Sports Turf Manager for better, safer sports turf

Autumn 2009

VOLUME 22, NUMBER 3

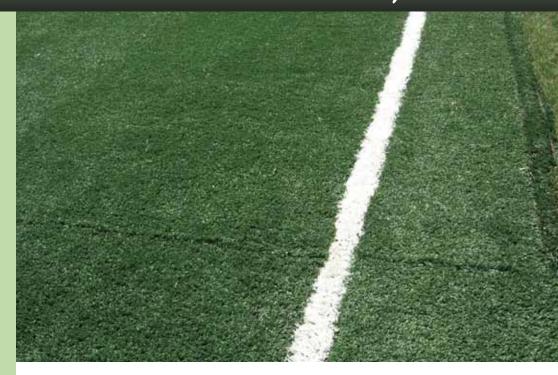
- President's Message
- **Event Calendar**
- OTS 2010 & STA Scholarship 5
- 6 **Pest Control Brochure Released**
- **Welcome New STA Members** 7
- 8 Natural Grass for BMO Field
- 10 **Revisiting Sand-Capping**
- 12 STA Field Day Coverage
- 17 **Examining Risk & Liability**
- 21 **Cover Story Continued**



Field Day Coverage

Brantford was a great venue for our annual fall field day. Turn to pages 12-15 for a photo gallery of the event!





Norms and Standards in **Synthetic Turf Projects**

FRANCOIS HÉBÉRT, LANDSCAPE ARCHITECT, CSLA, OALA, AAPQ, DESIGNER & CONSULTANT, DSSS DESIGN SOLUTIONS FOR SPORTS SURFACES

While just a few years ago synthetic sports field projects were an exceptional occurrence, today they are popping up all over. Municipalities are gradually embracing this technology as part of the solution to many management and maintenance problems they have to cope with due to the high demand for playing time and increasingly tight budgetary constraints. With this rise in the number of synthetic turf projects, there is an increased awareness of the need for tighter quality and performance controls. Trade publications addressing the various technical aspects have become more common. Drainage, base construction and maintenance needs are some of the different aspects that have attracted the attention of specialists. These and other topics have contributed to raising the market's level of expertise and project managers are more careful with the way they design and supervise the construction of synthetic sports fields.

ynthetic sports field surfaces are a combination of different individual components that, when assembled, constitute a whole. Some approach this by considering each component separately. A drainage system is designed, then the stone base, with the synthetic surface being treated as a totally distinct part of

the project. The synthetic surface is also broken down into its different components and characteristics. The resulting playing surface is seen as the assembly of different complementary components but is also often treated as a set of disparate elements. In such a process, the overall system being built is sometimes overlooked. **→** page 21

Water with the weather and save.



Detect broken heads and pipes and immediately shut them down. Save money on maintenance labour.

AWS can manage and maintain your irrigation for you, or install system upgrades and train your personnel

Call now for a quote.



Guelph, Ontario 1-888-LAWN-H2Ø 1-888-529-642Ø

www.awsim.ca

SPORTS TURF MANAGER

Volume 22, Issue 3, ISSN 1201-3765

is the official publication of the SPORTS TURF ASSOCIATION INC.

328 Victoria Rd. S., RR 2, Guelph, ON N1H 6H8
Tel: (519) 763-9431, Fax: (519) 766-1704
E-mail: info@sportsturfassociation.com
Web: www.sportsturfassociation.com

BOARD OF DIRECTORS

PRESIDENT Gord Dol
VICE-PRESIDENT Paul Gillen
SECRETARY Andrew Gaydon
TREASURER Rick Lane
EXECUTIVE MANAGER Lee Huether

DIRECTORS

Murray Cameron, Bruce Carman, Dave Chapman, Bill Clausen, Bob Kennedy, Jason Inwood, Grant Mckeich, Tennessee Propedo & Paul Turner

SPORTS TURF MANAGER

is published quarterly by the STA for free distribution to its membership. An annual subscription may be obtained for \$60/year. Please direct advertising inquiries to Lee Huether at the STA office.

EDITORIAL COMMITTEE

Murray Cameron, Andrew Gaydon, Grant Mckeich & Lee Huether

PUBLISHER

New Paradigm Communications R.R. #8, Owen Sound, ON N4K 5W4 Tel. (519) 371-6818, Fax: (519) 371-5789 E-mail: joy@npc-solutions.com

CANADA POST PUBLICATIONS MAIL SALES AGREEMENT No. 40031883

Postmaster: Please return undeliverable copies to the STA at 328 Victoria Rd. South, RR 2, Guelph, ON N1H 6H8.



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 - Gord Dol

Wow! Two wet seasons back-to-back. I trust your wet field policies were put to good use to protect your turf in summer and fall 2009!

Talking Turf in The Telephone City

Attendance was again very high at our 22nd annual fall field day with a great line-up of speakers and a first class venue. Thanks to the Field Day Committee for a job well done and to the City of Brantford - especially Brain Hughes, Manager of Parks Services and Lori-Dawn Cavin, Community Events Coordinator – for hosting the event. Thanks also to Walter Gretzky for welcoming and entertaining us and Bob Kennedy and Bruce Carman for chairing the day. I was unable to attend this year but by all accounts, it was another great success. A special thanks to all the sponsors and exhibitors for their time and generosity. See inside for a "snapshot" of September 17!

We will very shortly be focusing our attention on Field Day 2010. As always, your ideas are most welcome. The Field



the board. Now would be the time to consider allowing your name to stand for election. If this interests you, please speak to any board member or call Lee Huether at our office.

A special thanks to all Field Day sponsors and exhibitors who make this popular educational event so successful. Turn to page 12 to view an event photo gallery. Speaker Alan Dore's article examining risk and liability is on pages 17-19 with log sheets and checklists available online.

Day Committee spends a lot of time organizing this event and should be recognized. Members are Jane Arnett-Rivers, Bruce Carman, Bob Kennedy, Dave Chapman, Andrew Gaydon and Paul Turner. Thanks for another job well done!

OTS 2010 in Guelph

The Ontario Turfgrass Symposium is February 17-18 in Rozanski Hall at the University of Guelph. This year promises to be another great educational forum. The Sports Turf Association is proud to be a part of the symposium, now in its 19th year. During the OTS, we hold our annual general meeting which is open to all members. We will also be electing directors to

Nominations for the Robert W. Sheard Scholarship are now being accepted. The deadline for applications is November 1. Details about the scholarship and the application form are available online at www.sportsturfassociation.com.

The list of approved projects under the RInC funding program is on the Industry Canada website at http://www.ic.gc.ca/eic/site/708.nsf/eng/home. This fiscal stimulus spending will no doubt make your life a little busier next season.

