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SPORTS TURF MANAGER

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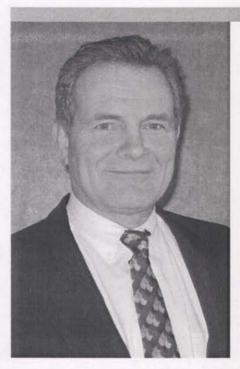
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STA OFFICE HOURS

Lee Huether is in the office from 9:00 a.m. to 2:00 p.m. Tuesday through Friday. The office phone number is (519) 763-9431. At other times, a message may be left on the voice mail system. Please include the vital information of name, telephone number with area code, and time of calling. The office may be reached at any time by faxing (519) 766-1704 or via e-mail.

The President's Desk



fter a rather cold and wet depressing spring and damp summer, we are now experiencing and enjoying a beautiful September and October and the fall colours are expected to be exceptional this year. This is a good time to enjoy the outdoors and sports turf, especially the golf course, sports or hiking.

17th Annual Field Day

This year we experienced a spectacular day which I hope was enjoyed by all who were present. We had another record attendance representing more than 120 industry professionals and 20 supplier companies exhibiting their products. Without the support of our generous sponsors, the day would not be possible. Our thanks to all of you. I'd also like to take this opportunity to thank Murray Glassford and his staff at Parks and Recreation, City of Mississauga, for ensuring the event ran smoothly and for making all of us feel welcome.

Keynote speaker Dan Ferrone had the audience relaxed and smiling in no time to start the day off right. Thanks Dan. Our second speaker was Dr. Eric Lyons from the University of Guelph who discussed Managing Athletic Fields for Healthy Root *Systems.* The information that he shared provided great food for thought.

Up next was a group of experts from the City of Mississauga speaking about their decision tactics in deciding on how, why and where to install a synthetic field. This was presented by Stefan Szczepanski, Susan Mentis and Murray Glassford.

Our final morning speaker was Terry Murphy who has become, over recent years, *the* specialist in horticultural safety – a subject to which we must all pay close attention.

The afternoon consisted of the outdoor trade show and an excellent field marking demonstration. I would like to thank the Field Day Committee and of course Lee Huether for doing an outstanding job with the planning and organizing of this successful event.

Association News

Please join me in welcoming Paul Gillen of AerWay to our Board of Directors. We look forward to him sharing his experience and providing active board participation.

We would also like to congratulate Randy McCord who was the recipient of the STA scholarship as the 2004 Ontario Diploma in Horticulture graduating student in the turf option with highest overall mark.

Ontario Turfgrass Symposium

In an effort to improve and enhance industry appeal, OTS 2005 will primarily be an educational forum held at the University of Guelph February 21-22 next year. The traditional trade show we have enjoyed in the past will also change in form; however, this new direction will allow the symposium to return to its educational roots.

We encourage all members to check our website to stay current with dates and functions as well as industry news. Finally, the STA Board would like to wish all our members and readers a good winter ahead, but as typical Canadians, we will first maximize our time spent enjoying the fall!

ANDREW GAYDON

Ontario Turfgrass Symposium: Back to Our Roots

FEBRUARY 21-22, 2005, UNIVERSITY OF GUELPH CAMPUS

ONTARIO Turfgrass Building on longstanding expertise in turf science and management, the Ontario Turfgrass Executive Committee is

pleased to announce the return of OTS to the University of Guelph campus for 2005.

Seminars focusing on irrigation and water conservation, best practices for turf management, new tools for integrated pest management, and organic solutions for turf management will enhance the existing golf, lawn care, sod production and sports turf management sessions. Seminars will feature the latest in scientific research, practical turf management, legislation, technology and human resources management. An opportunity to write the Voluntary IPM Accreditation Exam further enhances the professional development opportunities available at OTS.

2005 Turf Manager's Short Course

Canada's most successful and valued Turf Managers' Short Course (TMSC), held at the Guelph Turfgrass Institute, will be offered from January 31 – February 25, 2005. Benefit from the expertise and In celebration of our return to home turf, a *Turf Managers' Short Course* Alumni Banquet is certain to be a highlight for past participants and faculty – a great time to reconnect with old friends and colleagues.

