

# Sports Turf Manager

*for safe, natural sports turf*

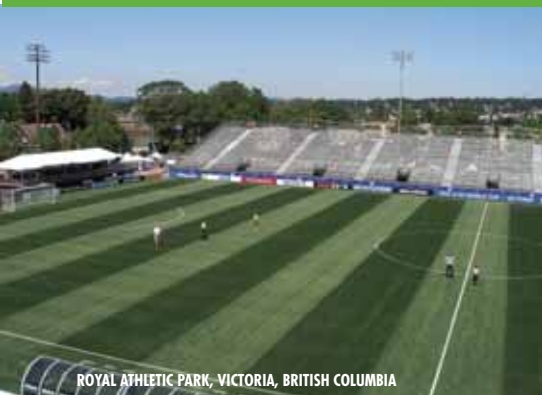
**Spring 2008**

VOLUME 21, NUMBER 1

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## Lost Your Notes?

If you couldn't attend this year's OTS or simply want a refresher on some of the sessions, we recap three of them with articles in this issue.



ROYAL ATHLETIC PARK, VICTORIA, BRITISH COLUMBIA

## 2007 FIFA U-20

See pages 20-22 for an in-depth look, from the field crew's perspective, at the remarkable transformation Victoria's Royal Athletic Park underwent for last summer's World Cup.



## Turn Off the Pesticides & Turn on The Vacuum

NANCY HUDSON, CHINCH BUG RESEARCH PROJECT, NL HORTICULTURE PRODUCERS COUNCIL

**An OTS Highlight Article.** Agricultural vacuums were first used in the 1950s to protect US cotton crops from insect damage. By the 1960s the use of vacuums expanded into other field crops to provide protection from certain insect pests such as whiteflies, aphids, tarnished plant bugs and Colorado potato beetles. Treatment results ranged from excellent to poor depending on the type of vacuum used. Discontentment with agricultural vacuums may have been driven by the high initial cost of machinery, limited use, soil compaction, and plant losses from mechanical damage.

In the meantime, chemical pesticide manufacturers created new pest control products for use by farmers which ultimately led to the abandonment of agricultural vacuums. Chemical pesticides were touted as a technological wonder because they were so economical and effective at increasing crop yields. However, the perceived miracle ceased when greater amounts of pesticides were needed to achieve treatment results, and when insect pests such as the Colorado potato beetles became chemically

resistant. Voices from science, academia, and the public began to surface conveying fears of environmental degradation and human harm resulting from unrestricted pesticide use.

In response to these concerns a multi-tactical approach to pest management emerged; integrated pest management (IPM). IPM was developed to reduce the reliance on chemical pesticides by encouraging the use of other treatment methods such as biological controls, physical controls...

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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 – Gord Dol

Spring is here, and it's time to get back to the business of sports turf management. On a personal note, I'm proud to be serving as your president for another term.

This year's Ontario Turfgrass Symposium was again a great success with a terrific venue and a first class slate of speakers. The OTS is, and continues to be, the premier turf education forum on Ontario. Many thanks to the OTS committee for another job well done. We have three *OTS Highlights* articles in this issue.

During the symposium, we also held our Annual General Meeting at which elections for board positions were conducted. I would like to extend a very special thank-you to Dr. Bob Sheard who has stepped down from the board after many years of faithful service. All directors slated to complete their second year were re-elected and I am pleased to sit as president for another two years. Congratulations to Paul Gillen, now our vice-president.

Also at our AGM, we announced the creation of the Michael J. Bladon Educational Link. This link, available to our members via the association's website, will take you to the Michigan State University's Turfgrass Information File where you can access virtually any type of turf

The eagerly awaited *Athletic Field Construction Manual* is hot off the press and ready for distribution.

related information. This announcement was made with Michael's lovely wife Elaine and son John present, and is a tribute to Mike's many years of invaluable service to the STA.

I am pleased to announce that the *Athletic Field Construction Manual* is complete and ready for distribution. This publication was almost four years in the making. Thanks to the manual committee, and a special thanks to Bob Sheard, Editor-in-Chief, and Lee Huether who worked many hours pulling this all together.

I recently attended the Atlantic Turfgrass Conference in Halifax, Nova



**Above:** STA President Gord Dol (left) presents the association's annual donation to the Ontario Turfgrass Research Foundation. Corrie Almack accepted on behalf of the OTRF.

Scotia, and had the pleasure of sharing the podium with Dr. Eric Lyons for a full day of sports turf education. The session was well attended with good interaction and response from all participants. All of the sports turf sessions were chaired by Gordon Horsman from the City of Moncton, New Brunswick. Gord is a member of the STA and is profiled in this issue. He is working towards starting an Atlantic STA Chapter, so to all of our east coast friends, please contact Gord or Lee at our office.

Finally, part of our mandate set out in our strategic plan is to encourage and support education and research. During the OTS, I had the pleasure of once again presenting an annual donation to the Ontario Turfgrass Research Foundation. This donation was accepted by Corrie Almack on behalf of the OTRF. We have a great team of researchers at the University of Guelph who need and deserve our support. The OTRF is a very worthy cause. Have a safe sports turf season! ♦

## EVENT CALENDAR

### June 25

Parks and Open Space Authority  
(POSA) *Summer Operational Forum*  
Glen Abbey Community Centre  
Oakville, ON

*Watch for details!*

Ontario Parks Association  
[www.opassoc.on.ca](http://www.opassoc.on.ca)  
Ontario Recreation Facilities  
Association [www.orfa.com](http://www.orfa.com)  
Sports Turf Association  
[www.sportsturfassociation.com](http://www.sportsturfassociation.com)

### September 11

Sports Turf Association  
*21<sup>st</sup> Annual Field Day*  
Chinguacousy Park  
Brampton, ON

*Watch for details!*

Info: (519) 763-9431  
[www.sportsturfassociation.com](http://www.sportsturfassociation.com)

### November 1

Sports Turf Association  
*Robert W. Sheard Scholarship  
Application Deadline*  
Info: (519) 763-9431  
[www.sportsturfassociation.com](http://www.sportsturfassociation.com)



### April 27 to May 2

Ontario Recreation Facilities  
Association  
*53<sup>rd</sup> Annual Professional  
Development Program*  
University of Guelph, ON  
[www.orfa.com](http://www.orfa.com)

### August 11

*Ontario Turfgrass Research  
Foundation Fundraising  
Golf Tournament*  
Westmount Golf & Country Club  
Kitchener, ON  
Info: [www.otrf.ca](http://www.otrf.ca)

### August 21

Guelph Turfgrass Institute  
*Research Field Day*  
Guelph, ON  
Info: [www.guelphurfgrass.ca](http://www.guelphurfgrass.ca)

## Ontario Turfgrass Symposium Celebrates its 17th Successful Year

The 17<sup>th</sup> annual Ontario Turfgrass Symposium (OTS) was held at the University of Guelph's Rozanski Hall this past February 19<sup>th</sup> and 20<sup>th</sup>.