Winter is fast approaching. The grass will not be green for much longer. Take some time out to enjoy it! ◆

Calendar of Events

November 1

Robert W. Sheard Scholarship Application Deadline Sports Turf Association Info: 519.763.9431 www.sportsturfassociation.com

December 2

Ontario Recreation Facilities Association Facilities Operational Forum & Annual General Meeting Milton, ON Info: www.orfa.com

December 18

Early Bird Registration Deadline Ontario Turfgrass Symposium Info: 519-767-5000 www.open.uoguelph.ca/ots

2010

January 12-14

Landscape Ontario Congress Toronto, ON Info: 800-265-5656 www.locongress.com

January 12-16

Sports Turf Managers Association 21st Annual Conference & Exhibition Orlando, Florida Info: www.stma.org

January 31 to February 3

Western Canada Turfgrass Association 47th Annual Conference & Show Nanaimo, BC Info: 1-866-366-5097 www.wctaturf.com

February 1-26

University of Guelph Turf Managers' Short Course Guelph, ON Info: 519-767-5000 http://tmsc.open.uoguelph.ca

February 12-28

The Vancouver 2010 Olympic Games March 12-21 2010 Paralympic Games Info: www.vancouver2010.com

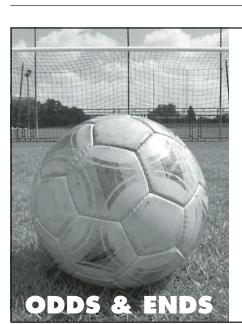
February 18 & 19

Ontario Turfgrass Symposium The Culture of Green University of Guelph Guelph, ON Info: 519-767-5000 www.open.uoguelph.ca/ots

February 26 to March 2

43rd Annual Canadian International Turfgrass Conference and Trade Show Toronto, ON

Info: www.golfsupers.com



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.

Winter 2009 Submissions

If you have something you'd like to submit for the next issue, please forward it to the STA office by November 13, 2009.

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 MANAGERS' SHORT **COURSE CONTINUES INTO** ITS 4TH DECADE

uelph, ON – The 41st offering of the Turf Managers' Short Course (TMSC) continues its tradition of providing academic and industry turf expertise to turf professionals. This highly valued four-week certificate program is held at the Guelph Turfgrass Institute, University of Guelph from February 1 to 26, 2010. Explore issues facing today's professional turf manager: turf identification and management; soils; management of insects and diseases; irrigation techniques; and construction and drainage. Turf managers and staff will gain expertise and competencies in practical and applied turf management.

For more information on this unique classroom experience, visit the web site http:// tmsc.open.uoguelph.ca/ and download the TMSC brochure. Call 519-767-5000 or email info@open.uoguelph.ca.

"The Turf Managers' Short Course continues its long tradition of providing turf care education to Canadians and international students," says Rob Witherspoon, Director, Guelph Turfgrass Institute.

"The TMSC is a unique learning experience which provides the expertise of both industry and academic instructors," adds Pat Shaver, Manager, Program Development, Office of Open Learning, University of Guelph. "Students receive the most current scientific research and practical and

applied turf management practices and techniques."

Ontario Turfgrass Symposium Responds to *Culture of Green*

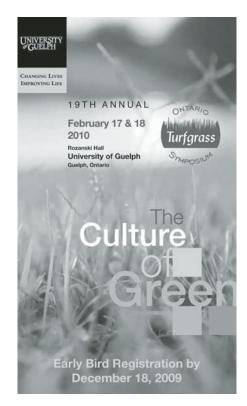
he University of Guelph will host the 19th annual Ontario Turfgrass Symposium (OTS), February 17th and 18th, 2010 at Rozanski Hall. Speakers from both industry and academia will provide valuable insights reflecting the OTS 2010 theme – *The Culture of Green*.

Delegates will participate in sessions providing up-to-date information responding to the complexities of maintaining healthy turf in today's more restrictive growing environment. Sports turf and facility managers, golf and lawn care professionals and nursery sod growers will

all benefit from the many topics including: new pest and disease controls, turf maintenance tactics, safety and liability issues for turf managers and other industry-related topics.

Turf industry leaders and associated staff will benefit from both learning sessions and the ability to network with colleagues in the turf industry. Attending OTS provides insight into best practices as initiated from leaders in turf sciences locally, nationally and internationally.

Visit the conference website at www.open.uoguelph.ca/ots or call 519.767.5000 for more information.



Robert W. Sheard STA Scholarship Application Deadline: November 1

n order to encourage, support and provide leadership to those considering a career in the sports turf industry, the STA offers the Robert W. Sheard Scholarship. One scholarship in the amount of \$1,000 may be awarded annually.

We encourage you to apply for the STA Robert W. Sheard Scholarship if you:

- are a Canadian citizen or landed immigrant;
- are currently enrolled in and have completed one full year of education in a postsecondary program in turf management at a recognized college or university in Canada; or, have completed the University

of Guelph's Turf Managers' Short Course, or equivalent, in the current year;

- have been employed in the sports turf industry in the current year (including seasonal employment) by a member of the Sports Turf Association;
- have a desire to pursue a career in the sports turf industry.

The Scholarship Program is funded through STA membership fees. The award is intended to assist students with the cost of tuition, books and related expenses.

Visit www.sportsturfassociation.com for scholarship policies, application requirements and an application form.

STA WEBSITE SEARCH STATS

In reviewing the most recent statistics for the STA website, the most common search phrases were 1) sports turf association and 2) Sarritor. Presumably searchers were able to gather the information they were seeking with respect to the Sports Turf Association during their visit. Information regarding Sarritor may be obtained from the company website, www.sarritor.ca. There will also be a session addressing its performance in the field at the 2010 Ontario Turfgrass Symposium. Visit the OTS website www.open.uoguelph.ca/ots for details as they become available.



890 Fairground Rd. R.R. #4 Langton Ont. NOE 160 Phone (519) 875-4094 Fax (519) 875-4095 Website: mastersturfsupply.com email: mastersturf@hughes.net



99 John St. North, Box 171 Harriston, Ontario NOG 1Z0 Phone (519) 338-3840 Fax (519) 338-2510 Email spearese@wightman.ca

SUPPLIERS OF PREMIUM TURF SEED PRODUCTS

ALTERNATIVE PEST CONTROLS FOR TURF IN ONTARIO plus TIPS FOR A HEALTHY LAWN

The Ontario Turfgrass Research Foundation (OTRF) and the Ontario Horticultural Trades Foundation (OHTF) have launched a new pesticide alternatives brochure. It includes a scientific literature review of alternative pest controls for turf in Ontario. This review (reproduced below) was conducted by the University of Guelph based on scientifically published information prior to 2008. It will be updated on a continuous basis as additional alternatives are scientifically proven and released in scientific journals. The brochure, intended to be consumer user friendly, has instructions and tips on product applications specific to target pests. It also has current recommendations for lawn maintenance on how to out-compete weeds for a healthy lawn. The complete brochure is available at www.otrf.ca.

