STA Field Day a Resounding Success

ENVIRONMENTAL STEWARDSHIP: HEALTHY SOIL... HEALTHY TURF...

The STA Field Day was truly the place to be on September 14 as close to 200 turf managers and industry suppliers journeyed to Milton, the Place to Live, Work and Play, and in our case, to learn and liaise with colleagues. The event, the Association’s 18th annual, revolved around the theme Environmental Stewardship: Healthy Soil... Healthy Turf....

Thanks to our hosts, our speakers, and to all of the industry suppliers who exhibited their goods and services furthering our education. We would be unable to present a day such as this without the generosity of our sponsors. Their support allows us to provide an opportunity for professional development at a reasonable price for the membership. Mother Nature as well has been very generous in her participation. The rain always seems to hold until day’s end!

Irrigation for a Growing World

In case you haven’t heard, there is a water crisis! First, only 1% of the world’s water is usable. The vast majority (97%) is in the seas and oceans and is therefore saline and 2% is present as snow and icebergs. Second, it is never in the right place at the right time. Third, there is no new water – what we have currently is it – forever.

The reason for this cold facts introduction is simple. We must encourage the responsible use of water and as turf managers, that means adjusting irrigation practices.

At the present time, approximately 69% of North America’s fresh water (not including the cold north) is used in agriculture, 10% is used by industry and 21% is used municipally – that’s us!

If we all use water more efficiently, we will have an impact on the...
Are you advertising a position? Are you searching for a job? Target your audience or refine your search with Turf Trades, an online resource for all staffing levels and areas of the sports turf industry. Employment Bulletin Board ads run for 60 days with an additional 30 days available at 1/2 the price. Cost is $75 for STA members and $100 for non-members for the initial 60 day period. Payment by cheque (Canada only), MasterCard or Visa must accompany the job description. Jobs will be posted in a standard page format.

For information on all STA advertising opportunities, contact Lee Huether at 519-763-9431, fax 519-766-1704, info@sportsturfassociation.com.

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OW, what a summer! Well, here in Ontario anyway. I understand many of our colleagues on the east coast would have welcomed a little less rain and a few more days of bright sunshine.

We experienced day after day of hot, dry weather. And when it did rain, it was of little benefit because it came down so fast and hard. I am sure many farmers, turf managers and gardeners were exasperated with the dry conditions, but it certainly was kind to the general public who, especially in Canada, deserve a good summer.

Because of the dry conditions, we are now discussing how we should rethink our gardens, parks, golf courses and sports complexes with respect to plants, grass varieties and most importantly, our watering habits.

We have all heard of the threats of global warming and it’s often discussed around the water cooler or BBQ; however, summers like 2005 drive home the fact that it is real and we need to begin planning for the long term.

Scientists estimate that southern and central Canada will warm an average of 2-5 degrees Celsius within the next 75 to 100 years. The winter months are projected to warm faster than the summer months. These changes will have severe consequences for us, our children and the ecosystems that support us. I think we all realize that we can not continue indefinitely with many of our current practices and behaviours but unfortunately, many of us seem quite slow to embrace change. Visit www.climatechange.gc.ca/onetonne/english/index.asp to find out more about Canada’s One Tonne Challenge and how you can start to take small steps with respect to your own lifestyle that will make an impact.

Annual Field Day

Back to the present. The STA had yet another record Field Day on September 14 with high attendance and excellent speakers on very topical subjects. Check inside for coverage of this year’s event.

As President, I would like to personally thank all the Field Day Committee, Jane Arnett-Rivers, Roy Forfar and Paul Turner for their tremendous commitment of time and effort into making the day a resounding success.

Thanks to the Town of Milton who were great hosts providing an excellent facility and making everything happen on schedule as promised.

A few other important ingredients were also crucial. Thanks to the Town of Milton who were great hosts providing an excellent facility and making everything happen on schedule as promised. Finally, Lee Huether was the cement that put the program together, communicated to all concerned, generated the record attendance and quite simply, just ‘made it happen.’ Thanks Lee!

