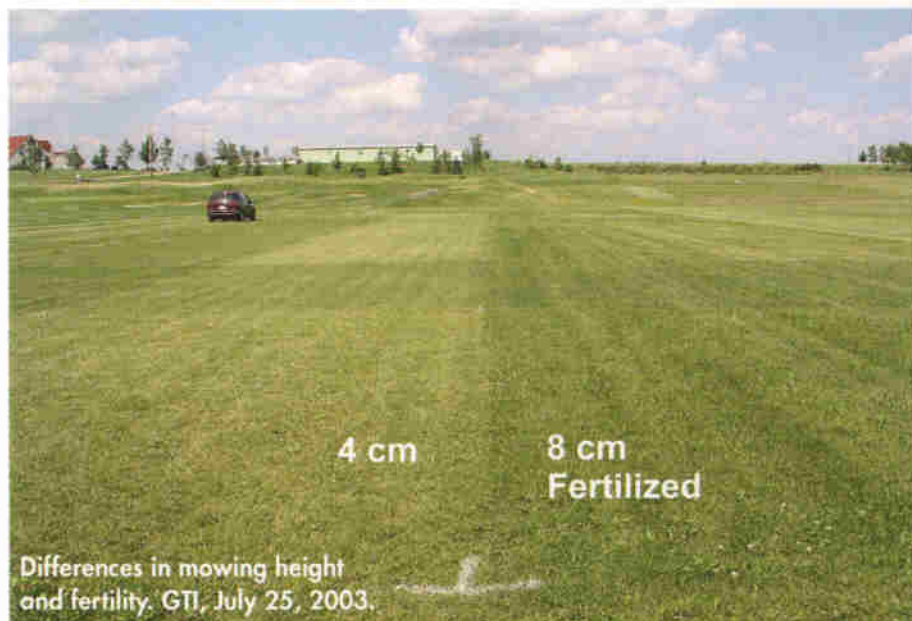


# SPORTS TURF MANAGER

... for safe, natural sports turf

SUMMER 2004 • VOL. 17, NO. 2

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## IPM Demonstration Project

ERICA GUNN, RESEARCH ASSOCIATE, GTI



### 17TH ANNUAL STA FIELD DAY

**Thursday, September 16.** Mark your calendar now! Sports turf industry professionals including indoor and outdoor exhibitors will be gathering in Mississauga for our popular annual event. See the inside front cover for further information.

In spring 2003, the Municipal Integrated Pest Management (IPM) Demonstration Project was established to demonstrate the effectiveness of conventional, IPM, alternatives and non-pesticide approaches to lawn maintenance. By setting up this trial in three municipal settings, Guelph, Brantford, and London, we were able to show the impact of IPM versus no pesticides in comparison with conventional methods in areas with slightly different microclimates, pest pressure and soil types. As well, we have been able to initiate a way of communicating our results to area residents and turf managers.

#### Study Description

At the Guelph Turfgrass Institute (GTI), there are 32 plots, 9 x 5.5 m each, with a total demonstration area of 1,584 m<sup>2</sup>. There are four management programs followed: conventional, IPM, alternatives and

no pesticides. The alternative products were only demonstrated at the GTI due to their experimental nature. The Brantford demonstration project is located at the Glenhyrst Art Gallery near the Grand River. Conventional, IPM and no pesticides plots were compared on 24 plots, 7 x 5 m each, with a total demonstration area of 840 m<sup>2</sup>. In London, the plots are located in Watson Park near the Thames River. There are 16 plots, 10 x 4.5 m each, with a total demonstration area of 720 m<sup>2</sup> with comparisons between IPM and no pesticides. Conventional plots were not set up in London due to the current City of London issues with pesticide use.