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

The two-day program is scheduled for February 21-22, 2005. To receive a 2005 OTS program guide, please contact the Office of Open Learning at the University of Guelph at 519-767-5000 or info@open.uoguelph.ca. See page 5 for an overview of the Guelph Turfgrass Institute.

experience of industry professionals and U of G 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 our office at 519-767-5000.

Welcome to Returning Board Member Paul Gillen

Paul Gillen has been a member of the Sports Turf Association since 1991, with a previous term on the Board of Directors in 1994/1995. He is also a member of the Sports Turf Managers Association in the USA, where he has served as a committee member. Paul is the Marketing Manager, Turf Products, for AerWay, a position he has held since 1983. In any spare time, Paul enjoys golfing and boating out of Port Dover with his wife Suse and fourlegged "kids" Mercedes and Bentley.



Odds and Ends

STA Scholarship Recipient

STA Director Bob Sheard (left, picture below) congratulates Randy McCord, recipient of the STA scholarship, at the Ontario Agricultural College Awards Luncheon in June. Randy was the 2004 Ontario Diploma in Horticulture graduating student in the turf option with the highest overall mark. Randy was also the recipient of the Nursery Sod Growers' Association Award and the OMAF Award of Excellence in Leadership.



Quotable Quotes

Winter is an etching, spring a watercolour, summer an oil painting and autumn a mosiac of them all. – Stanley Horowitz

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 2004 Submissions

If you have something you'd like to submit for the next issue, please forward it to the STA office by October 29, 2004.

Editorial Content

Opinions expressed in articles published in *Sports Turf Manager* are those of the author and not necessarily those of the STA, unless otherwise indicated.

A Key Player in the Turfgrass Industry

SPOTLIGHT ON THE GUELPH TUREGRASS INSTITUTE

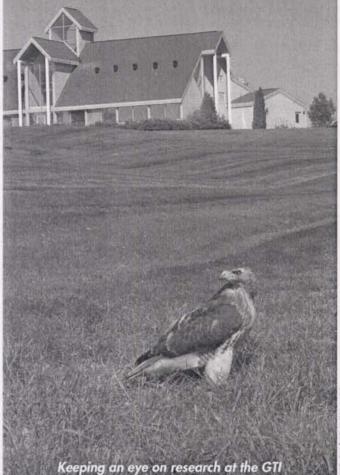
he Guelph Turfgrass Institute was established in 1987 to conduct research and extension and provide information on turfgrass production and management to members of the Ontario turfgrass industry. Located at the University of Guelph, the institute is supported by the University, the Ontario Ministry of Agriculture and Food, and the turfgrass industry. The first of its kind in Canada, the institute is recognized as a centre for research, extension and professional development.

Research faculty and staff at the GTI are drawn mostly from departments at the University of Guelph with an interest in turfgrass, such as plant agriculture (crops, horticulture and biotechnology), land resource science (soils), and environmental biology (pathology, entomology, weed science).

Building on the University of Guelph's long-standing expertise in turfgrass science, the Institute continues to focus its activities in areas such as the environmental aspects of pesticide use (fate and persistence), evaluation of grass species, varieties and seeding methods, sports field construction, fertility and management programs, pesticide use and the biological and cultural control of diseases and weeds.

The Guelph Turfgrass Institute's mandate is

to expand and enhance turfgrass research for Canada's ٠ \$1 billion turf industry



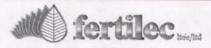


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- to encourage and prepare young people for careers in the industry and in research through undergraduate and graduate programs
- · to develop a world-class turfgrass facility

The GTI's G.M. Frost Research and Information Centre

The Research and Information Centre, opened in January 1993, serves all sectors of the industry and the public. The building is strategically located on the Ontario Ministry of Agriculture and Food's Guelph Research Station, one of several research stations owned by the province and operated by the University of Guelph. The building provides a focal point for the continued development of turfgrass science and the turfgrass industry.

Research Infrastructure

The

The Guelph Research Station covers about 200 acres bounded by the Eramosa River on the north and east, and by Victoria and Stone Roads on the west and south. The GTI currently occupies about 53 acres of this, and there is a long term site master plan for the whole area.