SCIENTIFIC LITERATURE REVIEW OF ALTERNATIVE PEST CONTROLS FOR TURF IN ONTARIO			
Product	Target Pests	Instructions & Tips	Research Studies
Corn gluten meal	Crabgrass and broadleaf weeds (dandelion and white clover)	Must be applied before weeds emerge in early spring and late summer/early fall on established lawns only. Water the lawn until the soil is moist but not wet and then apply. Do not apply in wind and ensure rainfall or irrigation within 2 days. Do not overseed with grass seed for six weeks after an application.	Effective on germinating seedlings of broadleaf weeds and crabgrass, but not on established weeds. For crabgrass, must be used preemergence (early spring when forsythia is in full bloom). Field studies show that labeled rate is relatively ineffective in most cases, but if used for several years it will reduce weeds.
Sclerotinia minor (Sarritor) Product availibility limited at this time.	Dandelions	Must be followed by rainfall or irrigation for 20 minutes a day for a minimum of 2 days. Works best when temperature is moderate (18-24°C) and skies are cloudy with high relative humidity. Do not apply on lawn areas that border flower or vegetable gardens.	Works best as a spot treatment on individual weeds rather than as a broadcast treatment applied with a fertilizer spreader. Moisture and humidity are necessary for this product to work.
Acetic acid	Broadleaf weeds	Apply in warm, sunny weather to weeds less than 10 cm in height. This product will kill all plants that are sprayed (grasses and weeds).	Primary use is as a burn-down to kill all vegetation. For complete control of weeds, the product may need to be applied several times.
Fatty acid (Potassium salts or ammonium soaps)	Moss, algae, broadleaf weeds on driveways, patios, sidewalks.	Will kill all plants that are sprayed. Spray weeds until completely wet.	N/A
Entomopathogenic nematodes	Grubs, caterpillars (cutworm and armyworm)	Sensitive to sunlight, drying out and extremes in temperature. Water immediately after treatment to get nematodes into the soil both to prevent drying out and to provide contact with insects.	Results are extremely variable on grubs and caterpillars. Research trials using nematodes to control leatherjackets have not shown that they work. There are no published results using nematodes to control hairy chinch bugs.

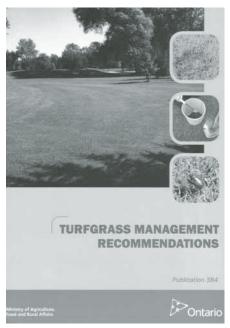






Turfgrass Management Recommendations Revised and Published by OMAFRA

he eagerly awaited revised Publication 384 produced by the Ministry of Agriculture, Food and Rural Affairs is now available. In it you will find answers to questions on turf fertilization, water management and insect, disease and weed control. There is information on the best turfgrass species to use for sod farms, golf courses, sports fields and home lawns. The pesticide recommendations for turf insect, disease and weed control are intended for professional turfgrass managers in Ontario. Whether you are a sod farmer, a golf course superintendent, a lawn care operator or a sports turf manager, this is a great resource for your shop shelf. Copies can be ordered conveniently online at www.serviceontario.ca/publications.





Toufic Hibri

Gazonroll Turfgrass, Beirut, Lebanon

Athletic Field Construction Manual

CLASSIFICATION | SPECIFICATIONS | FIELD EVALUATION | FIELD DIMENSIONS



TO ORDER YOUR COPY: VISIT WWW.SPORTSTURFASSOCIATION.COM | 519-763-9431

NATURAL GRASS WILL BE A PERMANENT FEATURE IN TORONTO'S BMO FIELD



Latest News. The proposal to replace BMO Field's artificial turf with natural grass received overwhelming support and approval from the Board of Governors of Exhibition Place on September 11 and again by Toronto City Council on September 30. Maple Leaf Sports and Entertainment will shoulder the \$5.5 million dollar price tag which includes \$3.5 million for the natural grass conversion at BMO Field, 1.2 million for the relocation of its bubble to Lamport Stadium and \$800,000 for a new artificial field in the community. STA Member Claus Zander of Zander Sod Co. Limited will be speaking at the 2010 Ontario Turfgrass Symposium about the project's sod production and specifications, and the challenges of installation and removal. The following article from the star.com provides an interesting overview of the situation.

Real Madrid gets the grass that Toronto FC can only hope for... August 6, Daniel Girard, Sports Reporter

t's the field of TFC's dreams. The much-maligned artificial turf of BMO Field gave way to the real thing yesterday as a crew of 18 finished laying the grass ahead of the arrival of European soccer giant Real Madrid for an international friendly against Toronto FC.

"This is a 10-day solution," Bob Hunter, executive vice-president of Maple Leaf Sports and Entertainment, said of the lifespan of the four-inch thick sod being put down.

"It's a temporary solution to reflect the quality of the team that we're playing Friday night," he said.

Trucked in from Alliston by NGF Golf of Campbellville, which spends most of its time laying fairways not soccer fields, the 24-hour installation was completed last night in time for Real Madrid's practice before thousands tonight.

The company consulted with crews in the New Jersey Meadowlands who laid turf down for US national team games.



For purists of the beautiful game, the sight of the sun glistening off the sprinkler-soaked grass on a spectacular summer day was no doubt a treat. It will be fleeting, however, as the sod – double the thick-

ness of what typically gets put down as a lawn – is to be torn up Sunday and thrown away.

But more than just a move to make the visitors feel welcome, Hunter said the \$250,000 outlay for temporary grass was "a key condition" to getting the winners of a record 31 Spanish titles and nine European Cups to bring their high-priced lineup to Toronto as part of a two-game tour of North America.

"They have obviously two or three of the world's best players on their squad," he said of newly acquired talent headlined by Cristiano Ronaldo, Kaka and Karim Benzema, who are part of about \$385 million in off-season signings by the club. Until MLSE comes up with a plan to accommodate that public use elsewhere, it will be difficult to get political approval to convert the stadium playing surface to grass.

"It's very popular with the community and it's the only real bubble in the downtown core," said Dianne Young, chief executive officer at Exhibition Place, which manages the site, including BMO Field.

Noting the whole purpose of the funding arrangement was to "promote local sports," Young said there have been talks with MLSE but no formal proposal has come forward to make the conversion to grass.

"They only play on grass." Real Madrid has two or three of the world's best players on their squad. They, as well as everyone involved with Toronto FC from club management to star Dwayne DeRosario to those going through the turnstiles, have called for permanent grass.

"They only play on grass."

Real Madrid plays again Sunday, facing D.C. United on the grass of FedEx Field in Landover, Md.

Since even before TFC played its first home game at BMO Field in April 2007, the FieldTurf has been a source of controversy for players and fans alike. But the issue has boiled over this season in part because everyone, from club management to star Dwayne De Rosario to those going through the turnstiles, have called for permanent grass.

Hunter, who put the price tag at about \$3.5 million, including a heating system for spring and fall as well as drainage and aeration, said MLSE, which owns TFC, agrees and is ready to pay the cost.

"To make the game as authentic as it's supposed to be, natural grass is your longterm solution," he said.

But it's not that simple.

A key part of the deal to secure government funding for the \$63 million stadium was providing year-round access to the playing field. That resulted in turf and installation of a bubble each winter.

Last year, community use accounted for about 1,500 hours at BMO Field for everything from exercise classes to youth soccer.

Once the pitch comes forward, it could take a couple of months to get it before city council, she said.

