by 6'. This can also be used to make a Pentagon.

Figure 5: Text Box.

I have also made logos using coloured calcined clay when the area for the placement of the logo is extremely worn or muddy. Lay out the logo as normal and sprinkle the desired colour of calcined clay on the worn areas until the proper density is obtained. Using a green coloured product will help to fill in letter openings like in the "O" or other letters or logos (Figure 6). This also helps with providing better footing in what was a slippery surface. Other smaller logos can be done on the back of the pitcher's mound (many Major League teams are now branding their image there). A precut plastic stencil might be better for a cleaner image.

There are several different painting techniques that can be used likely with the equipment that you already have or can

Figure 6: Surface logo using calcined clay.

easily afford. One of the least expensive applications is using a paint roller or paint brush. This can be rather time consuming but by painting the top of the grass blades there is usually less turf damage. Using stencil boards will help make the edges straight and clean. Another inexpensive application is using inverted aerosol cans. I recommend purchasing them from an athletic paint supplier as the cans that are readily available from a hardware store are mainly used for parking lots and their propellant can cause damage to the turf. There is also a difference with the nozzles as some of the cans used for marking utilities such as water, electrical and sewer have what I refer to as a "pin" nozzle that shoots a fine line. I usually use the pin nozzles when laying out a logo or string lines. Blue is a good colour to use when you want to be able to see where the reference marks are up close but not be able to see them from the stands. This might also be a good colour to use to mark your sprinkler heads or other objects before you renovate instead of a big orange X! I also use what I call "fan-type" nozzles. Sometimes these nozzles are interchangeable so you can do fine detail with a paint that is made for turfgrass. Some of the darker colours, like black, can really damage the grass during hot weather as the dark colour will absorb more heat from the sun. When using the fan nozzle cans try and hold the spray so that is it perpendicular (90 degrees) to the surface ensuring a more even application of the paint. The more conventional way to apply paint is with a CO^2 machine or an airless sprayer. The CO^2 sprayer will usually be less pressure and apply heavier droplets thus taking longer to dry, and an airless applies a much higher pressure and tends to atomize the paint particles to allow for quicker drying and application. As with the fan nozzles, try to keep the nozzle perpendicular to the turf to have an even application and prevent overspray. Sometimes it is better to apply a light coat and let it dry and then apply a heavier coat to obtain a brighter result. Repainting when the paint is still wet will dilute the paint and you can lose brightness.

Painting grass and artificial turf are similar but can be very different. While the application is the same technique, the purpose can vary. Most of the time when you paint grass you need it to last a week or so then repaint for the next event. With artificial turf there is a choice whether to use permanent or removable paint. Usually you use a recommended paint from an athletic field paint supplier to apply a permanent paint that is formulated to stick to the plastic turf fibers. New turf has a UV coating applied during the manufacturing process to help with the longevity from sun exposure. Thus making paint tough to stick to the smooth slick fibers the first time. Some of the formulations will adhere to the fibers more permanently allowing for longer wear. Most fields are designed for play with a molded cleat in mind but these fields are also used for other events where the shoe choice is usually a flat-soled tennis shoe. This shoe-type actually wears the turf and painted surface 20% faster. So when making the choice of painting permanent lines, plan on repainting on a regular basis. Temperature of the turf should be recorded as the paint won't adhere very well if it is too cold.

Another type of paint application is using removable paint and there are different formulations of how fast the paint can be removed or wear down. Removable paints don't usually wash out but a solvent based remover is applied and with some scrubbing and light power washing the paint will break down and drain through the turf backing. These paints usually are more of the stain type of paint and have small particles which make the particles dissolve easier. Actually a less expensive paint will not break up sufficiently and lead to clogging the drainage pores and possible compaction. Most of the temporary lines are left on the field and with time and events the acuteness of the contrasting colour wears down enough so it doesn't affect the play of the sports that the lines are inlaid.

It is best to over prepare for weather, equipment failure or shortage of help, but by starting with a smaller logo first and developing confidence, your skills will quickly develop and the desire to create and do more will inspire you to literally look outside the box!

Figure 1.

Tools & Techniques for Sports Turf Managers

Pam Charbonneau, OMAFRA, Ken Carey and Erica Gunn,
Guelph Turfgrass Institute

To assist you in better managing your soils, the article below outlines in several easy steps, how to take a soil sample and how to determine soil texture. Before we get into the step by step outline let's review why it is important to know soil fertility and texture. The only way to accurately determine how much and what analysis of fertilizer to use is to take a soil sample and have it tested at an accredited soil testing laboratory. To ensure the quality of the information, proper sampling is important.