We are already planning for next year, but in the meantime, don’t forget the Ontario Turfgrass Symposium Strengthening Our Roots: A Growing Tradition, February 20 & 21, 2006. An interesting and educational program is being finalized and your presence will be most welcomed.

The Board would like to wish you a very pleasant and healthy fall season.
OTS 2006 Celebrates 15 Years This February!

STRENGTHENING OUR ROOTS: A GROWING TRADITION

The Ontario Turfgrass Symposium (OTS), celebrating 15 years of turf management education and leadership, offers educational programming that is second to none in the country. The symposium’s theme, Strengthening Our Roots: A Growing Tradition, acknowledges the outstanding contribution the symposium has made to the Canadian turf industry.

Seminars will feature the latest in scientific research concerning reduction of pesticide use on turf, City of Toronto’s Pesticide By-Law and identify the best grasses to use in restricted pesticide zones. Participants will learn about new grass species that can assist in conserving water on golf courses, home lawns and sports fields, as well as the latest trend in the United States of scrutinizing and limiting the application of phosphorous. These feature sessions further enhance the existing golf, lawn care, sod production and sports turf management sessions.

The 2006 venue, Rozanski Hall — the University of Guelph’s newest, leading edge facility, has modern classrooms with state of the art presentation capabilities.

Proud sponsors of the symposium are the Guelph Turfgrass Institute, Sports Turf Association, Nursery Sod Growers Association, Ontario Recreation Facilities Association, Professional Lawn Care Association of Ontario, Ontario Ministry of Agriculture and Food and Rural Affairs, and the Office of Open Learning, University of Guelph.

The two-day program is scheduled for February 20 & 21, 2006. To receive a 2006 OTS guide, please contact the Office of Open Learning, University of Guelph at 519-767-5000 or info@open.uoguelph.ca.

2006 Turf Managers’ Short Course, University of Guelph
Canada’s most successful and valued Turf Managers’ Short Course, held at the Guelph Turfgrass Institute, will be offered from January 30 – February 24, 2006. Benefit from the expertise and experience of industry professionals and University of Guelph faculty while enhancing your knowledge of all aspects of turf management and culture. For more detailed information, visit the TMSC website at www.open.uoguelph.ca/turfmanager or contact the Office of Open Learning, University of Guelph at 519-767-5000.

STA Membership Plaques
Display membership plaques are available in executive engraved walnut for $50 plus S&H. To order, contact Lee at the STA office.

Winter 2005 Submissions
If you have something you’d like to submit for the next issue, please forward it to the STA office by October 21, 2005.

WELCOME TO THE TEAM! SPORTS TURF ASSOCIATION NEW MEMBERS...

Jeff Cunningham, City of Mississauga, ON
Mark Dykstra, City of Waterloo, ON
Jay Lavis, Dol Turf Restoration Ltd., Bond Head, ON
Paul Cooper, Turf Care Products Canada Limited, Newmarket, ON
Matt Robertson, Grower’s Choice, Kitchener, ON
Tim Haagsma, York University, Toronto, ON
Richard Inglis, Lakehead University, Thunder Bay, ON

Toni Davies, M.K. Rittenhouse & Sons Ltd., St. Catharines, ON
Marc Patenaude, Pioneer Manufacturing Company, Inc., Barrie, ON
Rob Corey, Logic Alliance Inc., Kentville, NS

2005 SCHOLARSHIP RECIPIENTS

Jeff Fortune, City of Waterloo, ON
Turf Managers’ Short Course

John Marshall, Blue Mountain Golf & Country Club, Collingwood, ON
Ontario Diploma in Horticulture (Turf Option)
Passing the Torch to a New Crop of Eager Students and Turfgrass Specialists

DONATIONS TO THE NORMAN E. McCOLLUM TURFGRASS DIPLOMA ENTRANCE SCHOLARSHIP WELCOMED

After 37 years of teaching and research, Norman McCollum of the Guelph Turfgrass Institute (GTI) will be retiring in January 2006. Although Norman will no longer be involved in the day-to-day operations of the institute, his passion for his profession will continue with the establishment of the Norman E. McCollum Turfgrass Diploma Entrance Scholarship Award.