Hunter, who insisted the stadium's community use provision is "absolutely the right thing to do with public money," said MLSE still hopes to get approval for a conversion early this fall so it could be done in time for next season but added it's more likely to be for 2011.

Meanwhile, Hunter is sure the temporary field will pass the test of the club that FIFA, the sport's governing body, voted the most successful of the 20th century.

"We're confident they'll find this very suitable to play on," he said. ◆

— Reprinted with permission, Torstar Syndication Services

EMPLOYMENT ONLINE

Are you advertising a position or job searching? Visit us online at www.sportsturfassociation.com and click on "Turf Trades" or call Lee Huether at the STA office for details. The cost to post an ad is only \$75 for STA members (2-month listing).

Numbers game

\$250,000 Cost to install real grass at BMO Field

10 Days the grass will last

24 Hours to install the field

18 People to put in the field

10 Tractor-trailer loads of sod

3x100 Feet, size of the sod rolls 4 Thickness of sod in inches

24 Hours to take the field out when it's all over

The Real Deal

Here's a list of significant team moments unrelated to its numerous championship titles that made the Real Madrid one of the most famous teams in the world:

1902

Madrid Club de Fútbol founded. 1920

Real, meaning royal, added to team name after endorsement by Spain's King Alfonso XIII.

1931

Real title dropped and crown removed from team crest after downfall of the monarchy.

1941

Real name and crown restored two years after the end of the Spanish Civil War.

1947

First Spanish team to add numbers to its jerseys.

2001

Team crest updated by changing traditionally coloured mulberry stripe to blue.

2006

Record home game attendance set at 83,329. Official stadium capacity: 80,354.

Guest Editorial

IS SAND-CAPPING A GOOD IDEA?

An article in the summer edition of the Sports Turf Manager by Kowalewski, Crum and Rogers with the Michigan State University turf research group deserves comment. Their concept of repeated yearly sand-capping to build a sand root zone over a four year period and thus improve the performance of sports fields is worthy of consideration on heavier textured soils, however, the user should be aware of potential pitfalls.

R.W. Sheard, Prof. Soil Science (retired), University of Guelph

he original idea, known as a sand carpet, was successfully developed at The Sports Turf Research Institute at Bingley in the UK several decades ago, although it was not designed to provide the depth of sand the authors of this article propose. Furthermore, the end product of the Michigan system after four years of repeated topdressings will, in part, be equivalent to the California Construction Method described in Section 4.3.5 of the Sports Turf Association's Athletic Field Construction Manual.

The system proposed, however, calls for 10-15 cm of a sand-based root zone over the original soil surface with a subsurface drainage system at 6 metre spacing. This is only half the depth of sand required for an STA Category 1 field and double the spacing of the drainage lines for the California Construction Method. The proposed depth of sand and spacing of drainage lines will produce drainage draw-down lines that have near saturated conditions for extended periods of time at the mid point between the drainage lines, resulting in the potential loss of use of the



field for these periods or severe damage to the turf if used.

Movement of water from the mid-point between drainage lines occurs by lateral and vertical flow. Under their system, water movement will be primarily by relatively slow, capillary lateral flow with little influence of the stronger force of gravity on the flow. Thus to reduce the possibility of periods of saturation, the drain lines should be placed relatively close together. Vertical flow by gravity will not occur until a saturated zone is built up at the interface between the sand capping



and the underlying soil. The rate of vertical flow will then be dependant on the water permeability of the underlying soil. The finer the texture and the greater the compaction of this soil, the lower the rate of flow.

For top performance, the sand which is used should meet the specifications outlined in Section 4.4.4.1 of the STA Manual. In order to have uniformity in the sand root zone, which is necessary for proper water movement, a guaranteed supply of the identical sand at the same price over four years must be obtained, an unlikely guarantee by any aggregate supplier.

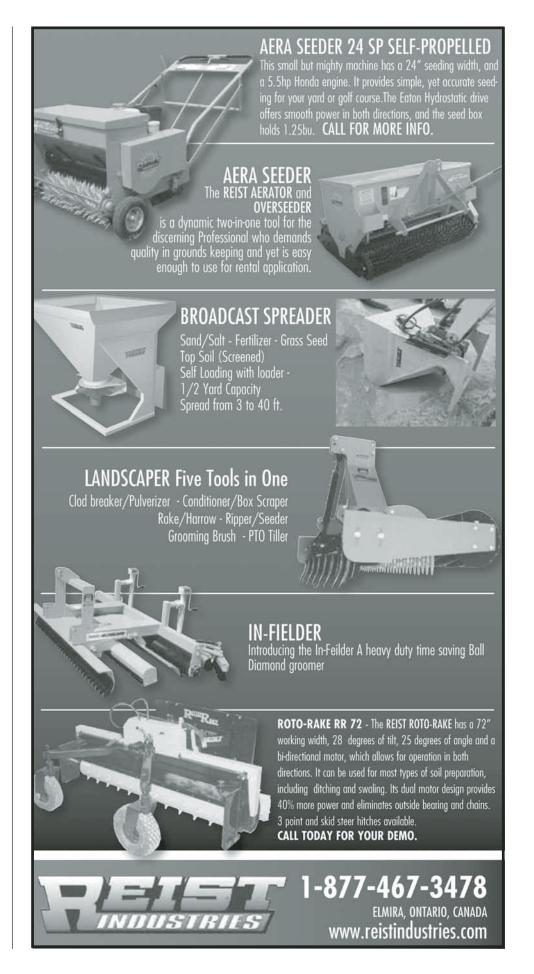
A sand depth of 30 cm is required to maximize the water retention in the root zone provided by a perched water table at the interface between the sand and the underlying stone layer. Reducing the depth results in less water storage and greater reliance on irrigation. Increasing the depth increases the costs.

The proposal is based on a cost deferment hypothesis. For the system to work, two major expenses, drainage and irrigation, must be incurred prior to the addition of any sand. Using the authors' figures, about 50% of the total cost must be provided up front to obtain the standard of a Category 1 field while deferring a fully functional field for three more years.

This concept requires further investigation. ♦

ARTICLES WELCOME

Contact Lee Huether at the STA office if you are interested in contributing to the Sports Turf Manager. We appreciate feature-length articles, column ideas and newsworthy items. Updates on innovative research or equipment are also welcomed. This is a great way to both support your professional association and enhance your resume!















Master's
Eurf Supply Lid.









Annual Field Day

SEPTEMBER 17, BRANTFORD

The Sports Turf Association was once again favoured by Mother Nature with a late summer day that dawned bright, sunny and warm despite forecasts earlier in the week calling for rain. The change in weather was perhaps precipitated by the scheduled appearance of both the Mayor of Brantford, Mike Hancock, and the irrepressible Lord Mayor of Brantford, Walter Gretzky.

More than 260 turfgrass industry professionals travelled to *The Telephone City* for the Association's 22nd Annual Field Day. Feedback to date is that the program and speakers were highly relevant – addressing the transition to pesticide-free athletic field management, the basics of synthetic turf systems, inspection and maintenance of sports field infrastructure, and the servicing of irrigation systems.