The research plots on site were developed specifically to service research into turfgrass and related landscape problems, with appropriate state-of-the-art management (equipment, irrigation, evaluation tools). Field plots include research on turfgrass soils and fertility; sod production and management; evaluation and selection of varieties; control of weeds, insect pests and turfgrass diseases. The field plots and field laboratory facilities on the 53-acre site provide researchers with the tools to generate new approaches to turfgrass production and management.

The first phase of development included the large research ranges, 16 ranges, each 25 x 100 m and separated by grass roadways. This area was land formed and topsoil replaced to provide uniform conditions for research plots. Five of the 16 ranges currently have in ground automatic irrigation; quick-connect valves provide manual irrigation to the rest. The first phase also included three putting green research areas. Two are USGA greens, each with one half constructed with low pH (siliceous) sand and one half with higher pH (calcareous) sand. The third is a push-up green constructed with sand which was found onsite during development. A fourth green was constructed in 1999 using the California-style design. A large (10,700,000 litres) irrigation reservoir provides water for the irrigation system which irrigates the research ranges, greens and landscaped areas around the buildings and pond.

Other research infrastructure includes a set of iysimeters, the Canadian Centre for Toxicology's mesocosms for studying toxicology in aquatic systems, and a filtered irrigation loop for drip irrigation (originally installed for a high density orchard, but now put to other uses).

The GTI shares the Research Station with other users, such as the Centre for Toxicology, woody nursery plant re-search, and the Agroforestry program at the university. Recently there has been an undertaking to integrate turf with other ornamental and woody plants in an urban ecology program, both on campus academically and at the GTI. The trial gardens on display are part of this effort. \blacklozenge



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Managing for Healthy Turfgrass Root Systems • Cover Story Continued...

REMEMBER THAT JUST LIKE TURF MANAGERS, TURF PLANTS ARE UNDERGOING THE SAME BALANCING ACT ...

... density and creates a finer textured turf, both of which are desirable on playing surfaces. In conjunction, decreasing mowing height reduces the amount of photosynthates (energy from photosynthesis) that the plant can allocate to roots for the creation of our desired root system. Fortunately for the stability of the playing surface, the roots are usually fairly dense in the top 4 cm, even under the lower mowing heights. The plants will be less able to attain water and nutrient from deeper in the soil profile. Turf managers must consider their ability to provide the other requirements such as irrigation and nutrients then weigh what mowing height is appropriate.

Another consideration in deciding on mowing height is the frequency that the turf can be mowed. When mowing, only one third of the height of the plant should be removed. For example to mow turf at 6 cm it should not grow higher than 9 cm between mowing cycles, 3 cm of growth. In the case of turf mowed at 3 cm, it should not grow higher than 4.5 cm, 1.5 cm of growth. As mowing height decreases, frequency of mowing increases. If more than one third of the height of the turf is removed, it can adversely affect root growth. The plant will not have enough leaf area to create enough photosynthates to support its root system, causing root dieback and a general decline in turf health. Also, mowing too infrequently can cause increased thatch build up which will be addressed in a later section.

Irrigation

While many fields do not have the option, luxury or availability of irrigation, the control of water is a great way to control root growth. The most important thing to remember when considering how roots interact with soil water is that roots grow to where the water is located. If light, frequent irrigation is implemented then root growth will be relatively shallow and not very dense. Deep, infrequent irrigation is much more desirable. It is also important to remember what type of soil is present. Sandy soils drain more quickly than clay soils and hold less water. Clay soils hold more water than a sandy soil but a lower percentage of the water is available to the plant. While not enough water is a concern in root management, too much water and insufficient drainage are also typical problems. Most of the time the soil cannot be modified without great expense although proper thatch management can help.

Fertility

It has been said that you cannot have too much of a good thing. In the case of fertility on athletic fields, this statement could not be more false. With excessive fertility, specifically nitrogen, the root mass of most plants, including turfgrass, decreases. One of the primary functions of roots is to absorb nutrients. When excessive nutrients are present, the plant has evolved mechanisms to limit root growth. Increased nitrogen fertility also increases shoot growth making it much more difficult to maintain the desired canopy height and mowing intervals. In contrast, if inadequate nutrients are present all growth is limited and the root system generally will be larger in proportion to the whole plant. However, the overall root system will be smaller and the turf will not be able to maintain an acceptable playing surface.