Hundreds of delegates attended the symposium with international industry experts and university faculty from across Canada providing leading edge seminars on a wide range of turf related topics.

"We are delighted with the reaction of delegates to the OTS program. It is the kind of information that turf managers in a variety of work environments need to do their jobs better," says OTS Executive Chair, Chris Mark.

The Ontario Turfgrass Symposium is a two day conference that allows turf experts to share insight and research regarding best practices for turf care. Delegates from across Ontario were in attendance to benefit from these information sessions.

"Reaction to topics offered at OTS is always very positive. Lectures tend to spark a lot of discussion amongst delegates and new ideas are taken back to the workplace. This is training that has a very strong impact on both turf managers and staff," says Steve Fleischauer, Manager of Program Development with the Office of Open Learning.

Details for the 2009 Ontario Turfgrass Symposium will become available later

this year. For more information, stay tuned to [www.open.uoguelph.ca/OTS](http://www.open.uoguelph.ca/OTS) or call 519.767.5000. ♦



### WELCOME TO THE STA!

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#### Timothy Armstrong

STA R.W. Sheard  
Scholarship Recipient



### STA Membership Plaques

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

### Summer 2008 Submissions

If you have something you'd like to submit for the next issue, please forward it to the STA office by May 16, 2008.

### Editorial Content

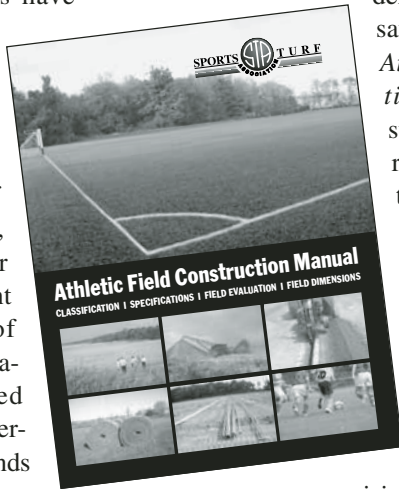
Opinions expressed in articles published in *Sports Turf Manager* are those of the author and not necessarily those of the STA, unless otherwise indicated.

# Turf Industry Seeks Construction Standards. STA Provides a Solution.

When setting out to build the next great playing field, professionals strive to create a masterpiece that will be used for generations.

Construction standards have been a missing link in the creation of the most effective and highly functional sports fields.

Commenting on the problem the sports turf industry has faced, Michael Bladon, former Grounds Superintendent at the University of Guelph, says, "Specifications could have saved grounds maintenance personnel and others thousands of dollars in corrective action when poor construction methods were used, partly because pertinent information was not readily available."



correctly the first time," says Bladon.

Landscape Architect Lawrence Stasiuk of the Ontario Association of Landscape Architects, adds, "Competitive athletes demand high quality and safe playing surfaces. *The Athletic Field Construction Manual* provides standards for five categories of field construction that will help designers determine the appropriate field design for the intended level of use and competition."

This classification system is based primarily on the root zone material and the provision of drainage, irrigation and lights. The resulting specifications for each category of field are based on the best available scientific information.

**Bringing uniformity to the construction of sports fields, this manual is long overdue.** Also included are more than 20 diagrams outlining the approved field dimensions for most sports fields using a turf surface.

The Sports Turf Association has moved to solve this issue through the creation of construction specifications in *The Athletic Field Construction Manual*. "The value of this manual to the industry is in the recognition of the need for a comprehensive set of specifications which, if followed or used, ensure that athletic fields are built

The Sports Turf Association has made the manual available through its website at [www.sportsturfassociation.com](http://www.sportsturfassociation.com). Bladon encourages municipalities, private enterprise, consultants, landscape architects and any involved in maintenance budgets to make use of this invaluable tool. ♦



## Industry News

### Green Steam Weed Killer

Rittenhouse is proud to introduce the latest product in our alternative weed control line. The Green Steam Weed Killer uses patented technology to produce 660° steam, which quickly kills weeds. Using high temperature steam is an effective alternative to chemicals for controlling annual weeds, grass and young perennial weeds. Even with a single application, the Green Steam can effectively eliminate many invasives. The Green Steam will not harm trees as their bark acts as an insulator, making the Green Steam perfect for controlling weeds around the their bases. In addition, the steam temperature can be controlled, thereby minimizing the damage to beneficial organisms in the soil. Not only does the Green Steam work well for weed control, it is also popular for sterilization purposes in greenhouses. For pricing and more information regarding the Green Steam Weed Killer, visit [www.rittenhouse.ca](http://www.rittenhouse.ca).

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## MICHAEL J. BLADON EDUCATIONAL LINK TO MSU ESTABLISHED

### GRANTING ACCESS TO WORLD'S MOST EXTENSIVE PUBLIC COLLECTION OF TURFGRASS MATERIAL

The Sports Turf Association, at its Annual Meeting on February 19, 2008, announced the establishment of the Michael J. Bladon Educational Link to the Michigan State University's Turfgrass Information File (TGIF). The blanket subscription provides an opportunity for the association to not only make the resources of the Turfgrass Information Center (TIC) available to its membership, but also as a way to support the continued expansion of the content and availability of the center's information

#### History of the Turfgrass Information Center & the Turfgrass Information File

In the 1960s, the Michigan State University (MSU) Library began to collect printed turfgrass materials. In 1968, the personal collection of the late O.J. Noer, pioneer turf agronomist, was added to the library holdings through the O.J. Noer Foundation. Later gifts have included the Noer/Milorganite® Division MMSD Image Collection (on indefinite loan), the Scotts Company Archive, and most significantly, the James B. Beard Turfgrass Library Collection. Today, the combined

collections are recognized as the most extensive public collection of turfgrass material in existence.

Between 1983 and 1992, the United States Golf Association (USGA) Turfgrass Research Program supported the development of the USGA Turfgrass Information File (TGIF). Using the Noer Collection as a foundation, TGIF was designed to systematically inventory published turf research and make the bibliographic information available via a computerized database (<http://tic.msu.edu>).

The TGIF database is now accessible online. With over 125,000 searchable items using over 300,000 keywords, these resources cover the full scope of the turfgrass industry. The database monitors over 320 journals and magazines, including the STA's *Sports Turf Manager*, research reports, and conference proceedings. In addition, the database includes records for extension bulletins, books and book chapters, technical reports, theses and dissertations, web documents, published Q & As, scanned golf course plans, and video interviews with selected members of the American Soci-

ety of Golf Course Architects, sample photographs from the Noer/Milorganite® Division MMSD Image Collection, and more!

#### The Michael J. Bladon Educational Link

It is only fitting that the portal to this information resource be named after the Sports Turf Association's founder, Michael J. Bladon. It was Michael who provided the impetus for the inaugural meeting in 1987. He became the association's first president and has since served as past president, director, and editor of and contributor to the *Sports Turf Newsletter*, now the *Sports Turf Manager*. He has played a role in most, if not all, association initiatives. Mike was awarded an Honorary Life Membership in the year 2000. He retired from the Board of Directors in 2002.