True to form, our industry sponsors were generous with their support as were the exhibitors with their participation. It is because of their involvement that we are able to provide this professional development opportunity, make available their knowledge and education, and maintain the day's affordability.

Thank you to all who participated in making our 22nd Annual Field Day our 22nd Annual Success!





Thanks to all for a great event!













































THANK-YOU TO OUR EXHIBITORS!

FIELD DAY 2009

Bannerman Ltd. **Brant Tractor** Covermaster Inc. DCS Agronomic Services Dol Turf Restoration Ltd. G.C. Duke Equipment Ltd. FieldTurf GreenLawn Ltd. Hutcheson Sand & Mixes Kitchener Tractor / Burtch Power Mar-Co Clay Products Inc. Master's Turf Supply Ltd. Nutrite OTRF Plant Products Co. Ltd. Quality Seeds, Ltd. Reist Industries Inc. Simplistic Lines Inc. Speare Seeds Turf Care Products Canada Turf Revolution Vanden Bussche Irrigation





Supreme-Green TURF COVER

The multi-purpose turf cover ideal for natural turf environments such as baseball, soccer and football fields, etc.

BENEFITS

- accelerated seed germination encourages root development • early spring green-up
 - delays dormancy in fall winter protection:
 reduces frost and ice damage turf repairs
 available in any size

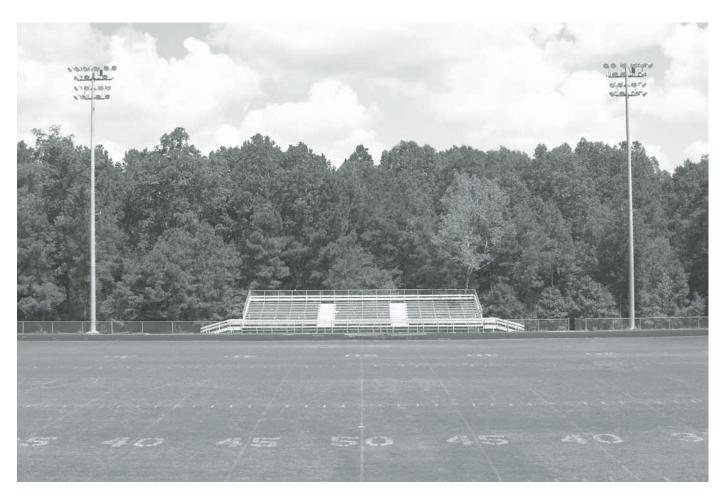


Buy Direct From the Manufacturer!

Call 1-800-837-8961

www.covertechfab.com • sales@covertechfab.com





RISK & LIABILITY: IMPORTANCE OF INSPECTING & MAINTAINING SPORTS FIELD INFRASTRUCTURE

2009 FIELD DAY SPEAKER ALAN V. DORE, MANAGER OF PARKS & CEMETERIES, CITY OF HAMILTON

The following article is taken directly from Dore's presentation notes. He spoke at our recent Fall Field Day in Brantford.

would like to thank the Sports Turf Association for inviting me to attend and speak to my fellow turf managers about an area of the business that is often overlooked and yet is a vital component of sports turf management the risk and liability issues that municipalities face when offering their sports fields "for rent." If your municipality allows for the permitting of parks and more specifically, sports fields such as ball diamonds, soccer/football fields, etc., then it will generally be held by the courts to a higher "level of care" in the event of litigation. Court proceedings are usually a result of participants getting injured during the playing of a particular sport and citing field conditions as the cause of the injury. Often, the presence or absence of negligence will be determined by the "due diligence" of the municipality as it relates to the municipality's standards and adherence to those standards with respect to the condition of the fields users rent.

If any of you have to attend a discovery or court hearing as part of your responsibilities, you will quickly gain a first-hand understanding as to what areas a plaintiff's solicitor will delve into – and you will appreciate the necessity of maintaining records of inspection and daily and annual maintenance logs, weather reports, etc.

These records generally become the focus of a claim and as I'm sure you are aware, the responsibility to defend the claim usually falls directly on the leadhand, sports groundskeeper or supervisor who has direct responsibility to ensure that such inspections and written documentation of usage, maintenance practices and records are kept.

It is not the most pleasant experience when one has to appear as the star witness for the municipality and give evidence under oath in support of the municipality's defense of a claim. For those of you who have had the "pleasure," I'm sure you can attest to and validate the

Review & Inspect

BASEBALL

Infield: home plates, bases, low spots

Outfield: turf condition, bald or low spots, water ponding areas Irrigation System: leaking heads, low or high heads, trip hazards Fence Lines: footings, holes in fabric, tie wraps missing, "curledup" fence fabric, tension wires, weeping tile on the top rail baseline fencing Batting Cages: fencing, gates, fence fabric, holes Lighting Systems: poles, fixtures, anchor bolts, footings Players Benches: gates, fencing, Backstop: fence fabric, fence structure, broken welds Home Plate: general condition, elevation, batters boxes, low

Bleachers: missing or damaged seating/backboards, structural integrity (may require an engineering inspection if large stadium type bleachers)

Signage: regulatory signage in place, graffiti on signage (making them illegible)

SOCCER

Goal Posts: structural integrity, broken welds, footings Turf Areas: low or bald spots, water ponding areas, overall turf Players Benches: broken or missing boards, leg ends, ground surface, fence footings Trees: deadwood, overall health Bleachers: missing or damaged seating/backboards, structural integrity (may require an engineering inspection if large stadium type bleachers) Lighting Systems: poles, fixtures, anchor bolts, footings Irrigation System: leaking heads, low or high heads, trip hazards

scrutiny that these documents receive and that the need to maintain such written/recorded documentation is critical to allow for a positive outcome.

I know most of us – especially those who work directly on sports fields - do not necessarily like the administrative side of the job. Thus, we tend to focus on the hands-on horticultural maintenance practices required as well as the daily "set up" of the fields in getting them ready for play. But, the pre-season, during season and post season inspection and documentation of horticultural maintenance practices are extremely important in supporting a legal defense. Claims can be quite costly to defend - not to mention the award a court may grant a plaintiff, particularly if it involves a catastrophic personal injury and the municipality is deemed to be at fault or negligent.

There are also value-added benefits and efficiencies to maintaining a good risk management program as it relates to customer service inquiries and the development of both annual/operating budgets and capital budgets.

Value Added Benefits of a Risk Management Plan

1) Customer Service

The general public, and more specifically, sports user groups, often take on an "ownership" role of a particular park or field that they utilize. Thus, they are often the first ones to report a deficiency, especially in locations that do not have dedicated staff on site. It is far easier to build solid customer relations, trust within the community and respect of sports turf staff when you are able to advise a caller that

Downloads are available online at www.sportsturfassociation.com. We have posted samples of a Sportfield Maintenance Log Sheet, Operations and Maintenance Deficiency Checklist and Capital Request and Maintenance Data Sheet. They are ready for use in the field – or simply to compare with those you are already using. Click on Publications/Sports Turf Manager/Current Issue.

I hope I haven't scared all of you to the point that you may be considering another profession! There are steps you can take to ensure that you can successfully defend such a claim.