How to Take a Soil Sample

Step 1: Assemble the required tools: a soil sampling tube or a shovel, a clean plastic pail, and sample bags that hold at least half a litre of soil.

Step 2: For sports fields, sample as deep as the turfgrass roots. In a sports field this is usually 10-15 cm. You may need a mallet to get the soil probe that deep.

Step 3: Take at least 20 cores for each field. The more cores the better. Remove the thatch and grass layer and discard it. Sample problem areas separately.

Step 4: Place the individual cores from the soil sampling tube in the plastic pail. Mix thoroughly to break up any lumps and remove any stones. Take a representative ½ litre sample of the mixture.

Step 5: Place the soil sample in a plastic bag and label it. Most accredited soil test labs have websites with soil sample forms on line. The North American Proficiency Testing Program (a program of the Soil Science Society of America) lists accredited labs on its website naptprogram.org/pap. It is searchable by province. Accredited labs in Ontario may also be found on the Ministry of Agriculture, Food and Rural Affairs website www.omafra.gov.on.ca/english/crops/resource/soillabs.htm. Print off a soil sample form and complete it with accurate information. Make sure to specify which type of turf you require a recommendation for (i.e. home lawn, sports field, greens, tees or fairways).

Step 6: The recommendations of how much phosphorus and potassium that are required are usually given in the soil fertility test results. These recommendations can also be found in OMAFRA Publication 845, Integrated Pest Management for Turf. Information on how to obtain this publication is also available on the OMAFRA website.

Figure 2. Portable field pH meter.

Figure 3. Sampling tools: cup changer (top), slab sampler (middle), soil probe (bottom).

Figure 4. Penetrometers: analog (left), digital (right).

On average, soil samples should be taken every two to three years. If you have never performed soil tests on your sports fields, now is a good time to start. Pick a few each year to sample to get the process underway and resample in 2-3 years time. Remember that there is no accurate test to determine the nitrogen needs of your sports fields. This is usually done by the rule of thumb of roughly 200 kg of N/ha per season.

Determining Soil Texture

Soil texture refers to the amount of sand, silt and clay present in a soil. Most accredited soils labs can perform tests to determine soil texture. This can take up to a couple of weeks. You may find yourself in a situation where you need a quick method to estimate what your soil texture is. This could be an existing soil in a rootzone or it could be a load of soil that has been delivered to a site where a sports field is being constructed. Below is a description of a quick field method that will give you a rough idea of the soil texture.

Step 1. Fill a mason jar about one third full with the soil you want to test. Pack it in and mark the top of the soil level on the side of the jar with a permanent magic marker.

Step 2. Add water to the jar to fill it to about three-quarters full. Put the lid on the jar and shake vigorously for several minutes. Set the jar down and wait for the soil particles to settle out. The sand will settle out in a couple of minutes, the silt will settle out in an hour or two and the clay will remain in solution (Figure 1).

Step 3. To determine the soil texture, measure the sand and silt layers as a percent of the depth of the original soil. To obtain the percent clay, subtract the sum of the sand and silt from 100.

Soil Chemistry

Compared to soil texture, assessing aspects of your soil chemistry will involve slightly more elaborate tools, and the value of the information will increase as you make repeated observations and record both normal and unusual conditions. Soil chemistry will change over the season, particularly as fertilizer applications are made, and there may be times when a snapshot of your soil chemistry will help diagnose rootzone problems and suggest solutions.

Soil pH

The acidity of the soil is measured by its pH, which can range from acid (0 to <7) through neutral (~7) to alkaline (>7 to 14). Turf grows best (availability of nutrients, susceptibility to disease) at a pH between 6.5 and 7.5, so if you can monitor your soil pH, you may be able to anticipate problems. pH measurement involves a pH meter, which has a sensing electrode and a readout unit. There are versions available that can be used in situ on undisturbed soil in the field (Figure 2). They are fairly robust and not too complicated to use, ranging in cost from ~$200 up to $800-900 for more sensitive units. Usually

Figure 5. TDR soil moisture meter (measures volumetric water content).

Figure 6. ThetaProbe soil moisture meter (measures volumetric water content).

Figure 7. Double ring infiltrometer.

the same pH meter can be used to measure soil solution pH and irrigation water pH. Chronic soil problems associated with either excessively low or excessively high pH can sometimes be corrected, but it is often easier to prevent them from developing.