In each municipality, demonstration trials were set up on an established, predominately Kentucky bluegrass turf with an existing moderate level of weed infestation. The trial areas were divided according to each specific... → page 6



## STA 17th Annual Field Day – Program at a Glance – September 16th

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**8:00 – 9:00 am** Registration & Opening Remarks

**9:00 – 9:30 am** *Keynote Speaker*  
Dan Ferrone, Veteran Toronto Argonaut

**9:30 – 10:30 am** *Managing Athletic Fields for Healthy Root Systems*,  
Dr. Eric Lyons, University of Guelph

**10:30 – 11:00 am** *Indoor Exhibitors*

**11:00 – 11:45 am** *Artificial Turf: How We Got Here*, City of Mississauga

**11:45 – 12:30 pm** *Safety*. Terry Murphy, Landscape Ontario Horticultural Trades Association

**1:15 – 2:00 pm** *Meet with Outdoor Exhibitors*. Demos on request.

**2:00 – 3:00 pm** *Field Marking*  
Demonstrations & Tricks of the Trade

### *Sessions and Speakers*

#### **Keynote Address**

Dan Ferrone of Oakville has spent a total of 23 years in the CFL. As a player, a coach, President of the CFL Players Association and Vice President of Operations for the Toronto Argonauts, Dan has gained many unique perspectives of the CFL. As well, he hosted his own TV show, *Ferrone File*, and was colour commentator on TSN.

#### **Managing Athletic Fields for Healthy Root Systems**

Healthy root systems are essential for maintaining playable turf. Through proper cultivation practices, managers can create a soil environment suitable for healthy root development. This session will shed some light on how roots are affected by management practices both above and below the ground.

#### **Artificial Turf: How We Got Here**

Representatives of the City of Mississauga will present the research and business case investigations (background process to implementation), procurement process, construction process, and review the first season operations of the City's Artificial Turf Infill System at Parkway Belt Park 35.

#### **Safety Makes Cents!**

Workplace safety is not only an investment, it can make you money. "Many organizations look at safety only from the cost side, which is dead wrong," says Murphy. This session is not only about your obligation under the law, but explains the law and how you can turn obligations into money making propositions. Terry Murphy has extensive industry experience in various management positions and is passionate about workplace safety.

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## SPORTS TURF MANAGER

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### STA OFFICE HOURS

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

## The President's Desk

ANDREW GAYDON



The 'sports turf' growing season is well under way and so far the weather has been good to all who enjoy real turf grass. Winter 2004 was busy for the STA with a new and successful OTS show in Niagara and lots happening on the integrated pest management scene. We will keep you up to date on both of these via the *Sports Turf Manager*.

We are currently working on new construction specifications for the sports turf industry and planning for our Annual Field Day is almost complete. This year the event will be on Thursday, September 16 at the City of Mississauga's Valley Community Centre. As usual, we are planning a full program as well as a great networking occasion for members to meet industry peers. Watch your mail or visit [www.sportsturfassociation.com](http://www.sportsturfassociation.com) for more details as they are confirmed.

It is with regret that Gord Van Dyk, Stephen Tolley and Jamie Worden have recently resigned from the Board of Directors. Gord has left the sports turf industry; Stephen has joined the Town of Richmond Hill's Engineering Public Works Department; and Jamie's commitments no longer permit him the time to effectively fulfill his role as a

director. All three have given a number of years of professional input and service and we thank them sincerely and wish them well.

The STA Board would like to welcome Brian Adriaans and Cam Beneteau as new Directors. Brian is with the City of Burlington (see page 4) and Cam works at Ridley College in St. Catharines. Cam had been approached to be profiled in our new feature (page 12) prior to becoming a Director. We are fortunate to be able to introduce him fully to STA members.

Register for STA's Annual Field Day on September 16, a great networking occasion for members to meet industry peers.