In an era of increasingly restricted chemical use and water availability, an ever-wider range of techniques and tools will be needed by managers to respond to user expectations. The TIC is the vehicle by which the information required to support research, education and management is made available for all of these efforts.

The TGIF database is now accessible online. With over 125,000 searchable turf items using over 300,000 keywords, these resources cover the full scope of the turfgrass industry. The database monitors over 320 print publications.

The TGIF provides access to better information, which converts to more effective management of turf facilities, whether athletic fields, golf courses, or other managed landscapes.

Sports Turf Association members can now access this information via the Michael J. Bladon Educational Link. Login to [www.sportsturfassociation.com](http://www.sportsturfassociation.com) and follow the link under the members only section. ♦

**Above:** Recently retired STA Director Bob Sheard (left) with Michael Bladon and his wife Elaine at STA's Annual General Meeting.

# More Sports Turf Association News

## 2008/2009 Officers & Directors

The Sports Turf Association (STA) elected its 2008/2009 officers and directors at the annual meeting held during the Ontario Turfgrass Symposium, February 19, 2008.

Gord Dol, of Dol Turf Restoration Ltd., continues as President of the STA for a second term. Elected officers include Paul Gillen of AerWay/Vice-President, Andrew Gaydon of Vanden Bussche Irrigation/Secretary, and directors Jane Arnett-Rivers/Town of Oakville, Dave Chapman/City of Toronto, Bob Kennedy/Sport Turf Management Solutions, Grant Mckeich/Town of East Gwillimbury and Paul Turner/G.C. Duke Equipment Ltd. Others currently serving are Rick Lane of Haldimand County/Treasurer and directors Cam Beneteau/Ridley College, Murray Cameron/City of Guelph, Bill Clausen/University of Guelph, Paul Cooper/Turf Care Products Canada, and Rob Field/Plant Science, Inc. Longtime director Robert W. Sheard has stepped down from the Board of Directors.

## 2008 Robert W. Sheard Scholarship Recipient

The Sports Turf Association Scholarship Program was established in 1993 to encourage, support and provide leadership



to those considering a career in the sports turf industry. The 2008 recipient of the R.W. Sheard Scholarship, announced at the Association's annual meeting, is Timothy Armstrong. Tim, a second year student in the University of Guelph's Diploma in Turfgrass Management Program, is from Blenheim, Ontario and spent his required summer internship working at the Guelph Turfgrass Institute. He was previously seasonally employed by the Municipality of Chatham-Kent Parks and Recreation Department. He graduates this spring. For scholarship details and an application form, visit the STA website.



## STA WEBSITE UPDATE

[www.sportsturfassociation.com](http://www.sportsturfassociation.com)

As part of our 20th anniversary tune-up, a project to revise and update our website was implemented. In the primary phase, the improvement was in the approach, not the appearance, as we moved to a content management system. The password-protected members only section was introduced and the *STA Membership Roster*, historically updated by annual print inserts, was replaced with a web-based version.

We have recently 'gone live' with the secondary phase of the project. In this phase the changes are very much 'out in front' and we hope you like our new look.

In order to access the members only resources, you will need to login as a user on the website.

In order to do this for the first time, please follow the directions outlined below.

1. Click on 'Login' (upper right corner below the header picture);
2. Click on the link 'Forgot Password?';
3. Enter your email address in the field provided, click on 'Send Password' and a user name & password will be sent to your email address;
4. Once you receive your user name and password you will be able to login, allowing you access to all password-protected areas;
5. Upon initial login, please review your profile information and update, if necessary. This forms the basis of our membership directory.

We trust you will find the improved STA website to be a valuable resource!

**STA  
MEMBERSHIP  
DIRECTORY NOW  
ONLINE**



## COVER STORY CONTINUED...

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### TURN OFF THE PESTICIDES & TURN ON THE VACUUM • NANCY HUDSON, LEAD RESEARCHER • CHINCH BUG RESEARCH PROJECT

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and mechanical controls, for example vacuums.

At about the same time, new uses for vacuums were developed which permitted the capture of live insects instead of killing them outright. For instance, large vacuums used in cotton crops were equipped with insect collectors which captured the insects without harming them,

handheld units are used for monitoring insect pests in greenhouses, row crops, nurseries and orchards. These vacuums might also be used for monitoring certain pests affecting lawns and landscape plants.

While the smaller vacuum samplers practically coasted through the last half century, large agricultural vacuums experienced a turbulent history.

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**Agricultural vacuum inefficiencies may have resulted from a failure to account for insect biology and behaviour.** To prove this, studies were conducted on Colorado potato beetles to determine how they interacted with potato plants when subjected to air-stream velocities.

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which enabled the release of beneficials back into the fields and the subsequent destruction of pests. Small portable vacuums came into existence and were used by researchers to efficiently collect insects and other ecological data in hard to access or remote areas, such as tall grass fields, forest floors, dense woody habitats, and large shrub or small tree canopies.

Today, vacuum samplers such as the backpack aspirator available through BioQuip in California, and smaller

The implementation of IPM shifted the focus from killing pests with chemicals to understanding pest behaviour and applying measures to discourage, repel or otherwise manage them. When interest in agricultural vacuums resurfaced, it caught the attention of entomologists and others who became curious about how vacuums might be optimized. They believed that agricultural vacuum inefficiencies may have resulted from a failure to account for insect biology and behaviour.

To prove this, studies were conducted on Colorado potato beetles (CPB) to determine how they interacted with potato plants when subjected to air-stream velocities. Results of one study showed that CPB adults grabbed onto plants and maintained their grip in spite of incredible forces used to dislodge them. Fortunately in another study it was shown that CPB adults were knocked-off the foliage by air blown horizontally through the plants and while detached from the plants they were easily collected by the vacuum. Studies were also conducted to examine the affect of airflow velocities on potato plants in order to establish air-stream tolerance levels and methods to minimize plant damage.

As it turned out, the air-stream levels needed to dislodge CPB adults were within the range tolerated by the potato plants. Another approach that was taken to optimize vacuum efficiency was to analyze the affect of hood orientation and design on air-stream patterns and airflow rates. Laboratory experiments and the use of numerical model simulations allowed investigators to examine numerous configurations without having to produce costly prototypes and perform extensive



testing. By the 1990s, agricultural vacuums were at their peak and were marketed worldwide. Unfortunately they could not maintain their stay in the market and as interest subsided, manufacturers halted the production of these machines. Today agricultural vacuums still exist but they are in limited use, and are mainly operated by organic crop producers and specialty growers.

A third vacuum emerged at about the same time as the agricultural vacuums and vacuum samplers, however it had no association with insect capture or control. It was instead intended to be used as a debris removal machine. Debris removal vacuums were manufactured to pick up leaves, organic litter, garbage, bottles, cans, dirt and other debris from hard surfaces and turfgrass. Use for insect control apparently was not an intended function for these machines. The debris removal vacuums were marketed as an essential labour saving tool for cleaning up exterior spaces.