Electrical Conductivity (EC-soil salts)

Related to pH is the level of salts in the soil solution. Because all the nutrients that the turf needs from the soil are available as salts in the soil solution, there is a direct connection between salt levels and fertility, but excessive salts can also cause problems with the turf (physiological drought, soil permeability problems, direct ion toxicity). Salt levels may fluctuate more during a season than pH because of fertilizer applications, but as with pH, the value of a regular record/history of salt levels is in anticipating problems or pinpointing solutions. Salt content is measured by the electrical conductivity of the soil solution (in deciSiemens per metre or dSm^{-1}). Typical salt-affected soils have soil salinity above 4 dSm^{-1}. As with pH, there are simple, robust EC meters available for field use in roughly the same price range. Again, these meters can also be used to measure salt levels in irrigation water, if you are using a pond or greywater supply rather than potable water. Keep in mind that the EC readings will not differentiate among the various types of salts that may be present in the soil – that level of examination will require soil tests from a laboratory.

Soil Structure/Profile

Much information about your turf rootzone can be gleaned from a simple examination of the profile, which can be sampled using soil probes, cup cutters (for shallow depths), slab samplers, etc. (Figure 3). From the presence of thick, problem thatch to layers from improper topdressing, compaction, or black layer, many underlying causes of rootzone problems may be visible in the profile. There are some tools available to assess aspects of the rootzone profile from above. An example is a penetrometer (Figure 4), which can be used to determine the soil strength at various depths in a rootzone. If compacted layers are developing due to traffic or improper management, regular measurement of soil strength may detect this. Penetrometers vary in cost from ~$200 for simpler ones through ~$2000 for one which records depths and soils strength electronically for download to a computer.

Soil Moisture

Soil moisture is a critical aspect of your rootzone that varies as much as hourly. Accurate assessment of soil moisture is the key to effective irrigation and important in assessing other aspects of rootzone health (drainage problems, etc.). Simple examination of the soil with a probe, particularly if done regularly, can be used to develop a history and feel for your rootzones.

There are also tools which can give you more precise types of information. Moisture meters can be relatively inexpensive ($100-200) ones based on simple technology (electrical conductivity), or more sensitive ones based on time-domain reflectometry (TDR, Figure 5) or frequency-domain reflectometry (ThetaProbe, Figure 6). The TDR probe and ThetaProbe will give sensitive measurements of the volumetric water content in the top 5-10 cm of rootzone, but are pricier ($2000-3000).

There are other tools that can be used to assess other aspects of soil moisture, for example a double ring infiltrometer (Figure 7, ~$300), which will measure the rate of infiltration of irrigation water into the rootzone, and may detect and quantify localized dry spots, hydrophobic thatch layers, compaction or other drainage problems. •

Member Profile

RAY WALSH, PARKS OPERATIONS MANAGER, SPORTS AND RECREATION FACILITIES
CITY OF SAINT JOHN, NEW BRUNSWICK

An Interview with Ray Walsh

What is your role with the City of Saint John? There are two park services offered by the City of Saint John: Parks and City Landscape Service and Sport and Recreation Facility Services. I am the Parks Operations Manager of the Sport and Recreation Facilities Service. We provide citizens with access to sport and recreation opportunities. We deliver this through the scheduling and maintenance of sport and recreation facilities.

What kind of team do you work with? I report directly to the Deputy Commissioner of the Transportation and Environment Service who is essentially the Parks Director. My direct reports include 1 foreman, 4 sub-foremen, and 16 permanent employees and 15 casual and student employees. All permanent employees are full time unionized of CUPE Local 18. Twelve workers of my permanent staff occupy city arenas covering day and evening shifts during the winter months.

What are you and your team responsible for? We are responsible for the maintenance of approximately 124,000 square meters of sports turf, 1 lawn bowling green, 69 playgrounds, 2 splash pads, tennis courts and basketball courts. Crews are responsible for the mowing and trimming of all turf, inspecting all facilities for cleanliness and general playability, as well as dragging and grooming infields of 16 baseball/softball fields. We line all fields which includes 12 multi-use fields. We are also responsible for the booking of all sports fields in the City of Saint John including 13 school multi-use fields.

What is the biggest challenge in your job? I find it challenging at times to get around to visiting all of the recreation facility sites. It is difficult to be a citizen driven and customer focused service, from behind a desk. It is extremely important to meet your users, whether formally or informally, to simply chat and get a sense of the groups wants and needs. We've found season ending meeting sessions or surveys to be very helpful. Communication is essential to laying out expectations and limitations that may surround them.