We wish all our readers an enjoyable and successful summer and we look forward to our annual get together on September 16 in Mississauga. See you at the Field Day. ♦



### TURF DIAGNOSTICS @ GTI

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# U of G Hires New Turfgrass Faculty Member

DR. ERIC LYONS JOINS DEPARTMENT OF PLANT AGRICULTURE

**D**r. Eric Lyons has accepted an offer to join the University of Guelph as a faculty member in turfgrass management. He will be leaving a post-doctoral position in turfgrass physiology at Rutgers University.

Dr. Lyons, a native of the state of Iowa, is a graduate of the University of Northern Iowa where he received his B.Sc. with a double major in Biology and Philosophy. While at Northern Iowa he played several seasons as an offensive lineman on the University football team and later served as an Undergraduate Assistant Offensive Line Coach.

Upon completion of his undergraduate program, Dr. Lyons attended Penn State University where he completed a Ph.D. program under the guidance of Dr. David Huff and Dr. Dan Knievel. His graduate work investigated the seasonal competition and physiological responses of different ecotypes of *Poa annua* and *Agrostis stolonifera*. He was awarded both a National Science Foundation Fellowship and Golf Course Superintendents Association of America Watson Fellowship. While at Penn State, he was

actively involved as an instructor in the turfgrass management diploma program.

Dr. Lyons is scheduled to join the University of Guelph faculty in early July. His research interests are varied and his initial efforts at Guelph will be directed towards establishing new research priorities developed in collaboration with the turfgrass industry and colleagues at the Guelph Turfgrass Institute. Dr. Lyons will also be involved in University of Guelph professional development programs, undergraduate teaching and supervision of graduate students. He will be formally introduced to the turfgrass industry at the GTI Summer Research Field Day on August 17th. For more information, please contact: Rob Witherspoon, Director, Guelph Turfgrass Institute & Environmental Research Centre, 519-824-4120 ext. 56886, robwith@uoguelph.ca.

**Editor's Note:** Dr. Lyons will conduct a session entitled *Managing Athletic Fields for Healthy Root Systems* at the STA's 17th Annual Field Day, Thursday, September 16th at the Mississauga Valley Community Centre. See the inside front cover for details.

## Welcome to New Board Member

### Brian Adriaans

Hello to all Sports Turf Association members. I am currently Horticultural Technician for the City of Burlington. My main function is program development for all city turf and horticultural activities. Prior to working for the City, I have had extensive experience in the golf industry including stints at Beech Grove Golf and Country Club, The Cutten Club, Dundas Valley and Burlington Golf and Country Club. I hold an Associate Diploma in Agriculture from the University of Guelph and a Bachelor's degree from McMaster University. I am very much looking forward to serving on the STA Board of Directors.



## Odds and Ends

### Turf Agriphone

The Turf Agriphone is up and running. There are three options for accessing this information: 1) call toll free 1-888-290-4441 2) call 1-888-466-2372 or 519-824-4120 (x52597) to subscribe to the free email version 3) visit [www.gov.on.ca/OMAFRA/english/crops](http://www.gov.on.ca/OMAFRA/english/crops) and click on the "Agriphones & Crop Updates" link

### STA Scholarship Recipient

Congratulations to Randy McCord of Stratford, Ontario. Randy, the 2004 Ontario Diploma in Horticulture graduating student in the Turf Option with the highest overall mark, is the recipient of a Sports Turf Association Scholarship.

### 2004 STA Membership Fees

Thank-you to all members renewing in 2004! Membership fees are now due. If you haven't already done so, please take a moment to remit them in order to remain a member in good standing. The annual membership roster is now being compiled and will be forwarded on completion.

### STA Membership Plaques

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

### Autumn 2004 Submissions

If you have something you'd like to submit for the next issue, please forward it to the STA office by July 23, 2004.