Today numerous manufacturers produce a wide variety of debris removal vacuums that range in size, form and function. Smaller machines such as the Billy Goat wide area vacuum can be either self-propelled or pushed manually; larger machines can be mounted on tailgates or trailers, and huge machines can be mounted on trucks or tractors for wide area applications. These vacuums have been used on sod farms, municipal lands, commercial sites, sports fields, public parks, cemeteries, concert sites, military bases, etc. Debris removal vacuums have been successful over time, perhaps due in part to the diversity of design and wide range of application.

For decades, vacuums have been used to control agricultural crop pests, collect specimens, and remove debris, however their use to control lawn or landscape pests was somehow overlooked. Perhaps landscape vacuums were bypassed because of chemical pesticides; they were effective, easy to apply and there was a wide variety available. However, an unavoidable trend toward reducing chemical pesticides is underway, which may prompt the industry to consider vacuums as a viable means for managing certain lawn and landscape pests. With the need for alternatives to chemical pesticides at the forefront, perhaps interest in vacuums will surface and propel efforts to create designs that are suitable for managing pests in the landscape. Industry and the public at large could certainly benefit from a non-chemical pest control option, for example vacuuming to control chinch bugs.

Chinch bugs are common insect pests that are highly destructive to lawns and other turfgrass areas. They are true bugs from the order Hemiptera; both adults and young feed on grasses (turf and agricultural grass-crops) by siphoning plant fluids through their straw-like mouthparts. The adults are very small, roughly 3.5 mm in length which is similar to the size of a black fly. Chinch bugs typically aggregate forming tight colonies, one or more of which can be found randomly distributed in a lawn, particularly in locations that are hot, dry and sunny. They are mostly surface dwellers and can be exposed by parting the grass. There are several species of chinch bugs that are native to North America. In the US there are four subspecies that are considered to be of economic importance, three of which inhabit Mexico



Vacuum Sample Processed



Adult Chinch Bug



Billy Goat Vacuum

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and parts of Canada. Damage is particularly problematic in the eastern provinces, including Quebec, New Brunswick, Nova Scotia and Newfoundland. The chinch bug's biology and its habitat appear to be well suited to the application of vacuuming as a treatment method which could prove to be a suitable alternative to the use of chemical pesticides.

Vacuum research is being conducted in Newfoundland as part of a project titled *Non-Chemical Methods for Chinch Bug Control (2006-2009)*. The project was initiated in response to an emerging issue for the lawn care industry, sod growers, and the general public looking for alternatives to chemical pesticides for chinch bug control in lawns and turfgrasses. Funding for the project is provided by the Newfoundland and Labrador Agri-Adapt Council Inc., in partnership with the Nova Scotia Agri-Futures Council and the New Brunswick Agricultural Council, through the Advancing Canadian Agriculture and Agri-Food (ACAAF) Program; and is administered by the Newfoundland and Labrador Horticulture Producers Council. During the summer of 2007, a modified lawn vacuum was tested to determine its effectiveness at controlling chinch bugs in lawns, as compared to a spray treatment using Seven T & O (carbaryl) and a control. The experiment used pre treatment counts and post treatment counts obtained in 0.1 metre square quadrants to measure treatment effectiveness.

The vacuum used in the study was a 6.75 hp (1750 cfm) Minuteman Parker APV debris removal vacuum which had a 4" di-

ameter x 10 foot hose attachment, to which we added 1.5" diameter x 50 feet of hose, hose-end attachments, and an inline collection bag. Vacuum samples were collected using the long hose which permitted the vacuum to remain in a stationary position away from the sample collection area. From previous studies using certain debris removal vacuums on the lawns, we found the vacuums to be difficult if not impossible for an operator to handle, plus there were issues of inaccessibility to sites due to obstacles such as stairs and retaining walls. The vacuum modifications were used to overcome prior obstacles and to test preliminary design concepts.

Monitoring was conducted weekly July through September and a treatment (spray, vacuum or control) was applied in mid-August. The results obtained with the vacuum were comparable to the spray treatment; in both cases the post treatment counts were significantly lower than the pre treatment counts. The vacuum provided a 71% reduction in chinch bug numbers at 24 hours after treatment where as the spray provided a 91% reduction after 24 hours. One week after treatment, two out of three vacuum sites provided at least 90% reduction compared to the spray sites which provided 99% reduction in chinch bug numbers. Samples collected by the vacuum were analyzed to obtain chinch bug counts per each life-stage, i.e. egg, 1<sup>st</sup> instar nymph, 2<sup>nd</sup> instar nymph, etc. It was evident that large numbers of chinch bugs were captured by the vacuum and that all stages were collected (egg through adult). Relatively low numbers of beneficial insects such as big-

eyed bugs and damsel bugs were captured by the vacuum, however, it was clear from pre and post treatment counts that the vacuum treatment did not significantly reduce the beneficial insect population.

At present it is unfair to compare the performance of vacuum treatments with spray treatments regarding the ease of application and the results obtained. The vacuum used in this study was sufficient for gathering preliminary data; however, it requires significant restructuring in order to reach its full potential as an insect control device. To optimize vacuum performance, we are collaborating with industry and Memorial University of Newfoundland's (MUN) Faculty of Engineering & Applied Science. Senior engineering students at MUN are working on a vacuum prototype which we intend to use in field tests this summer. We believe that this technological innovation will result in numerous benefits including a reduction in chemical pesticide use, an increase in market share and revenue, a reduction in environmental degradation, and an increase in public advocacy. It is expected that at the conclusion of this project, all of our goals will be attained including the testing of a vacuum prototype and a new vacuum design. Upon receipt of additional funding, we expect to continue to perfect the lawn-pest vacuum and associated treatment protocols, and hope to examine further design configurations that will provide expanded vacuum use and application in the landscape. ♦

— Nancy Hudson can be reached at 709-772-8870, hudson.na@gmail.com

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## BE A WATER HERO! SMART IRRIGATION – THE FUTURE IS HERE

OTS HIGHLIGHT ARTICLE • CHRIS LE CONTE • SMART WATERING SYSTEMS

It seems that you can't go a day now without hearing a news story, reading the newspaper or seeing a television program that hints at climate change, the environment and the need for all of us to "do our part." The green movement is forcing change in all aspects of our economy, businesses and lives. The irrigation industry is just starting to feel the effects of change, and at some point, these changes will impact Canadian sports turf managers.

**T**he issue of water scarcity in the Southern United States (California, Arizona and Nevada) is the primary driver of change in the irrigation industry. Sure, as Canadians we don't really need to worry about the well running dry but there are other factors that should make us take note of what is happening in our communities.