Our infrastructure deficit presents another challenge. This is at epidemic proportions across the country. Recreation facilities that have been pushed past their useful lifespan again and again can no longer serve the growing needs and expectations of our customers. Some communities have managed to stay on top of it, but like many others in this country, we have not. Aging facilities in need of capital renewal are extremely expensive for municipalities to maintain and "patch work" or "band aid" solutions are abundant. This can sometimes create the perception that facilities are not serviced properly. For example, we have set weekly industry service standards and best practices as benchmarks. We are usually in the 80 – 90% success range; however, at times there is the impression that our service level is low. We have, however, been renewing our infrastructure as of late. Four of our ball fields are receiving new fencing and we are about to open an artificial turf field in the spring of 2015.

Old and aging equipment such as tractors, attachments/implements, trucks, and other fleet vehicles have been pushed past, or are approaching, the end of their useful lifespan. The challenge here is when equipment breaks down, it is difficult to meet our targets for the season and provide a good product to our customers.

What is the most satisfying part, what makes the job worthwhile for you? The most satisfying part would be seeing a job well done. It's satisfying seeing the workers prepared on the job site with the proper materials and equipment, doing the work safely and efficiently, and seeing the pride taken in the finished product. The circle is complete when a citizen or user group reaches out to us to congratulate us on how great a field or playground looks. To let the crews know how much their hard work means to the end user is extremely satisfying to everyone.

What is the biggest misconception about your job? I think the biggest misconception is that we're a bunch of guys that mow the grass and empty the garbage cans. There are many more aspects to maintaining sport field turf. Aerating, overseeding, topdressing, fertilizing, proper irrigation are all critical maintenance tasks that need to be carried out pre, post or during season. These tasks also have to be planned, scheduled and delivered without interrupting playing schedules. Operationally, there is a lot that goes on behind the scenes over the course of a season in order for games to be played every night. It really is a balancing act.

What is your educational/employment background? I have a Bachelor of Physical Education and Recreation from the University of New Brunswick, a Horticulture Certificate from the New Brunswick Community College, and an Executive MBA from Saint Mary's University. I began working with the City of Saint John in 1999 on the Recreation Programming side of our department. From Community Centre Director to Outdoor Recreation Pursuit's Coordinator, I have covered most aspects of indoor and outdoor recreation program delivery. In 2011 I became the Operations Manager for Sport and Recreation Facilities. Being a strong advocate of recreation and sport it was a great opportunity to witness the behind the scenes action that goes into preparing a facility for game play and make a difference in the way we deliver this particular service to the public.

Tell us about your family. My Walsh clan is originally from Sheet Harbour, Nova Scotia where I was born and raised. I moved to New Brunswick in 1990 to pursue a university education. My parents are now deceased and I have two older brothers. I was married in 2000 and have two children, ages 10 and 12.

What do you enjoy doing outside of the workplace? Hobbies, favourite past times? I've always enjoyed sports and the comradery of being part of a team. So I enjoy team sports quite regularly but have been trying my hand at golf for the last year or two. "Trying" being the key word here!

How has the industry changed and in what direction(s) would you like to see the industry, as a whole, move towards? Field users at all levels are becoming more competitive. This brings higher demands for elite field conditions for extended periods of time. More games, longer practice times, and extended seasons all have impacts on fields and the industry as a whole. Technology has moved forward with this trend in an attempt to make our jobs (and lives) easer. Slow release fertilizers, faster seed germination, more efficient equipment and materials have made huge gains over the last decade. I see a trend of more and more municipalities (us included) installing artificial turf fields. I think artificial fields present us with a great opportunity to compliment natural field turf. Due to the resilient nature and playability of artificial turf, the increased demands from user groups can be more readily met. This in turn can allow for the proper resting and healing time turf fields so desperately need but seldom get.

What do you consider to be the biggest benefit of being a member of Sports Turf Canada™? I really like the quality of the material found in the publications. I always read the Sports Turf Manager from cover to cover. There is always great information on trends, new things to try or information on studies or trials. I really enjoy reading the member profiles to see what others are doing on our shared challenges. •

If you are interested in being featured in this column, please contact Lee Huether at the Sports Turf Canada™ office.