### Editorial Content

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

# Integrated Pest Management/ Plant Health Care Council Update

JOHN HOWARD, OPA EXECUTIVE DIRECTOR

**T**he Municipal IPM/PHC Working Group has developed *IPM (Integrated Pest Management): A Manual for Municipalities* which will soon be available through the Ontario Parks Association as a resource for municipalities seeking accreditation. The manual explains the benefits of Integrated Pest Management and outlines the steps involved as well as how Plant Health Care (PHC) fits into an integrated approach. This resource also provides information on establishing IPM policies and procedures which should be useful for municipalities and includes some suggestions on designing an IPM/PHC program.



The examination for the Municipal IPM/PHC Accreditation has been completed and once details have been finalized regarding the audit process for municipalities, the program will be handed over to Ridgetown College to administer in conjunction with the existing Lawn Care Industry IPM/PHC Accreditation Program. It is hoped that the Municipal Accreditation process will be up and running this year by early summer.

## Turfgrass Producers Survey

The 2002 Turfgrass Producers International (TPI) Membership Farm Profile Questionnaire was sent to 841 TPI producer members located throughout the world. The 14 page, 352 question survey is the fifth study undertaken since 1984. Results report steady growth and resilience for turf producers. Survey results in the marketing area show that the 3 factors most influential to sales are quality, price and service. Turf producers reach out to customers through referrals, followed by "Yellow Pages," with a new reliance on internet marketing (30% increase since 1997). For more information, contact TPI at 1-800-405-8873 or visit their website at [www.TurfGrassSod.org](http://www.TurfGrassSod.org). The table below is part of the 2002 TPI survey results.

Sites of Turf Installation	2002	1997	1993
Private Residences	54.37%	45.84%	54.27%
Commercial Areas	13.2	19.10	18.5
Golf Courses	10.07	10.80	*
Multi-family Residences	8.25	8.22	8.91
Sports Fields	6.32	6.51	*
Parks & Cemeteries	2.73	3.09	11.13
Roadsides	2.65	3.88	13.22

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## Municipal IPM Lawn Demonstration Project • Cover Story Continued...

RESULTS SHOWED THAT A 40-60% PESTICIDE REDUCTION IN IPM PLOTS HAD LITTLE EFFECT ON TURF QUALITY

... management program. The areas were then subdivided with one side receiving fertility, 2.0 kg/100 m<sup>2</sup> of nitrogen over the growing season, and one side receiving no fertility. Two heights of mowing, 4 and 8 cm, were superimposed on the demonstration area to illustrate the impact of mowing height on turf health and weed infestation. Irrigation was also superimposed upon the area with half the area irrigated and the other half non-irrigated. Rainfall amounts were considered and amount of irrigation was dependent on the rainfall values. However, due to the amount of rainfall over the entire season and lack of visual turf dormancy, we were unable to demonstrate irrigation versus non-irrigation effects.

The trial started at all three locations at the beginning of May 2003 with an initial monitoring for broadleaf weeds. It continued weekly until mid-November with visual ratings, mowing, fertilizing and monitoring for pests and then treatment specific to each of the four management programs in each municipality.

### Results

At the Guelph Turfgrass Institute, conventional plots received a total of five

pesticide treatments whereas the IPM plots received only two, the second application being a spot treatment. In Brantford, conventional plots also received five pesticide treatments. The IPM plots received one broadcast treatment and then two spot treatments.

The London location with only IPM plots received three treatments, a broadcast and two spot treatments. Therefore, there has been a 40-60% reduction in pesticide use in these areas and the reduced usage equals reduced costs. Also, along with pesticide and cost reduction, we have considered the amount of time to monitor and the number of people it requires (Table 1). It is apparent that it takes very little time and labour to see what pests are present and to decide whether a pesticide application is even warranted.

Turf quality was rated visually on a weekly basis and takes into account turfgrass colour, uniformity and density. Overall, turf quality in the conventional

and IPM plots at the GTI and Brantford showed no significant difference (pictured above). The IPM plots in London are comparable to the ones in Guelph and Brantford. Also within each management practice there are differences in quality of the plots with respect to the fertility, as fertility affected the turf colour and the higher mowing height affected density (see front cover picture).