The largest issue facing Ontarians is the need for expanded infrastructure in the form of water treatment facilities and pipelines to the Great Lakes. The government's "Places to Grow" plan makes it very clear

that Southern Ontario is earmarked for significant growth over the next 25 years. As population increases, so does the Peak Day Water Demand in our cities. The larger the peak day demand, the more infrastructure you need to support it. This is resulting in significant changes in how water managers in all municipalities try to reduce peak demand and manage the increasing burden placed on our existing infrastructure (that is in most cases over 50 years old and leaking). In order to repair our pipes and build new treatment plants, there has to be an increase in rev-

enue. One way to achieve this is to dramatically increase water rates.

Recent changes to the Safe Drinking Water Act force municipalities to establish long-term, financially sustainable pricing models for water costing. This is resulting in "Full Cost Water." Full cost water implies that our cost to use our treated water will now cost us what it should have been costing us for the past decade. Toronto has approved annual increases of 9% and Halton is increasing its rates 6.5%. These are just a few examples. The story is the same across Ontario.



With increasing water rates, parks departments are coming under increasing scrutiny for how they manage their fields (IPM) and how they irrigate them. Even if you aren't paying for your water now, there is a very good chance that you will be in the near future. With this in mind, the time to change how you irrigate is now.

When you think about it, spraying drinking water over our turf really doesn't make much sense. Municipalities across the US use recycled, reclaimed and non-potable water sources for their irrigation. Ontario infrastructure has not been designed to support this yet, but we must still find a way to improve our current practices.

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**SMART controllers.** The most effective, simple, proven way to save water, save time, save money and improve the quality of your turf is to implement weather based scheduling into your irrigation management. SMART controllers use evapotranspiration values to adjust irrigation schedules.

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The most cost effective, simple, proven way to save water, save time, save money and improve the quality of your turf is to implement weather based scheduling into your irrigation management. The easiest way to do this is with a SMART Controller. A SMART Controller uses evapotranspiration (ET) values to adjust your irrigation schedule. ET is the sum of moisture loss from your landscape as a result of evaporation from the soil and the transpiration of moisture from the plant material.

Weather based irrigation is not new. It has been proving its ability to save water and promote healthier landscapes for over 15 years. Just recently it has become an option for Canadian cities. Weather based irrigation consists of a SMART Controller that integrates with an existing irrigation system to conserve water and promote healthier plant material by eliminating over-watering.

As the weather changes, so does the moisture loss in your landscape. A SMART Controller uses local, high quality weather information and the water management principle of Managed Allowed Depletion (MAD) to adjust irrigation schedules. MAD results in deeper,

less frequent watering by allowing the soil reservoir to deplete (instead of a preset schedule always keeping it full), and by only using irrigation when the last drop of precipitation has evaporated. Now oxygen can reach the roots of the plant. The final result? Potentially, millions of gallons of water saved, thousands of dollars saved and a higher quality, attractive playing surface that uses water responsibly.

Currently there are over 13 SMART Controllers that have been submitted to the Centre for Irrigation Technology (CIT) for testing. The CIT tests all SMART controllers for their accuracy and reliability. Many of these SMART Controllers use

US based weather networks making most of them unusable in Canada. However, currently there are three very good options for Canadian sports turf managers: 1) Hunter ET System, 2) Rain Bird ET Manager and the 3) Toro Intelli-sense. All three of these controllers have been proven in the Canadian market to save significant amounts of water and money. It is important to be aware that there are differences in these controllers and that careful consideration should be used when deciding on the appropriate controller for your application.

1. The **Hunter ET System** uses a stand-alone weather station to gather site specific data and to generate new run-times based on the soil, slope and overall quality of your irrigation system. The ET System is compatible with almost all Hunter controllers and can provide you with seven days of historical information.

2. The **Rain Bird ET Manager** is compatible with virtually any existing irrigation controller and re-

ceives hourly weather information from local, high quality weather stations that are typically located on golf courses. The ET Manager can provide you with an annual summary of the amount of water used and the amount of times that irrigation occurred. A small weather subscription fee is required for annual weather information.

3. The **Toro Intelli-sense** uses the NOAA (National Oceanic and Atmospheric Association) network of over 1500 Canadian weather stations to measure evapotranspiration and to transmit this weather data to your site once a day. The scheduling engine then makes adjustments to your irrigation schedule.

Currently there are over 300 SMART controllers in use across Canada and over 15,000 in use in the US. With the value of water increasing everywhere, now is the time for action. Since irrigation systems are significant users of our treated water, it is a huge opportunity for sports turf managers to be the environmental leaders and stewards in our communities. Why wait for someone to turn the tap off or implement severe restrictions? Start the process now by advocating for change in your organization. Work with your contractors, distributors and manufacturers to examine the solutions available and to implement the best products for your application. Be a water HERO! ♦

— Chris Le Conte, SMART Watering Systems, [www.smartwateringsystems.ca](http://www.smartwateringsystems.ca)



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## CONTROLLING LIGHT POLLUTION & ENERGY CONSUMPTION

OTS HIGHLIGHT ARTICLE • TERRY PICHE • ONTARIO RECREATION FACILITIES ASSOCIATION • [WWW.ORFA.COM](http://WWW.ORFA.COM)

**“It’s good to be green” – Kermit the Frog.** Ontario’s greenspaces are not often thought of as being high energy users. Indeed, much has changed in the technology and techniques involved in the sports illumination process since its debut in 1883 when General Electric strung a handful of open-face lights across a minor-league field and night baseball was born. However, in the 21<sup>st</sup> century, some parks might be considered energy abusers. As an increase in light pollution awareness continues to grow across the continent, today’s facility manager must consider sports field electrical management as part of their energy reduction plans. The lifetime savings accrued from wise facility management can return many thousands of dollars which can support other recreational opportunities.

### Light Pollution

Light pollution is a broad term that refers to multiple problems, all of which are caused by inefficient, unappealing, or unnecessary use of artificial light. Since the early 1980s, a global dark-sky movement has emerged, with concerned people campaigning to reduce the amount of light pollution. Also known as photo-pollution or luminous pollution, it is excess or obtrusive light created by humans. Specific categories of light pollution include light trespass, over-illumination, glare, clutter and sky glow. A single offending light source often falls into more than one of these categories. Among other effects, it

disrupts ecosystems, can cause adverse health effects, obscures the stars for city dwellers, and interferes with astronomical observatories. Lights on a sports field, when not in use or not needed, fall into the category of light pollution and energy waste.

*Light Trespass.* Spill light that is either annoying or unwanted is referred to as light trespass. New construction of a sports field or the introduction of dwellings after the fact often results in light trespass issues. Light trespass occurs when unwanted light enters one’s property. Given that most houses are shown to prospec-

tive owners during daylight hours when a sports field may not be in use, new owners often see the recreation field next door as an asset. This opinion can often change when a strong light enters their windows causing problems such as sleep deprivation or the blocking of an evening view. Bright light sources can also affect a driver’s visibility because of glare. In addition, visual confusion can affect the ability to locate and recognize signal lights. Facility managers may not be able to change the existing use of the field but they must respect such issues by carefully scheduling, controlling and monitoring light use.