First, I recommend a review and documentation of your inventory of fields and field types and conducting a visual risk assessment on each field. This doesn't have to be an arduous process, but it must be complete in terms of the individual components of a particular field type. The inspection document/record should include items such as listed in the adjacent sidebar. These are some examples of components that are designed into a typical sports field that require inspection, recording of the deficiencies observed, and documentation of condition so that repairs or replacement can be followed up with in a timely manner. This process ensures compliance with the municipality's standards and provides written documentation/record retention if needed in defense of a claim.

yes, the deficiency was noted by field staff on date xx and the deficiency is scheduled for repair on date xx. Or, the deficiency had been recorded on date xx and has been noted as a capital budget item in the upcoming 2010 budget year for replacement.

A pro-active approach is always preferred over a reactive one in building trust with sports user groups and the general public. It not only infers that we as sports turf professionals care, but is a very quantifiable and demonstrable way to prove we are on top of things. It further supports and advances the reputation and professionalism of the sports turf industy and the municipality.

2) Operating & Annual Budgets

The value-added benefit that a good risk management program and the data collection from inspections produce is in the allocating or defending of budget dollars – both from an operating or annual budget perspective.



Once the inventory is known (often called asset management) and the components of a park or sports field are identified - in quantitative measures - then the "art" of budget building, monitoring or defending becomes much more reliable and again, boosts the credibility of the sports turf professional. This also builds respect and trust by your managers, directors and most importantly, your councils as they generally approve annual budget allocations.

Once these components of a field are inventoried and deficiencies are captured on a regular basis, then the data begins to paint a picture. The unit costs for repair/ replacement of the deficient components/ units are known. Furthermore, this data begins to produce historical budget data which is a very effective and reliable tool for allocating or forecasting expenditures that are required in an annual budget. The typical unit repair costs are simply multiplied by the number of units in the inventory. Multiply this by the average number of historical deficiencies in a given budget year and you'll produce very reliable, quantifiable measurements that are highly defendable in presentations to your respective councils at budget time. This is invaluable in building confidence with senior staff and councils and also enhances the likelihood of getting or keeping your

share of the ever increasing scarce budget dollars as municipalities scramble to meet the aging infrastructure demands of the municipality and balance the taxpayers' ability to fund the required repairs and replacement of park assets.

3) Capital Budgets

This is another area where good risk management data can be invaluable. Most municipalities have a capital budget plan in which it is common to implement a 10 year plan or forecast so your respective park planners, designers and councils can get a picture of what park infrastructure is forecasted to be replaced in the future and how much it will cost to replace the specified assets.

Capital budgets/plans are in place to address the large planned funding expenditures that come up - either for the development and construction of new parks, major redevelopments of existing parks, or lastly, for the lifecycle replacements of existing park inventory components and/ or systems. Some examples of these types of capital expenditures are the major replacement or reconstruction of ball diamonds, soccer/football fields, field house renovations, irrigation system replacements, field lighting replacements, etc.

These specific types of lifecycle replacements are very expensive. As a typical example, a Class 2 soccer field could run in the neighbourhood of \$150-220,000 or more depending on the number of components/systems that need to be replaced in any given year. Improvements along these lines can sometimes run into millions of dollars and are usually identified for replacement in a planned manner, spread over the 10 year capital budget plan. This is done to flatten annual capital costs and avoid large spikes in capital funding requirements in any given year of the 10 year plan.

Park Permits

Lastly, it is a good practice to develop a rental or park permit contract. If you already have an established one, review it periodically with your legal staff to ensure the terms and conditions are adequate in relation to the specific type of use. Also ensure that the terms or conditions of use that the user must adhere to are stated clearly and insurance requirements are noted to help the municipality in defending itself in the event of a negligence claim.

Included in the terms of the rental contract or in addition to the contract, there should be a "Rain Out Policy" that users sign to ensure they clearly understand under what weather conditions the park or fields can be utilized so as to prevent excessive damage during periods of inclement weather and to prevent injury from field conditions as a result of weather conditions.

In conclusion, the importance of establishing a good risk management plan can not be underscored. It forms the basis of good management practices and relates to risk and liability management, customer satisfaction and trust, budget management, and most importantly, supports the advancement of the sports turf profession and the professionals involved in sports turf management such as yourselves. Do yourself a favour and start evaluating your infrastructure today – in writing! ♦





Quality Turf Seed Specialists

Quality Seeds for Sod Growers, Golf Courses, Sports Facilities, Municipalities & Landscape Contractors

DISTRICT SALES MANAGERS

Peter Coon • Cell: 705-715-3760 John Konecny • Cell: 905-376-7044

PRODUCT MANAGER

Cathy Wall • Cell: 416-802-4391

Exclusive Distributors for hydraulic mulches featuring Flexterra FGM • Jet Spray • FlocLoc Tackifier Futerra F4 Netless Erosion Control Blanket

1-877-856-7333 • 905-856-7333 • www.qualityseeds.ca

Wanden Bussche Irrigation Milton Office 1-800-263-4112 King City Office 1-866-703-5464 (KING) Scarborough Office (416) 289-3635 Delhi Office 1-800-387-7246 (RAIN) www.vandenbussche.com VANDEN BUSSCHE IRRIGATION Hunter*





COVER CONTINUED... SYNTHETIC TURF NORMS & STANDARDS

FRANCOIS HÉBÉRT, LANDSCAPE ARCHITECT, CSLA, OALA, AAPQ, DESIGNER & CONSULTANT, DSSS DESIGN SOLUTIONS FOR SPORTS SURFACES

Certain aspects of these projects, such as drainage and base construction, are directly related to civil engineering. Because of this, design emphasis is often focused on these components as they are similar to those that can be found in other technical projects such as roads, and are treated as such in the design process and the resulting construction documents. The standards and testing protocols that are applied are the same and they can produce good results if the performance specifications are formulated appropriately.

But, when it comes time to address the synthetic surface itself, there are few similar products or technologies to be found in civil engineering projects. This technology is quite unique and there are too few such projects for engineering schools to dispense training on the subject. This is why certain designers turn to the manufacturers and installers of these products to help them formulate their specs. And,

during the actual construction stage, the supplier is sometimes left to himself and little or no quality control is applied.

In such a product-oriented approach, we often see specs that focus on individual properties and characteristics of the products themselves setting the standards. The bid documents present extensive lists of characteristics such as pile weight and height, tufts per unit area, GMax or DTex ratings, tuft withdrawal force or any number of other related or unrelated parameters. Then, target values are set for each which are used to evaluate the products and systems that will be submitted by the suppliers during the bidding process. Elaborate evaluation tables are invented with the highest score going to the product that has assembled the greatest number of high scoring components. And of course, in our competitive bidding systems, this system must also be the cheapest.

The Systems Approach In Synthetic **Turf Projects**

Another approach to setting the parameters for synthetic turf projects is to turn to norms and standards that address the project as an integrated system. While the drainage and base aspects are still treated separately as far as materials and design are concerned, they are integrated with the synthetic surface into an overall system that must meet specific performance and quality criteria. Although the different design parameters mentioned above are still considered, it is the resulting performance of the system that is the ultimate goal of the process.