Facility Profile

THREE MAIN HUB FACILITIES: FOREST HILLS FIELD COMPLEX, SHAMROCK PARK, MEMORIAL PARK ~ SAINT JOHN, NEW BRUNSWICK

General facility information: Fields at these hubs are part of a larger recreation complex. Apart from fields, each may also have washrooms, change rooms, concessions, tennis courts, basketball courts, horseshoe pits, BMX trails, and playgrounds. These particular fields contain over 50,000 square meters of sports turf or approximately 38% of all the sports turf maintained by the City of Saint John.

What types of sports fields are on site? Natural? Synthetic?
Forest Hills Field Complex:
1 baseball field
1 softball field
2 little league fields

Memorial Park:
1 premier baseball field
1 premier softball field
1 little league field
1 baseball field – outfield converted to soccer pitch in the fall.

Shamrock Park:
1 premier artificial turf multi-use field
1 baseball field
1 little league field
1 soccer/field hockey field
1 smaller multi-use field mainly for atom football.

How many employees are involved with turf care at these facilities? Each hub has one full time employee throughout the spring to fall season. They take care of all mowing, lining and general cleanliness and safety of the facility. We have a roving crew who perform all turf related maintenance tasks throughout the season.

How many acres of turf are maintained at this facility? How many acres of sports turf?
These three facilities contain approximately 18 acres of maintained turf, with 13 acres of that being sports turf.

What percentage of this acreage is irrigated? 10% is mechanically irrigated through in-ground systems. The rest is up to nature. We do however live on the Bay of Fundy which can make for a somewhat damp climate. However in mid-July to mid-August we will irrigate by hose and water tank on the back of a 1/2 ton. This is a crude but effective technique for nurturing the turf and soil or for simply cooling down the field.

What is the primary type of turfgrass? Name of varieties. All three hubs essentially are a mix of Kentucky bluegrass and perennial ryegrass mixed in different percentages depending on the sport being played. Baseball and soccer, for example, have an almost 50/50 split of Kentucky bluegrass and perennial ryegrass, ideal for a lower mow height.

Is yearly overseeding part of your sports turf maintenance program? We overseed as part of our regular maintenance regime. We will overseed premier fields twice per season with a slit seeder at a rate of 2.5-3lbs/1000ft^2. We use an overseed tee mix (sun) which is 60% Kentucky blue, 40% perennial rye. The first application is laid down mid-May to mid-June while the second

is completed mid-August to mid-September. A large portion (80 – 90%) of the second application is allocated down the middle of the field between the goals. On a performance note, we were able to overseed 75% of our targeted field amount last season.

How many times do you fertilize? This really depends on the classification of the field. On premier fields we use Polyon Slow Release 34-0-9 at a rate of 2.5-3.5 lbs N/100ft^2 in mid to late June. We have witnessed great success with this over the past two seasons. In late summer (mid-September) we will supplement the Polyon with Nu-gro 15-0-30 at a rate of 1 lb N/1000ft^2. We were able to fertilize 89% of our targeted amounts last season.

Do you aerate? Topdress? Premier Fields get four aerations per season while lower class fields get less. We use a core aerator and then break the plugs up later with a drag mat if time allows. Last season we were able to aerate 89% on our premier fields and 81% of target overall. We would like to see this number much higher to reduce compaction on all of our fields.

We topdress with a loam and sand mix around 70:30 – 80:20 depending on the field. We try to aerate, overseed, topdress in that order if possible. This helps us to be more efficient operationally as we don't have to break down a crew to do each task separately. Our success rate here this past season was at 85% overall.

What is your maintenance regimen for synthetic turf? Our synthetic turf maintenance program will begin in the spring of 2015.

How many hours per year are the fields permitted? Who permits them? Are the fields ever closed during the season to give them a rest? How much input do you have in the amount and timing of use? All of our fields were permitted for a total of 6,751 hours this past season. Our administration staff does all of the services bookings and passes them on to our maintenance crews as work orders for the day/week. Sometimes we will work on a field in the spring and then rest it to help heal the field from fall football. The rigorous fall overseeding program we started two years ago is starting to show value as fields tend to "bounce back" quicker than those fields not part of the program. Also, unless there is a tournament or special event, most fields during core months (July – September) are idle on the weekends from Friday night through Sunday night. Most fields are rested then.•

Extensive Compiled Research on the Development of Turfgrass Science

[East Lansing, MI] – James B., Harriet, and James C. Beard's new book Turfgrass History and Literature: Lawns, Sports, and Golf is now available from Michigan State University Press and is available for sale through their website www.msupress.msu.edu and at fine book stores.