## WHAT LIGHT COLOUR IS BEST FOR FIELDS?

Type of Light	Colour	Efficiency (lumens per watt)
Low Pressure Sodium	Yellow	80 -200
High Pressure Sodium	Pink/Amber White	90 -130
Metal Halide	Bluish-white/white	60 -120
Mercury Vapour	Blue-Greenish white	13 - 48
Incandescent	Yellow/White	8 - 25

*Over-illumination.* Lighting is responsible for one fourth of all energy consumed worldwide. Over-illumination is the excessive use of light beyond what is required for the specific activity. It is calculated that over-illumination is responsible for approximately two million barrels of oil per day in wasted energy. Factors that contribute to these issues include:

- Improper use of controls (timers, occupancy sensors, etc.) that should extinguish lighting when it is not required.
- Improper lighting design, especially of workplace spaces, that specify higher light levels than what is required for the given task.
- Improper selection of fixtures or light bulbs, which do not direct light into the necessary areas.
- Improper selection of hardware that utilizes more energy than what is required to light the area.
- Inadequate training of building managers and users on the efficient use of lighting systems.
- Poor lighting maintenance practices resulting in higher energy costs and an increase in stray light.

### Selecting the Right Lighting System

So what light colour is best? The white light from metal halide is still the preferred lighting for most outdoor sports as it renders colour accurately. High pressure sodium (HPS) produces a yellowish light which is not as good for colour identification. New studies seem to show that people can see better under fewer lumens (measurement of light output) of white light than more lumens of yellow light (see table at the top of this page).

Purchasing the right bulb will take some research by facility management. Even if a manufacturer replaces a lamp

that fails prematurely, the time spent documenting the use of the lamp and the labour retrieving and replacing it are still a significant burden to the lighting owner.

Pulse-start technology extends lamp life considerably and stabilizes the colour shift associated with metal halide bulbs. It also reduces warm-up time to about two minutes and re-strike after a power interruption to about four minutes, considerably shorter than the nearly fifteen minutes needed for other HID systems.

Design lighting systems first for the area and then for energy-efficiency. The Illuminating Engineering Society of North America (IESNA) publishes "Recommended Practices for Sports and Recreation Area Lighting" (RP-6-01) which provides design criteria for new lighting systems and for existing systems.

Retrofitting a sports field requires some additional consideration. Whether or not the actual wattage may be dropped in any particular situation will depend upon your current lighting standards; the photometrics; installation of the specific luminaire; and whether or not the spacing of your poles is already at a maximum. Most retrofits seek to maintain the existing pole placements to contain costs; however, this is not always possible.

Group re-lamping is a practice that can reduce labour costs as well as lamp burn-outs at critical times. This type of maintenance also reduces energy consumption by making the best use of equipment and staff.

While more efficient lighting can help reduce energy consumption, the first thing to look at is scheduling. The more games played during daylight the better. Once a night schedule is set for the season it must then be managed properly. The longest day of the year is June 20<sup>th</sup>. After this date, light is reduced each evening by approximately 90-seconds. Scheduled lights

should be adjusted every 14 to 21 days from the start of the season to its end.

Controlling sports field use must be done through set policy and procedures. This should also include educating the user on the lighting practices of your facility. Consider the softball umpire who holds the key to controlling field lighting. Faced with presiding over three or four consecutive games on the diamond, the umpire may choose, for sake of convenience, to fire up the lights before the start of the first game, even though the sun may not set for another two hours. Systems that provide reports for light usage, lamp starts and customer usage are available.

Nothing is more frustrating to a taxpayer than seeing a fully illuminated sports field with no users on the field. Warm weather months can provide additional operational challenges as staffing levels are often increased with the addition of seasonal workers. Temporary workers may not have the skills or training that is necessary to recognize improper lighting practices. Seasonal workers require training and monitoring by skilled staff to guarantee success.

### Balancing energy consumption and user safety requires commitment

Sports field lights that shut-off all at once increase the risk for injuries. Consider also the on and off field safety of park users. Whenever possible, shut down lighting in stages. Sufficient lighting must be left on for the safety and security of users and patrons. Attention should also be given to ensure user safety after field lights are turned out.

Close coordination with user groups and good communication with neighbours will help to address issues and concerns. A successful energy management program requires ongoing commitment by all levels of recreation professionals for today's recreation facilities. ♦

### Sources

- IESNA RP-01 *Recommended practice for sports and recreational area lighting*, International Engineering Society of North America (IESNA), 2001.
- Energy Solutions Alberta, [www.energysolutionsalberta.com](http://www.energysolutionsalberta.com)
- Hydro One, [www.hydroone.com](http://www.hydroone.com)
- Musco Lighting, [www.musco.com](http://www.musco.com)
- Starry Night Lights, [www.starrynightlights.com](http://www.starrynightlights.com)



# STA Member Profile

Gordon Horsman • Sportsfield Manager • City of Moncton • New Brunswick



**1. What is your role with the City of Moncton?** City of Moncton Sportsfield Manager and Assistant Project Manager for six new ball fields.

**2. What kind of team do you work with?** Four casuals and eight students for our site alone.

**3. What are you and your team responsible for?** We drag and line ballfields, make sure our fields are safe to play on, maintain two and a half acres of flowerbeds and 450 young trees and roughly 500 irrigation heads.

**4. What is the biggest challenge in your job?** Making sure turf stays healthy, fields are safe to play on, and managing our crew.

**5. What is the most satisfying part, what makes the job worthwhile for you?** To see the kids and parents enjoy using the fields and engaging in sports and family events.

**6. What is the biggest misconception about your job?** That we just mow the grass.

**7. What is your educational/employment background?** I have a Grade 12 education with experience in project management, sand and soil blending, golf and sport field construction, and the University of Guelph's Turf Managers' Short Course.

**8. Tell us about your family.** Our daughter is graduating with a Masters in Library and Information Studies at Dalhousie

in the golf industry (oh, and keeping up to date on sports field construction!).

**10. How has the industry changed and in what direction(s) would you like to see the industry, as a whole, move towards?** IPM accreditation seems to be the way the industry will now educate and train employees. I hope this heightens the perception that we are managing our facilities with due diligence with pesticide



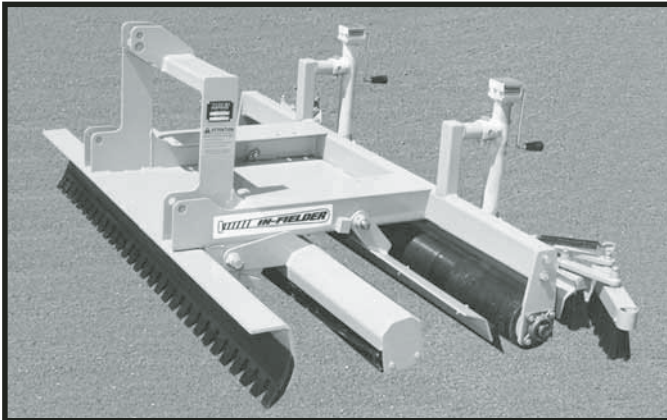
CN Sportsplex, Moncton, NB

University and our son is completing his Primary Care Paramedic at the Atlantic Paramedic Academy. My lovely wife of 24 years enjoys her career and sewing.