Norman retires as Superintendent of Research for the GTI. He graduated in 1966 with an Associate Diploma in Agriculture from the Ontario Agricultural College, University of Guelph, and then graduated from the Niagara Parks Commission School of Horticulture, magna cum laude.

Norman began his career as a Turfgrass Research Technician with Dr. Jack L. Eggens in 1969 with the University of Guelph. One of Norman's chief professional accomplishments was in helping to establish the Turf Managers' Short Course offered through University of Guelph's Opening Learning Department. During his 35 years of teaching the course, over 2,000 individuals have benefited from Norman's expertise and guidance.

Norman has also been recognized for his support of students throughout the years by being named honorary class president for 10 diploma classes - OAC 79A, 80A, 81A, 83A, 85A, 87A, 93A, 95A, 97A and 2000A. Norman can also add scores of awards and recognition to his long list of accomplishments including those from the Royal Agricultural Winter Fair, Ontario Ministry of Transportation and Municipal Engineers Association, the Ontario Golf Superintendents Association and the International Turfgrass Society.

In celebration of Norman's lifetime achievements, donations to the Norman E. McCollum Turfgrass Diploma Entrance Scholarship are welcomed.

Donation Information

If you wish to donate, please go to: www.alumni.uoguelph.ca/cgi-bin/online_giving2004.pl and fill in the required information. Note: under pledge payment, the answer is no. Under, I would like to donate to, click the button next to the other title, and type Norman's name in the box.
Over the past few years, many organizations have adopted a "team approach" in their workplace. This has happened for a variety of reasons: to increase productivity, reduce costs and improve employee morale to name a few. In most cases, the results have been positive. However, the shift to teamwork has also created an unexpected surprise for some managers and supervisors who may have been unaware that leading teams requires a different approach and different skills.

In this article, we will explore some of the keys to creating effective teams and some of the skills required by managers, supervisors and owners who wish to lead work teams successfully.

1. Clear Goals
To be effective, team members must have a clear understanding of the purpose and goals of the team. "Why do we need to work as a team? What benefit will there be to me as an employee? What will be expected of me and how will it be different from working independently?" Employees will be asking all these questions and even if they do not ask them aloud, they will be thinking them. Team leaders have to ensure that they have some answers. Often, people will say that they have a good team at work, when in fact what they have is a nice group of people who get along well. A real team has specific goals and a clearly understood reason to exist.

A common mistake that is sometimes made in organizations is to make an announcement that there will be teams and then hope that somehow the employees themselves determine what this means. One company made a decision to adopt a team approach, bought sets of T-shirts in five different colours, had a company meeting to hand out the shirts and told everyone, "You are now on the blue/red/yellow/green/black team." Unfortunately, that's as far as they went in the planning. The employees dutifully wore their designated shirts but had no idea what the purpose was or what it meant to be part of a particular team. After a few months, management became frustrated with the staff and blamed them for not being good team players. The whole thing came to a disappointing end because management had never really determined the purpose of the teams, nor had they communicated specific team goals to the staff.

2. Effective Communication
It seems as if communication is always mentioned, but it should be fairly obvious that if you want a group of people to work together as a team there has to be a solid basis for communication. This can mean many things from sharing knowledge and information to running effective team
meetings to being able to talk to one another about issues without creating conflict or hard feelings. Team leaders should work with team members to develop a Communication Plan which addresses the following questions:

- Who needs to be kept informed about what we are doing?
- Whose input do we need to carry out our work?
- Who needs to be consulted on team decisions?
- How will we ensure that everyone on the team has an opportunity to speak and contribute at team meetings?
- When will we meet? What will be the purpose of our meetings?
- How will we share information among employees who work different shifts and in different locations?

Sometimes our communication barriers are so subtle that we don’t even realize they are there. One company found this out when they decided to use cross-functional teams to address customer service issues. The people working in the offices had no trouble communicating with each other by telephone and email. But the employees in the field who worked in trucks had no access to computers and couldn’t receive information, meeting agendas, etc. In fact, the only way that messages could be relayed to these employees was by contacting their supervisors and then hoping that the messages would be passed along. This company learned that they had to find ways to include their outside employees in the communication loop before they could even participate in teams.