There are a few such established and widely recognized standards. One of these is called the FIFA Quality Concept. Under pressure from users clamoring for solutions to the many problems plaguing natural surfaces, and in partnership with other organizations, FIFA (Federation of





Suppliers of Top Quality Turf Products for over 50 years

No. 1 Kentucky Bluegrass * Bentgrass * Extreme Fescue Large and small rolls * Custom grown sod available

(877) 727-2100

(416) 364-5700

www.zandersod.com

THE STA HAS MANY PRIME ADVERTISING OPPORTUNITIES THROUGHOUT THE YEAR. CALL US!



Paul Turner

Sales Representative

Cellular: (416) 566-0211

1184 PLAINS ROAD EAST, BURLINGTON, ON L7S 1W6 Burlington (905) 637-5216 Toronto (905) 338-2404 1-800-883-0761 • Fax: (905) 637-2009 • www.gcduke.com





FIFA is a forerunner in the field of synthetic sports turf quality control. At first, its system was designed for the sole purpose of certifying fields that were to be used in its officially sanctioned events. Eventually FIFA adapted it so it could be applied to all types of synthetic sports field projects.

International Football Association), international soccer's governing body, conceived this set of standards and testing procedures to ensure a certain uniformity of synthetic playing surfaces. This system evolved in sophistication over the years and is gaining in popularity.

Other organizations have also established quality and design guidelines. Some of these are related to specific sports, such as IRB, the International Rugby Board, or FIH, the international field hockey federation. These sports related organizations establish norms and standards aimed at obtaining playing surfaces compatible with their specific needs.

One organization that has gone to great lengths to upgrade quality in the industry is the STC (Synthetic Turf Council), an American industry related association that has formulated an extensive set of norms and standards that can be referred to when designing and specifying synthetic projects. This association of synthetic turf suppliers, installers and designers formulated product specs and installation guidelines to help elevate the industry's overall quality standards.

The guidelines published by these associations refer to synthetic sports surfaces as integrated systems and expressly address all parts of the overall construction. They

set minimal values for properties of the different system components, but leave manufacturers with the latitude to set their own specs beyond these minimal thresholds.

The principle behind such an approach is that no individual component or characteristic will elevate a particular system above the rest. It is the combination of all the different properties and components that provides the performance characteristics that are sought after and that distinguish one system from another.

Using Synthetic Turf Quality Control Standards In 3 Easy Steps

Faced by the growing demand for synthetic playing pitches and the lack of a more accessible quality control system, we see an increasing number of designers applying the FIFA Quality Concept to their projects. Many think that simply referring to FIFA 1 or 2 STAR requirements will ensure their clients that they will get the highest quality and best performance for their money.

But the standards are only a tool that can be used to help in attaining this goal. It cannot replace judicious design and tight controls that must be applied throughout all phases of the entire project.

FIFA is a forerunner in the field of synthetic sports turf quality control because very early on it had to respond to an overwhelming demand for such surfaces from its membership. At first, its system was designed for the sole purpose of certifying sports fields that were to be used in its officially sanctioned events. Eventually, it adapted it so that it could be applied to all types of synthetic sports field projects, with or without certification.

FIFA does not certify products, thus you cannot purchase a FIFA certified product. There are FIFA accredited manufacturers who can have products registered with the association. FIFA certifies individual playing surfaces that meet its performance standards and that were built with products having gone through the FIFA identification process.

The FIFA Quality Concept is devised around the notion that synthetic turf surfaces are not just constituted of a certain product (for lack of a better term, let's call it a carpet). Surfaces are the product of the



Defective products do slip by the manufacturer's quality control processes. It remains up to the owner to make sure he or she is not being sold a lemon – no one wants the costs of maintaining a defective system.

combination of different components that are precisely assembled into a system.

Step 1: System Identification

The carpet is one part of the system, but the carpet itself is an assembly of different components such as the actual synthetic "grass" fibers, the primary backing that consists of a specific combination of different geofabrics and the secondary backing which binds the fibers to the primary backing and gives the carpet some of its force. The carpet has its own specific characteristics, such as fiber type, height, weight and density, overall mass, and so on. All these characteristics are carefully monitored and recorded.

The system also includes the infill, which is constituted of specific materials, each having their own specific characteristics. Sand, rubber and/or other components are tested for granularity and their

relative proportions, the infill depth is measured, etc.

All these parameters are carefully measured and recorded. This data is compiled in an identification data sheet that corresponds to a manufacturer's specific system.

Later, when a synthetic sports field project is initiated, all these identification tests will be replicated on samples taken from the actual product that was delivered on site so that it can be positively identified as being identical to the product that was tested initially by FIFA. If the product fails to meet this initial identification stage, the sports field will fail its certification. Also, all its complementary components must also correspond exactly to those initially identified and compiled in the FIFA identification data sheet corresponding to the system ordered.

This initial step ensures the client that the system components delivered on site are really the ones that were purchased and not cheap generic copies. Less expensive "counterfeit" copies can look and feel almost identical to the original but the quality and long term performance characteristics can be extremely low. And when the cheap components of a counterfeit product start breaking down over a 7,000 square metre plus surface, it is too late to start checking or to invoke an eight year warranty that, sometimes, is not worth the paper it is printed on. This is why this initial validation stage is so critical.

Step 2: System Quality Control

After the system components are identified and analyzed by FIFA certified labs, a series of tests are conducted to see if they meet certain quality and performance criteria. FIFA sets performance criteria that systems must meet in order to be recognized. For instance, the carpet is tested for resistance to wear and tear, the fiber is tested for its resistance to traction, turf bind, etc. A whole series of these tests is done on the different components and assemblies. This ensures that the system and its components meet established quality and performance standards and that the sports field will hold up to its intended use and usage.

When a sports field is tested for certification, the supplier provides samples on which the tests are replicated. If the field is not meant to be FIFA certified, the system quality control data provided by the manufacturer and backed by the FIFA tests ensures that, if the installation work is properly done, the finished system should meet expected quality standards.

During the construction process, the technician tests other components. The base is tested for permeability and the grade is tested for the slightest dips or bumps. This is especially important because the slightest depression on the base will be magnified when the synthetic surface is in place. FIFA specs call for an acceptable error margin of 10 mm. Some designers apply even stricter requirements and only trained technicians can detect such minor deflections on the base.

It is important to note that defective products do slip by the manufacturer's quality control processes. It remains up to the owner to make sure he or she is not being sold a lemon. Even if the more serious manufacturers offer and apply warranties that cover their products and installations, maintaining a defective system can prove to be a painful and long lasting process.

Step 3: System Performance Assurance

The system is then subjected to a series of tests that examine two very different aspects: player/surface interaction and ball/surface interaction. Player/surface interaction addresses how the surface reacts to player movements. There are tests that measure shock absorption, vertical deformation, rotational resistance and the surface's abrasiveness. There are precise values for each of these parameters that the systems must replicate in order to be acceptable. These parameters directly affect the safety of the player. A FIFA certified surface would have to meet all these parameters in order to qualify, and all public synthetic sports surfaces should meet minimal safety related performance requirements whether they are FIFA certified or not.