**Table 1. Time spent monitoring for pests at the GTI, May to Nov., 2003. The total area was 1,584 m<sup>2</sup>.**

Pest	Time/1 person/season
Broadleaf Weed Count #1	1 hour 45 min.
White Grub Count	4 hours
Crabgrass Count	2 hours
Hairy Chinch Bug Monitoring	2 hours
Broadleaf Weed Count #2	1 hour 45 min.
Broadleaf Weed Count #3	1 hour 45 min.

In comparison, the no pesticide plots in all three areas had lower overall quality ratings (see picture on page 8). Increases in the percentage of broadleaf weeds from May to November as well as the lack of fertility were major factors affecting the weekly quality in these plots.

European chafer grubs were not a major factor as they were only found in Brantford and London. Crabgrass was only seen at Brantford and London. Hairy chinch bug was found in Brantford however in very low numbers. Sod webworm was not found at any of the three locations.

At the Guelph Turfgrass Institute, the alternative plots showed little differences from the no pesticide plots. The product, Nature's Weed & Feed 7-0-5, proved to be interesting as it required applications every 2-6 weeks throughout the season and was extremely thick and difficult to apply. It was applied with a backpack sprayer at a rate of 5 L product to 5 L water per 100 m<sup>2</sup>. The effect of the Corn Gluten Meal 8-2-0 (10 kg/100 m<sup>2</sup>) as a pre-emergent is not easily shown as there did not appear to be any crabgrass in the entire trial area. Plots receiving both products, due to their fertilizer properties, did not receive any additional fertilizer and did have a better turf colour than the unfertilized plots.

## Conclusions

It is important to note that a 40-60% pesticide reduction in the IPM plots had little effect on quality. Also, with 2-3 pesticide applications (with an emphasis on spot treating) in the IPM plots as well as fertility and a higher mowing height, the turf appeared healthier than no pesticides or no superimposed treatments. Along with pesticide reduction, there is a reduction in cost and that can be achieved with very little time and labour.

Season two will prove to be interesting as the impact of decreased pesticide use on the IPM plots as well as zero pesticides on the no pesticide plots will be greater felt. We're also hoping to see if pesticide reduction can be sustained over more than one year and if there is further reduction of quality and weed invasion in the no pesticide plots. A quicker spring start with the alternative product Nature's Weed & Feed might show more of an impact and maybe some new products will be investigated. Also, if there is lower rainfall

it will show the differences in irrigation versus no irrigation.

Turfgrass insects were not an issue in all three municipalities. European chafer grubs were present in Brantford and London, however there was not significant pest pressure. Hairy chinch bug was also found in Brantford. Perhaps next season will bring more insect issues into account. Aeration versus no aeration will also be added.

Part of the project's objectives was to educate area residents and turf managers and this was achieved in several ways. In Guelph, the demonstration area received press attention with two articles in the *Guelph Tribune*, a city-wide distributed newspaper. Approximately 100 area researchers, turf managers and industry personnel visited the plots during the Annual GTI Research Field Day. The plots were available for viewing during a public Open House on an evening in August. About 50 people came out for a look and were able to have some... → page 8

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No pesticide plot.  
London, August 14, 2003.

questions about their own lawns answered. In October, a small class from the Niagara Parks School of Horticulture visited and they had a tour of the plots as well. Over the winter, results were presented at the Ontario Turfgrass Symposium, Turf Managers Short Course and the Landscape Ontario IPM Symposium in Barrie, London, Toronto and Ottawa.