3. Willingness to Share Decision Making

One of the most challenging adjustments for managers and supervisors as they shift to their new role as team leaders is to learn to share decision making. One of the greatest benefits of teamwork is having the collective thinking power of several people working on problems and coming up with new ideas to improve their work. Unfortunately, this is also one of the most difficult things for team leaders to accept, especially if they have a long history of making decisions independently.

Many owners, managers and supervisors fear that they will lose their power or the respect of their staff if they allow others to participate in decision making. They somehow see allowing others to contribute to decision making as a diminishing of their role and their authority. As a first step, if this does seem difficult, employees can be asked for their input on decisions or encouraged to contribute their suggestions or ideas. It is also unrealistic to expect employees who have never been asked to contribute to decision making before to become instant experts. Effective teams acknowledge that there is a learning curve here and many teams have discovered that it can be very helpful to have everyone on the team learn group decision making techniques. These techniques help people understand how to approach a decision, how to consider options in an objective manner and how to reach consensus while minimizing conflict.

4. Effective Utilization of all Team Resources

One of the major reasons that organizations adopt the team approach is to utilize the strengths and talents of their
employees. In our complex world, it is becoming increasingly difficult for individuals to know everything there is to know or have the skill to carry out every job function in an organization. Think of a sports team. A baseball team made up of the 25 best pitchers in the world will not win the World Series. A variety of skills are needed — not just pitchers but fielders, batters, catchers and even bench players whose only role is to be ready to come into the game if someone gets hurt.

Good team leaders recognize that a key to success is to find out what each member brings to the team in terms of skills, abilities and knowledge and then to allow the team members to use those skills and abilities when appropriate. This not only adds to productivity but can also be very motivating for staff as well. A team leader who took the time to find out what staff members’ talents were discovered that a young field employee was an excellent artist and was thrilled to be asked to help design and draw a poster. One characteristic of effective teams is that all team members are positive, active contributors.

Appreciating all team members’ talents is a powerful way to create this positive environment.

The moral: one of the primary reasons to use a team approach is to create synergies which allow organizations and people to achieve much more than they could on their own. Finding out what each member brings to the team in terms of skills and talents and then providing opportunities for them to utilize those talents is a powerful motivator.

5. Willingness to Accept Feedback

Anyone who has taken a Supervisory Development course is well aware that providing feedback to staff is an essential component of a supervisor or manager’s job. People need to know what they are doing well so they can continue to do it, and they need to know what they are not doing well so that they can work to improve. This feedback can be given informally during the course of the work day or formally in performance reviews and written or verbal evaluations. Traditionally in organizations, this feedback has gone one way — from the manager or supervisor to the employee.

One of the most challenging shifts for traditional managers and supervisors is to realize that as team leaders they have to be open to receiving feedback from their teams as well. Now, some managers might immediately assume this means giving staff “carte blanche” to criticize them and undermine their authority. That is definitely not the intent. In fact, if that were to happen, it would probably be a signal that some groundwork needs to be done before the organization is ready for teamwork. What we mean here is that team members and team leaders have to be able to speak with each other honestly and openly. Team members have to be able to give positive feedback to the team leader. If employees appreciate receiving information and being consulted on decisions, they should be able to give that feedback to their team leader. Similarly, if team members find the team meetings boring or feel that they spend too much time listening to the team leader talk and don’t have an opportunity to give their ideas, then they should also be able to give this feedback.

This means, as well, that it is a good idea for both team leaders and team members to learn how to provide feedback in a constructive, non-confrontational way. Many organizations which have formal annual performance appraisals for staff now include a segment in the appraisal meeting where employees are asked to provide feedback to the team leader and to provide their suggestions on how things could be improved in the coming year. Rather than creating a negative atmosphere, these companies are finding that doing this not only opens up communication but provides valuable feedback to managers and supervisors which they appreciate receiving.