**9. What do you enjoy doing outside of the workplace? Hobbies, favourite past times?** Collecting antique golf clubs, playing the odd round and reading up on trends

reduction being our main goal. Lots of the day-to-day practices are second nature to the most important, IPM.

**11. What do you consider to be the biggest benefit of being a member of the STA?** Networking with great people along with opportunity to share knowledge and resources. ♦



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# STA Facility Profile

CN Sportsplex • Moncton • New Brunswick

**1. Name, location of facility.** CN Sportsplex, Moncton, New Brunswick.

**2. General information regarding the facility.** The Sportsplex is located on a 250-acre site where the main shops for the CNR were located until it closed its doors in the 1970s. There is now a state of the art four-ice arena along with six soccer and 10 baseball fields. There is also a new sport dome for indoor soccer and a driving range (privately owned) that is a great addition to the site.

**3. What types of sports fields are on site?** There are 10 ball fields and six soccer pitches. There is approximately 50,000 tons of sand, 20,000 tons of peastone and 5,000 yards of compost for soil amending.

**4. How many employees are involved with turf care at this facility?** There are 10-12 people who look after the site.

**5. How many acres of turf are maintained at this facility? How many acres of sports turf?** On 100 acres of land, there are 23 acres of sand based Kentucky Blue.

**6. What percentage of this acreage is irrigated?** All the fields are irrigated.

**7. What is the primary type of turf-grass?** Kentucky Blue.

**8. Is yearly overseeding part of your sports turf maintenance program?** We oversee the heavy traffic areas, goal-mouths, and wherever necessary for weed prevention.

**9. How many times do you fertilize?** We fertilize three to four times a year using a PSCU product and some organic products.

**10. Do you aerate? Topdress?** We aerate and topdress every spring and fall.

**11. Has your municipality banned the use of pesticides?** We do not practice any pesticide use.

**12. Are community user groups involved or have they been involved in the construction/maintenance of this facility?** Soccer New Brunswick and Codiac Soccer look after bookings and field closures.

**13. 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 fields see 250–300 hours of play in a season. It is not too often that the fields get a rest but we sometimes cancel in a heavy rainstorm due to the amount of damage done to the turf when it is wet. I can make the call at any given time regarding closures. ♦



CN Sportsplex Land Before



CN Sportsplex Land After



## REBUILDING OF ROYAL ATHLETIC PARK, VICTORIA, BC

FOR THE 2007 FIFA U-20 WORLD CUP • KENNETH HILCHEY & GORD SMITH • VICTORIA PARKS

GOOOOOOAAAAAAAALLL!!! Cried the announcer as his exuberance echoed throughout the stadium and out to old AM radio transistors and rabbit-eared television sets around the world. The FIFA Under 20 World Cup had begun in Canada. Six major Canadian cities would host the second largest sporting event in the world (after FIFA's World Cup), and this resounding shout from the announcer came from a city that prides itself on soccer – sorry, football.

**T**he first time FIFA officials came to Victoria to see this venue in the heart of the downtown, the organizing committee chairman, after setting foot in the middle of the present soccer pitch at Royal Athletic Park (RAP) looked around and asked, “Where’s the field?”

Royal Athletic Park has always been the highlight of Victoria’s outdoor sports facilities. It has held world-class soccer games before. The once world famous Traveler’s fastball champions played here as well as Canadian football, Australian rules football and more recently the ever popular beer festivals. However, what you

really need to appreciate about this field is how it crests abnormally from north to south creating an illusion that one was in a formidable sinking abyss when looked upon from either end. One fan at a recent exhibition soccer match between Canada and Scotland commented that all he could see looking across to the far sideline were men’s torsos darting up the field towards the opponent’s goal. Now you begin to understand why the question, “Where’s the field?” was posed.

### Reworking a Classic

Well, after much reassurance of what could and would be done to the existing

field and the official’s appreciation of the old-fashioned styled stadium atmosphere of Royal Athletic Park, the City of Victoria was granted a pool for the 2007 FIFA Under 20 World Cup (other cities selected were Burnaby, Edmonton, Ottawa, Toronto and Montreal). Hence, after months of meetings, planning and around the world communication, work at Royal Athletic Park began in mid-April, a few short months prior to the Cup.

The elevation numbers in metres ranged from 11.09 to 9.49 from north to south and east to west and because of this huge discrepancy, it made determining the final cut and fill elevation very difficult.



However, 10.50 was decided upon as the grade level and because of that depth, surprises were quick to surface after the first excavator load of soil was displaced. Unmarked manholes were discovered as well as blue clay, piping, old and new drainage and irrigation lines, concrete, wood, filter fabric and lastly, a drain-rock pit, which was the most mystifying discovery to everyone involved. This pit caused delays because we needed to remove over 80 cubic metres of it. Since much of the rock had already been graded and spread over most of the field site, a couple of days were spent, with up to seven people, rock picking the entire layout.

Just to illustrate how much the optics of the field changed, at the east end, the new field began 18 inches below the original level and at the west end, it rose over one metre. The original depth of the irrigation lines on this west end of the field went from 16 inches to almost four feet. But AHHA! The field was now level as FIFA had demanded.

After weeks of excavating, including the addition of over 460 cubic metres of sand being spread evenly over the whole area, the Rotodarium was brought in to blend the sand and soil and to finish the final grooming for sod preparation. After another week, our final grade was met and now it was simply a matter of eagerly awaiting the sod.

### Unrolling the Sod (and a Surprise)

It was on May 10 and 11th that our turf (10% creeping red fescue, 50% perennial ryegrass and 40% Kentucky bluegrass) arrived in big rolls. The contractor hired to lay the turf was there in full force in their brightly coloured vests advertising their

company in time for all the media attention that day. Mayor Allan Lowe, representatives from the VSOC, as well as provincial government representative Ida Chong all played up to the cameras and press rolling out their own piece of soccer history for Victoria. It was a great day for everyone as another giant positive step was made towards the first FIFA soccer match to be held on Vancouver Island.

Unfortunately too, it was another important journey for thousands of unwanted hitchhikers wanting to visit the island from the mainland. As one driver of the seven trucks and trailers was brushing off his flat deck after his payload of 60 foot rolls of turf was unloaded, he yelled at the project supervisor and exclaimed: "There sure are a lot of worms in those rolls!" "Oh yeah! Chuckle! Chuckle!" was the polite reply from the supervisor as he figured the truck driver was just making conversation. However, after thinking about the driver's comment, and actually investigating what he was talking about, the supervisor took samples knowing full well what the worms really were. Yet he had to wait an agonizing weekend before it was confirmed that we had indeed imported leatherjackets in their larval stage. By the time all 10,000 square metres of turf was laid out, we were looking at a population of five to seven grubs per square foot.