The importance of soil testing can never be stressed enough. Typically, turf managers apply excess nutrients or apply combinations of nutrients in such a way that excessive phosphorus is applied to reach the desired nitrogen level. Soil tests will also provide insights to the pH of the soil and the need for liming. Rarely are micronutrients limiting and should only be applied if soil or tissue testing recommends.

Thatch Control and Aeration

Thatch is a part of any actively growing turf system. In the case of athletic fields,

it can actually provide a small buffer protecting the soil from excessive wear. While thatch has good aeration and compaction resistance, it is accompanied by poor water and nutrient retention. If an excessive thatch layer forms it will prevent rooting into the soil and will result in a mat-like turf that is susceptible to drought and divoting. Thatch can be controlled with topdressing, de-thatching machines, vertical mowers and most commonly, aeration.

Topdressing with a material with a bulk density higher than the thatch (such as sand or soil) creates an environment more conducive to the breakdown and decomposition of the thatch. While aeration is primarily implemented to relieve compaction, it acts as a way of mixing the thatch layer with the soil from the cores thus controlling thatch. One thing to remember about core aerification is that repeated aeration at the same depth can create a compaction layer at the depth of the cores. If 5 cm cores are pulled consistently over time a severe compaction layer can form at 5 cm that can inhibit drainage and rooting deeper into the soil profile. The solution is to vary the depth of aeration and, if possible, occasionally implement a deep tine aeration scheme.

Balancing Act

As with everything we do these days, managing healthy root systems in turf is a balancing act. We can provide too much of a good thing. If a lower height of cut is desired then most likely increased mowing frequency and irrigation will be needed. The thing to remember is that plants are also undergoing the same balancing act. Turf plants optimize allocation of photosynthates to acquiring water and nutrients (roots) or to photosynthate production (shoots). The job of the turf manager is to understand this balancing act and manipulate it to result in optimal growth of both roots and shoots in order to provide the best possible playing surface. ♦

Winterization of Turf on Sports Fields: Perspective from an Ontario Private School

CAM BENETEAU, MANAGER, GROUNDS/ARENA DEPARTMENT, RIDLEY COLLEGE

s I write this article, we in the Niagara Peninsula are finally experiencing a true minisummer. With the new school year upon us, it is time to begin putting into practice the necessary steps for preparing our turf for the winter months. The following article will provide insight as to how Ridley College (a private high school) prepares its turf for winterization.

Soil Tests are Crucial

Soil fertility is crucial in readying the turf for the winter months. The process of determining a fertility program is begun one year in advance. I have been working with a turfgrass consultant for five years to fine tune our fertility program. We take into consideration the fact that we have both irrigated and non-irrigated fields, which determines our approach to fertility. Irrigated fields receive 11b.N/1000' per month from May to November and our non-irrigated fields receive 11b.N/1000' in June, September, October and November.

Our phosphorous, potassium and micro-nutrient needs have all been predetermined by soil test results. We now concentrate on applying 75% of our nutrients to the non-irrigated fields in the fall. This, I find, helps to strengthen the turf and prepare it for the winter months. We have been applying a dormant fall application of 11b.N/1000' of ammonium sulfate for nearly 10 years. I saw an immediate response from the turf on our initial application. Not only did I see a more consistent turf colour throughout the winter months, the turf did not experience that initial growth surge in the spring.

What was extremely inviting with applying a dormant fall application was the fact that we could delay our first spring application until May on irrigated fields and until June on non-irrigated fields. Ridley requires that sports fields be available for use when students return from March Break. With that in mind, the ability to delay spring fertilizing made sense due to our hectic spring schedule.

Minimizing Soil Compaction

Aeration is another key component in winterizing our turf. I like to aerate in late fall, after all our sports have been completed. This obviously helps alleviate compaction created by usage. The opening of the soil provides an avenue for moisture and nutrients to enter. This improves root uptake, which in turn strengthens the turf for the winter months. I also depend on Mother Nature to help out with the freeze/ thaw cycles throughout the winter. This provides the most natural way of aerating the soil. over the winter months. As many of you are already aware, leaf collection is crucial in helping turf survive the cold months. Some of our field perimeters are tree lined and removal of leaf matter is paramount to stopping rot.