Conclusion

Whether you have been leading in a team setting for a period of time, whether you have just recently begun working as a team leader, or whether you are still considering adopting a team approach, hopefully, these five tips will provide you with some practical ideas to help your team be successful. ♦

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availability of the supply. The following are the options that we have to address water scarcity.

**Option 1. Increase Cost.**

Price water higher so that we appreciate its value and are more careful and diligent with its use. This, however, has major negatives, particularly with respect to poorer people and nations. It's also hard to get a buy-in from all groups as there will always be different levels of need and availability.

**Option 2. Water Re-use.**

Water recycling can reduce fresh water consumption by up to 80% because there are many uses of fresh water that don’t require it to be potable (of drinking quality) – cooling, construction, manufacturing and golf course irrigation to name a few. One problem of course is that this option is expensive and is not always available.

**Option 3. Desalination.**

If the desalination plant is near the coast, the supply is enormous, and with improvements in technology and decreasing costs, this option has a definite future. It does however have high capital costs and represents a negative for the environment.

**Option 4. Alternative Plant Selection.**

If used in the right location, many native plants can thrive on natural levels of rainfall and therefore irrigation can be reduced or eliminated. A potential problem here is that some of these plants are often not colourful and with a variety of different plants, irrigation must be used again. Drip (or low volume) irrigation is sweeping the world in popularity, not just in agriculture, but also in other plant applications. Drip irrigation is very successful and dramatically conserves water for most plant material. Unfortunately, it has not been successful on turf.

**Option 5. Water Efficient Irrigation.**

This can be implemented immediately or in stages. There are significant savings in water and therefore dollars in both agriculture and horticulture with proper design, products, installation, usage and maintenance.

**Proper Irrigation Design and Products**

Different plants and soils require different amounts of water and therefore it’s important to understand exactly what will be irrigated and to use the right product for water applications and distribution.

Many irrigation products today are designed to conserve water and significant research advances in technology are available with automation, exact water applications and nozzles that, if chosen properly, put down a very even cover...
The Toro Sentinel “smart” control system provides a range of modular options for outstanding flexibility. Whether it be maintenance equipment like PDAs and hand-held radios, or our vast communication mode offerings—such as radios, ethernet, phone and fiber optics—Sentinel has you covered.

Sentinel employs updated weather service reports and daily ET values so you can instantly respond to changing conditions—increasing or decreasing the moisture you apply as needed. Being able to adjust irrigation controllers so quickly and conveniently pays big dividends in water conservation and cost-savings.

- Computerized central control assembly programs your system and gathers data for reporting, but each site is managed by field satellites; the computer and software are not required for system operation
- True two-way communications between the controller and the central unit, as well as a hand-held radio, allows you to make programming changes or stop the program in the field
- Both field satellites and MapTo controllers have flow monitoring as a standard feature
Irrigation For a Growing World continued from page 9...

Automatic controllers with water conserving features are readily available with multiple start times and independent programs for different soils, crops and climates such as cycle and soak for heavy clay and hill sides.

Managers can also plan water budgeting for easy seasonal changes. Evapotranspiration programming, rain delay and automatic set-off devices as well as instruments that can measure rain in the air or moisture in the soil are all powerful tools.

With all these new irrigation products, water pressure is critical. For example, high pressure produces misting and fogging and a 5 psi drop in pressure often means better irrigation and 6-8% lower water usage. For very little cost, regulating devices can be fitted which ensure even and precise water application. Booster pumps should be considered in low pressure situations. These pumps are not expensive and are completely automated to the irrigation system.

Installation and Maintenance

Irrigation systems must be properly installed and configured to achieve the most efficient use of water and to give the user the best turf possible. Only Certified Irrigation Contractors (CIC) should be hired. Maintenance and operation is vital because without regular inspections and repairs, many problems will go undetected.

When water is in short supply, the initial reaction is often to shut off the taps. This can lead to confusion and increased water consumption when water bans are lifted. It is a reactive measure that does not change the behavioural habits of the user. Government grants, rebates and incentives can change behaviours, along with perception, responsibility, education and awareness.