Ball/surface interaction determines how a soccer ball will react on the surface: how far it will roll, how high it will bounce, etc. In the FIFA Quality Concept, this aspect of the test is specific to soccer. Other associations provide variants specific to other sports.

If all the proper procedures are respected throughout the testing process and the playing surface passes all the tests through all three steps, the playing surface can receive a genuine FIFA 1 or 2 STAR accreditation, provided the testing was conducted by a FIFA accredited test-

Is FIFA the Only Alternative to No Controls at All?

The beauty of the FIFA system is that it is simple and easy to apply. The downside is that it refers to European norms and tests. The units and procedures can be awkward to use and apply in a North American context. As an example, here we refer to Gmax as the unit to quantify a surface's hardness, while in Europe they refer to % of surface deformation to describe how resilient it is. These are two opposite approaches to the same phenom-

As synthetic sports surfaces gain in number, the testing industry adapts. ASTM has just published a revised version of its F1551 standard entitled "Standard test methods for comprehensive characterization of synthetic turf playing surfaces and materials." This covers a wide variety of tests for most synthetic turf related issues. It remains to be seen if the performance specifications are compatible with all testing methods.

The STC (Synthetic Turf Council) has formulated an elaborate set of standards and norms that is adapted specifically to the American context, using ASTM testing procedures. This may be an alternative to FIFA. Other associations have also published such standards that may act as alternatives to the FIFA Quality Concept.

The catch phrase here is certainly not "FIFA, or nothing," but "Quality, or nothing."

Do You Need FIFA Certification?

For years, there was no talk of FIFA tests and standards, or of any other testing systems for that matter. Many projects were built using only the specs provided by manufacturers or builders. Million-dollar projects were left in the hands of the contractor with the client having no way of evaluating the quality and performance of the end product. Of course, many such projects failed to meet expectations and many clients were left high and dry.

With the proliferation of synthetic turf projects, design professionals must scramble to develop specific expertise to meet the demand. They gravitate towards standards to help them develop their specs and to monitor construction. FIFA and other organizations have invested a great amount of resources to develop quality and performance testing programs. Specific testing protocols have been developed and the overall process is quite straight forward and simple to implement.

But many doubt that municipal or school projects warrant going to such extremes for what may seem as a lower grade project. This is why it is useful to examine the applications of this and other similar quality control programs.

Unless a municipality, academic institution or sports club plans on hosting FIFA sanctioned events, the actual certification is not really that useful. The certificate only attests to the fact that the surface has successfully gone through the whole certification process, that the tests were conducted by a FIFA certified testing lab, and that the proper licensing fees have been paid to FIFA. The first two conditions are totally independent of the third. If the process's objective is to ensure the play-







PLANTPRODUCTS

Turface MVP • Grass Seed Turf & Tree Fertilizers Pest Control Products

Plant Products Co. Ltd.

Brampton, Ontario 905-793-7000 or 1-800-387-2449 Fax 905-793-9632 • plantprod.com ing surface's quality and optimal performance, unfortunately the third condition contributes nothing.

Going through the FIFA Quality Concept established procedures, or those set by other governing bodies, is an invaluable tool that will ensure that the initial installation is done properly and meets expectations. For a small fraction of a project's overall cost, such an assurance is priceless – especially considering the extended life spans these surfaces are expected to have.

The "Day 1 Snapshot"

Typically, manufacturers and installers offer an eight year warranty. This warranty should cover the different components of the system (the carpet and the infill) as well as the installation, including assembly (sewn or glued), and the different markings. If the playing surface is maintained properly, it should remain trouble free throughout the warranty period and beyond.

The battery of tests conducted on the system's different components and its installation ensure that there are no discernible deficiencies at the time the surface is put in place. These tests are done by true specialists who have the expertise and experience to do this, and not by well-intentioned amateurs reading from a guidebook.

The identification tests provide assurance that the carpet is really the one that was contracted. The tests ensure that the different components that go into the production of these products are the ones that were initially planned, attaining the level of quality that the client expects of the system that was purchased. There are many different manufacturers of the various components, and quality can vary greatly from one product to another. Lower quality materials will inevitably produce lower quality playing surfaces, which inevitably translate into a shorter life span. Considering the price of these installations, this is definitely not an op-

The *Day 1 Snapshot* the testing report constitutes is a reference point in later years as the system ages and in the situation that the warranty needs to be invoked.



Editor's Note: References for Further Follow-up

Founded in 2003, the **Synthetic Turf Council** is a non-profit association dedicated to serving as a resource for information about synthetic turf. Its objective is to encourage, promote and facilitate better understanding among all parties involved in the manufacture, selection, delivery and use of today's synthetic turf systems.

"Suggested Guidelines for the Essential Elements of Synthetic Turf Systems" and "Suggested Guidelines for the Maintenance of Infilled Synthetic Turf Surfaces" are available for download at www.syntheticturfcouncil.org. Click on Selecting Turf/Guidelines.

ASTM International is one of the largest voluntary standards development organizations in the world – a source for technical standards for materials, products, systems and services. Known for their high technical quality and market relevancy, ASTM International standards have an important role in the information infrastructure that guides design, manufacturing and trade in the global economy.

"Standard Test Methods for Comprehensive Characterization of Synthetic Turf Playing Surfaces and Materials," ASTM F1551 – 09, is available for purchase at http://www.astm.org/Standards/F1551.htm.

It can also be used as a monitoring tool after seasonal maintenance operations to ascertain that the surface has been returned to, or acceptably close to, its original condition.

Quality Assurance

While installing drainage and constructing stone bases constitute relatively common civil engineering work and the quality control measures for such work are easy to implement to deliver a perfect playing surface, synthetic turf systems as a whole are another thing altogether. Quality control systems such as FIFA's or those of other such organizations are the only ones that

can be applied to the playing surface itself. The standards that these organizations have set are designed specifically for this type of surface and their careful implementation ensures that the intended results and quality levels are attained.

By making final payment conditional on the delivered components and finished playing surface meeting all the requirements of these standards, the onus is on the supplier to provide the required product and on the installer to apply himself to deliver a perfect assembly. It is imperative that the job be done right from the very start or else it can easily turn into an expensive nightmare. •



We are Ontario's Leading Sports Turf Specialists.

Aeration: 5 Methods to Meet Every Need Slit Seeding, Dethatching & Topdressing Renovations, Drainage & Irrigation Soil Testing, Fertilization Programs (Mineral & Organic)

Design/Build of Natural & Synthetic Fields

1-800-794-9664 www.dolturf.com customerservice@dolturf.com







200 Pony Drive, Newmarket, ON L3Y 7B6 www.turfcare.ca MISSISSAUGA SCARBOROUGH OTTAWA LONDON Paul Cooper: Municipal Sales Manager; 905-715-6797

Steve Piche: Municipal Sales; 905-868-0733