The promotion of winter diseases may be of concern to most. Arguments have been made that promoting succulent growth in the fall months will promote grey and pink snow mould and possibly fusarium patch. I have found that a consistent mowing program (late into the fall if necessary) and a timely fall dormant fertilizer application will minimize these winter diseases. Our dormant application is carried out about mid-November.



"In 16 years at Ridley, only twice have we seen grey snow mould develop.

Fighting Winter Diseases

Other aspects to consider for winterizing turf are mowing, irrigation and fall cleanup. Our mowing practices continue right up until the time the turf has stopped growing. This helps control the potential for snow compaction, which could lead to moulds. If irrigation is needed in late fall, I will do so only as long as needed and immediately following aerification and fertilization. At least on the irrigated fields, I can help minimize the evapo-transpiration that could occur During the first week of November, I begin monitoring turf growth and soil temperatures. When top growth has ceased and soil temperatures are at about 50°F, I commence aerification, followed closely with fertilizer application and if needed, I will irrigate heavily.

In my 16 years at Ridley, only twice have we seen grey snow mould develop. The mould occurred during milder temperatures followed by heavy, wet snowfall. The snow mould developed where we needed to stockpile snow along perimeters of roadways. Never have I experienced mould over an entire sports field. Once mowing began in the spring, the mould was gone after a couple of weeks. Another concern of mine is foot traffic on the fields during winter months. For a number of years, we have prohibited students from walking on the sports fields from mid-November to April. Students wanting to take shortcuts to class were compacting the soil to the point that they would wear a path. This, of course, would not be seen until the spring when the turf had been killed. Since our ban, no turf has sustained injury.

Through my years of experience, I have found that taking the time to winterize turf properly during the fall months outweighs the hardships of trying to repair and gain back turf loss in the spring. I have been impressed with the way our turf has responded over the years from its winter hibernation. This can only be attributed to our deliberate care leading up to the winter months. ◆



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7th SPORTS TURF ASSOCIATION Annual Field Day

Despite the tangle of traffic, the caffeine kafuffle, and the threat of rain, a record number of delegates enjoyed the hospitality of the City of Mississauga at our 17th Annual Field Day, our 17th Annual Success. From healthy root systems to artificial turf, safety to field marking, the program was informative and varied. For those of you who were unable to attend, our speakers have provided articles which will be featured in this and the next issue of the *Sports Turf Manager*. Registrants were also provided the opportunity to meet with industry suppliers to view their displays and equipment demonstrations. And speaking of our industry suppliers, their support, as evidenced by their generosity and participation, continues to be awesome! We thank you!

an Ferrone was the opening key note speaker. Dan has spent a total of 23 years in the Canadian Football League (CFL) as a player, coach and President of the CFL Players Association. He was also Vice President of Operations for the Toronto Argonauts.

Dan was invited because he is not only a very warm and charismatic speaker, but he has had great experience with playing football on synthetic turf (ST) as well as natural sports turf (NST). He came to share his experiences, and that he certainly did with humour and conviction. Dan, as with most footballers, would always prefer to play on NST over ST. Injuries are far fewer with NST. With ST, concussions are more likely, and Dan was no exception having had 11 over his career, most (not all) on ST. Damage to ligaments and burns are also more numerous on ST.

The anecdotes continued... During very hot weather, and Dan gave an example when once he played in Las Vegas, the field temperature was 147°F and the players were all given special shoes to play in these exceptional temperatures on ST. In some stadiums where they have to make very quick changes between sporting events, the ST is often adapted so quickly that the final surface is not perfect for playing. Occasionally in the Toronto Dome, the pitchers mound was not fully removed and therefore the ST for an Argos game was not completely flat.

Sometimes the fields were mixed, as in the Memphis Stadium which has natural turf on the actual playing field, but synthetic on the end zones and sidelines.

Players like natural turf as long as it isn't too muddy or wet. Edmonton's Commonwealth Stadium is Dan's favourite.