The need to conserve water has never been greater. We need to do even more and with everyone's help, we can.

STA 18th Annual Field Day

THANKS FOR ANOTHER YEAR OF RECORD-BREAKING ATTENDANCE!

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• Vanden Bussche Irrigation
A PERSONAL MESSAGE FROM CAL RIPKEN, JR.

Baseball has always been a big part of my life, from when I played in youth leagues all the way to the majors. During my life in the game I have played on some of the finest fields in the world. I have also played on some of the worst fields out there. What a difference a great field makes!

Since my retirement, I’ve been focusing on the game at every level and we have been designing and building baseball complexes across the country. In my hometown of Aberdeen, Maryland, we constructed a complex that includes four youth baseball fields, four softball diamonds and a beautiful minor league ballpark, Ripken Stadium, that serves as the home of the Aberdeen IronBirds minor league team.

It is so important to provide the young ballplayers visiting our complex with an experience that they will never forget and an experience that will enhance their love of baseball forever. When we built the complex we chose Jacobsen brand turf care equipment to maintain the fields. The results have been outstanding. In fact, in 2004 Ripken Stadium was named Minor League Field of the Year!

We think the world of Jacobsen equipment and we recommend Jacobsen to grounds keepers at ball parks everywhere. Jacobsen brand products have proven they perform in the quality of the cut, the health of the grass and the overall appearance of the field. If you’re looking for consistent, high performance results on your field all season long, you can’t go wrong with Jacobsen. When your local Jacobsen dealer calls, ask him to show you how your field can be a field of dreams.
Purchasing With A Green Conscience
18TH ANNUAL STA FIELD DAY COVERAGE CONTINUED...

Cindy Toth, Director of Environmental Policy with the Town of Oakville, spoke on the whys, hows, options and barriers of purchasing GREEN. It's ironic that in an industry like ours – where literally and figuratively our success is measured by the colour green – we could do so much better on the environmental front.

Cindy stated, “Every product you purchase can have multiple impacts on human health and the environment.” The list of why we need to research alternatives is long. Saving money is not always on the top, but stimulating the market for innovative new products and services is. Reducing waste, making efficient use of resources, using reusable containers or parts and recycling are all ‘no brainers.’

But did you know it could be as simple as purchasing a product or service with a ‘lesser’ or reduced impact than that of a similar product?

Environmental purchasing policies triple your bottom line – socially, environmentally and financially. Traditional bottom line policies do create barriers, not to mention the higher up-front costs that sometimes come with green purchasing. But by adding a clause under environmental considerations, the changes needed are within reach.

Consider refillable totes for dry goods, refillable blathers for liquid, and new services that come with an environmental certification. It is not as problematic as we think. From topdressing with compost, lining fields, and even office operations, purchasing green may involve more time researching but when ‘lifecycle costs’ are taken into consideration, the benefits become obvious. Do not assume there is always a cost to having a ‘green conscience.’


Excellent Reference Sites

The Green Industry Guide to Environmental Purchasing
www.deq.state.mi.us/documents/deess-p2-turf-purchasingguide.pdf

Rockford Park District Environmental Policy: www.rockfordparkdistrict.org/pdf/environmental_policy.pdf

Commission for Environmental Cooperation: www.cec.org

The Tides Center, Paper for the Environment: www.conservatree.com

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ENTER ONLINE TO WIN ONE OF THREE PRIZE PACKS!
At the Annual Sports Turf Association Field Day, the Guelph Turfgrass Institute Turf Team had the opportunity to demonstrate Smart Tools for Sports Turf Managers. We focused on tools that will assist you in better managing your soils. The article below summarizes our session and outlines in several easy steps how to take a soil sample and also how to determine soil texture.

Before we get into the step by step outline, let's first 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. This is usually 10-15 cm.

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 1/2 litre sample of the mixture.

Step 5. Place the soil sample in a plastic bag and label it. Most accredited soil test labs in Ontario have websites with soil sample forms online. The Ministry of Agriculture, Food and Rural Affairs site lists the Ontario accredited soils lab at www.omafra.gov.on.ca/english/crops/resourcelabo.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 384, Turfgrass Management Recommendations. Information on how to obtain this publication is also on the OMAFRA website.