Panic, disbelief, frustration, anger and that awful feeling of what do we do now crept into the hearts of everyone in the small circle of local organizers and field personal. Rip it out! Send it back! Call their competitor! Just spray it! Ha! That last suggestion was actually the one everybody knew would be the least likely solution to consider. As timing would have

it, days prior to this unfortunate discovery, City Council had just endorsed a by-law banning the use of pesticides within city limits. So the suggestion to spray it was definitely going to be one option that no one wanted to present to the politicians at City Hall. Well, to the credit of the mayor and council, our IPM Coordinator Michelle Gorman, and to the relief of City parks staff, the soccer association and local FIFA representative Jim Plasteras, an exemption for us to use pesticides and deal with the infestation problem was granted immediately. So after some very positive media coverage informing local residents, the local community association and beekeepers, the application of *Sevin* took place one early Saturday morning with no difficulties or setbacks.

### Watching the Grass Grow

Thereafter, it was simply a matter of watering, fertilizing, and literally watching the grass grow. There was also the constant task of replacing divots every morning because of the feeding frenzy upon the grubs by the crows and two pesky raccoons. Not only were these two raccoons lifting up tufts of turf looking for an easy meal, but they were also using our new field as their washroom facilities. Yes, we did hire a trapper and he had his marshmallow filled cages at all suspected routes of travel, but for all the weeks the traps were out, they consistently ignored them. We even chased these two pests off the field one morning as they scampered past the traps without even a glance at the delicious smorgasbord of fatty white puffs of sugar inside. (By the way, we never did catch them, and we continue to clean up after them to this day.)



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However, not everything was happening on the field. Royal Athletic Park off the field was a buzz of activity. New stadium lights were being installed and miles and miles of power cords, telephone and television cables were being laid. The 8,200 seat bleachers were being set-up on the north end. Meanwhile the VIP tents along with the press area, and media tents were being set-up on the south and east end. There were also the added players' dressing rooms, concession tents, and souvenir tents being put together, and all the while, the entire field was being closely guarded by staff like the perimeter of a high security prison. No one but no one, apart from a select few, were going to as much as smell the grass without being pounced upon and berated for trespassing on sacred ground.

For the next six weeks, the newly transformed field was being pampered with regular feeding, nourishing and tender loving care. A regimented fertilizing program was scheduled which included 13-26-6 (Quick Start) to 21-0-0 to 23-3-23, and two applications of Knife, an iron compound. All this brightened the grass blades to a near perfect and glimmering green, while at the same time invigorating it to grow centimetre by centimetre almost hourly.

Watering proved to be our most frustrating cultural practice, as many parts of the field had little filtration once the water leached past the first 4-8 inches of soil. So because of that, we were left with standing water in these particular areas. It even got to the point where all we could do was syringe the field with water, instead of long periods of deep watering. Also twice on the west end and in parts of the east end, to assist in the drainage we deep-tined these portions using 1/2 inch tines on the Verti-Drain. Yet because of the compaction under our main growing medium, many of the tines were bent so badly they were turned into metal boomerangs, and not very good ones at that. And of course, our two most problematic areas were in the goalmouths. Several times we had to re-patch sections of these areas, using sod from our temporary turf farm at our main yard.

At this time too, we took on a very extensive top-dressing program to hide the

many seams between the newly laid turf. Days were then spent by our staff taking wheelbarrow after wheelbarrow loads of soil and a ryegrass seed mix and carefully spreading it, hoping for quick germination in those small crevices of unsightly space. We also top-dressed the entire field later, covering it with a 1/2 inch layer of top-dressing sand.

### FIFA Perfection

The grass cutting finally began using at first a Toro rear bagger, cut at 2 1/2 inches. Eventually, we got it down to the 1.1 inches or 28 mm as stipulated by FIFA, using a Toro Reelmaster triplex mower. Once we established that height, the field was cut daily by two of our staff switching off every second day. Their most difficult task was cutting in straight lines, and not dozing off under the hot sun. We did eventually, two days prior to the July 1st matches, end up string lining the field for mowing accuracy, striping it north to south at 18-foot widths.

Using the *Pitch Management Manual* from the World Cup in Germany last year, regulations demanded following exactly what was outlined concerning the goals and their set up, the grass height, divot replacement, the field marking line density and width, the amount of field staff on site on game day, and how the communications would filter down to the field boss (Gord Smith) and his staff.

Also on each game day, the field had to be game ready five hours before each match. Therefore, for two days of the tournament, we had mornings when we began at 5:00 a.m. and finished by 9:15 a.m. for matches that began at 2:15 p.m. These were long days, but on Saturday July 1st, 2007, under blue skies and before 11,800 extremely excited spectators, the first kick-off by the Japanese team against the Scottish on our field left us with our hearts in our throats knowing that the world was watching our field.

Okay, maybe they weren't exactly watching the field, but as everyone always said throughout the preparations, no field, no soccer game. So guess what? That was our field the world was watching.

### Lights, Camera, Action!

Admittedly, the field crew did get to watch each and every game, but our rants, shouts and bantering weren't directed at the players, linesmen or referee. Instead our attention was drawn to every bit of turf that flew for a few metres in the air after a sliding check or a goalie's left to right dive. Even the "streaker" during the second game got our attention for the wrong reasons. The thought of this naked man on our pristine groomed field made us all groan in utter disgust. Oh! And by the way, the football was pretty good too!

Throughout the tournament though, the field was constantly hailed as one of the best in the world. We heard that from FIFA officials, fans, politicians, our fellow workmates and our peers in the industry. Whether it was really that good or not, we all took great pride in what we had accomplished and the end result was a world-class soccer pitch.

We also had great support from our employer, the City, and the positive feedback from the local media just added to our pride for what was accomplished in just six weeks. Despite our water problems, the leatherjackets, the record setting 35°C weather, the raccoons, and some unsightly areas (to us anyways), the soccer gods were very good to us. The field looked great – especially on TV. The playability on it was outstanding and the reviews received were almost embarrassing. In the end, seven games were played on the 68 m x 105 m soccer pitch, including one exhibition game between the stadium crew and the much older field crew. And just to reiterate just how favourable the gods were, the field crew's victory over the under 24 stadium crew by a score of 7-4 just cemented how well the whole experience went for us. As Gord Smith, supervisor for the whole project prophesied before our friendly game, "We will not lose!" and indeed we did not lose anything at all. From the first official FIFA ball to cross the goal line to the last unofficial torn and half deflated ball to cross the goal line, we were able to put the City of Victoria and Royal Athletic Park on the World Cup Soccer map for at least two weeks during the summer of 2007. ♦

— *The Turf Line News*, Western Canada Turfgrass Association, Oct/Nov 2007, Vol. 202



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