The true heritage of turfgrass science and culture is best represented by an extensive historical record encompassing the principles, cultural practices, grasses, materials, and equipment that have been developed over the course of 300 years by turfgrass scientists, private companies, professional turfgrass managers, and amateur practitioners. A detailed chronicle of the evolution and history of turfgrass by the leading expert in the field, this book documents the use of turfgrass worldwide as reflected in early publications and photographs and explores the development of its science and culture. In Beard's compilation, résumés of book authors characterize their historical activities and contributions to the turfgrass field, providing an extensive bibliography of turfgrass texts, research development, and educational programs via reviews, scientific journals, research reports, and trade publications. Selected quotes and unique original photographs depict early activities, equipment, and conditions and their evolution in the turfgrass field. The books, proceedings, and reports cited in this text are drawn primarily from the comprehensive James B Beard Turfgrass Collection donated to the Michigan State University Turfgrass Information Center in 2003. The holdings at this library represent the most extensive collection of turfgrass-related publications available today.

About Turfgrass History and Literature

What Dr. Beard has done inside the pages of this book is breathe life into the interesting people who invented the tools of our trade and taught the generations that followed. It is a masterwork that will allow those of us interested in the history of our field to better understand the development and derivation of our management practices, and endeavor to only repeat those that have delivered quality results. – Brandon Horvath, PH.D., University of Tennessee

We now have access to the most complete, thorough and well-rehearsed work on the history and literature of turfgrass. This magnum opus, which represents a colossal effort that took many years to complete, is well-organized and will be valuable to students, academics, and practitioners alike. Many will find the biographies Beard offers of the authors noted in his book very intriguing, and they offer insight to those who made early contributions to turfgrass. – Monroe Miller, Golf Course Superintendent, Executive Director of Wisconsin Turfgrass Association

This work is the only comprehensive source of information on the history of turfgrass and the science of its cultivation. James and Harriet Beard have produced a lasting legacy. The early chapters on turfgrass origins alone are worth the price of admission. – John Stier, Professor and Assistant Dean, College of Agricultural Sciences & Natural Resources.

About the Authors

James B Beard is the President and Chief Scientist at the International Sport Turf Institute in College Station, Texas. Harriet J. Beard, wife of James B for 58 years, has typed all his books and manuscripts. James C Beard has been a golf professional since 1984, and is a Life Member of the PGA of America and a part-time photographer.

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The Evolution of Green

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Wednesday, February 18 & Thursday, February 19, 2015
Rozanski Hall, University of Guelph

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Sports Turf & ORFA Specific Sessions

WEDNESDAY, FEBRUARY 18

W6 1:30 – 2:30pm
The pros and cons of using tall fescue for sports fields – Dr. Bill Meyer, Rutgers University

W7 2:30 – 3:30pm
Soil texture 101 – David Smith, DCS Agronomics Services

THURSDAY, FEBRUARY 19

T1. 9:00am – 10:00am
Tales from the darkside of turf – Gord Dol, Dol Turf and David Smith, DCS Agronomics Services

T2. 10:00am – 10:30am
Interesting case studies in sports turf management – Dr. Max Schlossberg, Penn State University

T4. 11:00am – Noon
Overseeding strategies for success: A comprehensive review of over-seeding and a look into the wear tolerance of stoloniferous perennial ryegrasses – Katie Dodson, Olds College

General Sessions

WEDNESDAY, FEBRUARY 18

W2 8:45 – 9:15 PAN AM Hamilton – The new Tim Hortons Field – Coralee Secore and Rob Gatto, City of Hamilton
W3 9:15 – 10:00 Everything I know about nitrogen fertilization – Dr. Max Schlossberg, Penn State University
W4 10:30 – 11:00 The potential for bacterial endophytes for disease and weed management in turf – Dr. Manish Raizada, University of Guelph
W5 11:00 – 12:00 Progress in the past 20 years on breeding cool-season turfgrass for low maintenance turf – Dr. Bill Meyer, Rutgers University

THURSDAY, FEBRUARY 19
1:30 - 3:30pm

T13 Writing fertilizer, soil and seed tender for purchasing
Dr. Eric Lyons, University of Guelph
T14 The turf diagnostic process and turf ID – Dr. Katerina Jordan and Dr. Ken Carey, University of Guelph
T15 Recovery from winter injury: A panel discussion
Dean Baker, Burlington Golf and Country Club, Dave Kuypers, Syngenta Canada and Keith Bartlett, St.George's Golf and Country Club

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