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 root zone 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 (see picture on page 14).

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 1). They are fairly robust and not too complicated to use, ranging in cost from ~$200 up to $800-900 for more sensitive units. Usually 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 (Figure 2) 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 ~$2,000 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 ($1,500-$2000).

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.

— Pam Charbonneau, OMAFRA, Ken Carey and Erica Gunn, GTI

Thank-you to all who contributed to the success of this year’s event!

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### Coming Events

**November 6-8, 2005**  
Irrigation Association 26th Annual International Irrigation Show, Phoenix, AZ  
Info: (703) 536-7080, www.irrigation.org

**November 15-17, 2005**  
Empire State Green Industry Show (Formerly the NYSTA Turf & Grounds Exposition), Rochester, NY  
Info: (518) 783-1229  
www.nysta.org/greenshow/home.html (tradeshow)  
www.nysta.org/greenshow/program.htm (conference)

**January 4-6, 2006**  
Ontario Golf Superintendents’ Association Ontario Golf Course Management Conference & Trade Show, Toronto, ON  
Info: (519) 767-3341, www.golfsupers.on.ca

**January 10-12, 2006**  
Landscape Ontario Horticultural Trades Association Congress 2006 Featuring Fencecraft 2006  
Toronto, ON  
Info: (800) 265-5656, www.hort-trades.com

**January 18-22, 2006**  
Sports Turf Managers Association (USA) Annual Conference & Exhibition, Lake Buena Vista, FL  
Info: (800) 323-3875, www.sportsturfmanager.org

**January 30 – February 24, 2006**  
Guelph Turfgrass Institute Turf Managers’ Short Course  
Guelph, ON, Info: (519) 767-5000

**February 20-21, 2006**  
Ontario Turfgrass Symposium  
Strengthening Our Roots: A Growing Tradition  
University of Guelph, Guelph, ON  
Info: (519) 767-5000, www.open.uoguelph.ca/ots

**March 3-7, 2006**  
- Western Canada Turfgrass Association 43rd Annual Conference & Show  
- 57th Annual Canadian International Turfgrass Conference & Show  
Vancouver, BC  
Info: (604) 467-2564, www.wctaturf.com  
(800) 387-1056, www.golfsupers.com

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**GET ON THE LIST!** Contact the STA if you have an event you’d like to advertise in the Sports Turf Manager.
What is your role with Conestoga College?
My role with Conestoga College Institute of Technology & Advanced Learning is Manager of Physical Resources. The Department has Building & Grounds Maintenance, Health/Safety & Security Services, Shipping/Receiving, Mail & Courier Services, related Contract Service Administration (i.e. Housekeeping, Food Services). There are five campuses located in Kitchener, Guelph, Waterloo, Cambridge and Stratford. The annual operating budget is 6.4 million dollars.

What kind of team do you work with?
I work with a very diverse team. With the various areas of responsibility, there is a need to have many talents within the department. The cost to operate is below the provincial average on a square foot basis. Conestoga College has been ranked the number one college in the province for the past 7 years. It is because of such a strong committed team that Conestoga has been able to remain a leader in the province.

What are you and your team responsible for?
To ensure safe, clean and well maintained campuses to enhance the learning experience for our students.

What is the biggest challenge in your job?
Accommodating the changing needs of new training/learning programs. Ensuring the students have the facilities to conduct their studies and participate in recreational activities. This is done by working with the Space Planning Committee and the Athletics Department.

What is the most satisfying part, what makes the job worthwhile for you?
I enjoy being around the students. They bring so much energy to the campus each September that it is difficult to not feed off it. Having students work part-time within the department during their time at the college and watch them walk across the stage at convocation. They grow so much during their time at Conestoga.

What is the biggest misconception about your job?
A number of people do not understand what is involved with facility management. There is considerable work that is not seen behind the walls or on grounds.
The facilities and grounds are maintained in good repair, resulting in few breakdowns or cancellations.

What is your educational/employment background?
I am a graduate of Humber College in the Arena Management Program – 1973. I have also completed many in-service training programs through the Ontario Arenas Association (ORFA) and Conestoga College Continuing Education Schools related to my field (Municipal Clerk/Treasurer, Construction Project Management, Construction Estimating, Certified Health & Safety, Canadian Emergency Planning Program). I am a Past President of the Ontario Arenas Association Inc. (ORFA), a founding member of the Canadian Recreation Facilities Council, Past Chair of the Grand River Building Managers Association, and former Executive Member of the Colleges Facilities Administration Committee.

Tell us about your family.
I have been married to my wife Pat for 32 years. We have a son and daughter who are in their twenties. We live in Guelph, Ontario.

What do you enjoy doing outside of the workplace? Hobbies, favorite past times?
Spending time with my family. I am currently restoring a 1955 Chev. I enjoy going to automotive flea markets.

What direction(s) would you like to see the industry, as a whole, move towards?
I support the various associations continuing to work together to enhance knowledge of all members.

What do you consider to be the biggest benefit of being a member of the STA?
Information sharing.

SEE PAGE 22 FOR A FACILITY PROFILE OF DOON CAMPUS IN KITCHENER...
Name, location of facility.
The Kenneth Hunter Recreation Centre at Conestoga College is named after the second President of the college. It is located on the Doon Campus in Kitchener.

General facility information.
The Recreation Centre has an Olympic-sized ice surface with seating available for 615 and standing room for 400. The 14,000 sq. ft. double gym seats 489 people with standing room for 200. There are weight and training rooms in the facility. It is used by a number of college programs as well as community groups. Memberships are available as are hourly rentals to the community. The college has a number of varsity teams that compete in the OCAA. The Athletics Department also operates a number of intramural programs for students.

What types of sports fields are on site?
In addition to the indoor facilities, the college has three slo-pitch/womens fast-pitch diamonds and a soccer field. Varsity, intramural teams and community groups use the fields.

How many employees are involved with turf care at this facility?
There are six staff who work on campus involved with turf care. Peter Schlei is the lead hand for the maintenance staff at the recreation centre and grounds. The centre staff look after the sports turf while grounds staff look after the landscaped areas of the campus. Barry Gurski of the grounds staff is our trades person and is a certified horticulturist. The staff works as a team to maintain all areas.

How many acres of turf are maintained? How many acres of sports turf?
Staff maintain approximately 55 acres of turf at the Doon Campus. This is in addition to two large bush lots, various roads and sidewalks, as well as 13 parking lots. There are about 4.5 acres of sports turf when the immediate areas around the fields are taken into consideration.

What percentage is irrigated?
We have no irrigated turf areas.

What is the primary type of turfgrass? Name of varieties.
We primarily use TT fescues and rye.

Is yearly overseeding part of your sports turf maintenance program?
The sports fields are overseeded on a rotating basis. One field per year is completed in full with stressed areas of other fields getting attention as required.

How many times do you fertilize?
The sports turf is fertilized two or three times each year depending on conditions. We fertilize other prime areas once a year along with overseeding and topdressing as required.

Do you aerate? Topdress?
We aerate the sports turf a minimum of three times a season. Topdressing is completed on a rotating basis similar to the overseeding program.

Has your municipality banned the use of pesticides?
The various municipalities that we have campuses in have not yet banned pesticides. As a college, we have not used pesticides that require posting for two years. Staff has worked with suppliers to find alternatives. We are still experimenting and hope to find suitable alternatives.

Are community user groups involved or have they been involved in the construction/maintenance of this facility? In what manner?
The construction of the sports fields was a joint venture between the college and the City of Kitchener in the early 1980s. Since that time, the college maintains the fields and rents time to community groups when the fields are not required for college programs.

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?
The Recreation Centre rents about 2,000 hours per season. Fields are closed for the topdressing and overseeding programs. In addition to this, fields may be closed on the recommendation of Peter Schlei due to weather conditions. Peter, as the lead hand, works closely with recreation staff to determine usage levels.
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