For more detailed information about this project, please visit the website [www.gti.uoguelph.ca/OPAC](http://www.gti.uoguelph.ca/OPAC). ♦

### Acknowledgements

This project is funded by the Ontario Pesticide Advisory Committee. I would like to acknowledge the following people and organizations:

- Pam Charbonneau, OMAF
- Entire GTI Staff
- Dennis Wale, City of Brantford
- Bruce McGauley, City of London
- Ken Pavely, Landscape Ontario
- Chuck Egleston, Hydro Agri Canada
- Darcy Olds, Bayer
- Brenda Nailor, Engage Agro
- Allan McFadden, Dow AgroSciences

## Guest Editorial: Facing Challenges

ARTIFICIAL TURF CONTINUES TO BE AN OPTION IN THE US

Until man can duplicate a blade of grass, nature will laugh at his so-called scientific knowledge. ~ Thomas Edison

Sports turf managers are used to challenges. We face them every day in one form or another. The trend of artificial turf field installations, including replacement of natural turf fields with artificial turf systems, has added yet another challenge for our profession. As sports turf professionals, we must be a source of facts when decisions are made about installing a specific type of turf. Installation decisions made today produce the playing surfaces that we will be managing tomorrow and for years to come.

Surveys show that a good natural grass field is still the overwhelming preference of players and fans alike. However, as we are aware, no grass surface will withstand unlimited use and still provide the desired playing conditions. As professionals, our goal is to provide the best playing surface possible for all levels of play, regardless of the surface involved.

We must look at these new systems not as a threat, but as another tool that can help us do our jobs better. The new turf systems are clearly superior to the old artificial turf. There exists a place for these surfaces; such as in an environment not conducive to natural grass or on fields that receive so much wear that it is impossible to adequately maintain a natural grass field.

Currently the marketing departments of installers and manufacturers are supplying most of the information on the new systems. Unfortunately, some field installation decisions are being based on this information with little or no input from the sports turf professional. I would encourage the companies marketing these artificial surfaces to recognize the professional turf managers at our facilities and accept us as the experts on our sites. Sports turf managers should

expect to be a part of the decision-making process, and these companies can do a lot to further this ethical practice.

Much of the information about the new systems we hear today sounds very similar to that of the late 1960s and 1970s. Over time, we learned the strengths and weaknesses of those fields and that every option has both pros and cons. We have gone through the same learning process with sand-based natural grass fields. At this time, we simply do not know how these new fields will perform and hold up over an extended period.

As an organization, the Sports Turf Managers Association (US) must assume a leadership role in gathering and disseminating information concerning artificial turf, just as we have with natural turf fields. We must take part in the discussions and learning process by providing facts and relevant research, by sharing our experiences with these surfaces, and by working with other turf-related associations to help compile the body of information on these surfaces. As sports turf managers, we must become aware of all of the issues related to all of the athletic field options so that we are adequately equipped to be involved in the decision-making process to determine what type of field best fits our particular situations.

I ask you, as professionals, to provide your input on this new generation. Bottom line: To ignore this issue is to do so at our own peril. ♦

— Bob Campbell, CSFM, President, Sports Turf Managers Association. *Excerpt from SPORTSTURF*, Vol. 19(4), April, 2003.

**Editor's Note:** Representatives of the City of Mississauga will discuss their artificial turf infill system at Parkway Belt Park 357 at the STA's 17<sup>th</sup> Annual Field Day, Thursday, Sept. 16 (see inside front cover).



## Highlights of the 2004 Revision of the United States Golf Association Specifications for Putting Green Construction



Since their release in 1960, the USGA's specifications for green construction have been the standard in the golf industry across North America and many other areas of the world. The purpose of the specifications is to provide a consistent, high quality golf green. They are also often used as specifications for high end sports fields. The specifications are reviewed periodically and updated as new construction techniques and products become available and as scientific research proves them reliable. The last updates to the USGA Recommendation for Putting Green Construction were in 1993.

Increasing demands on putting greens coupled with volumes of research into new construction techniques and amendments for golf greens have prompted a review of research findings and incorporation of those techniques and products which have proven effective. Over a hundred scientists, agronomists and industry experts reviewed the scientific literature to incorporate some of these research findings into the recommendations. In April 2004, the revised *USGA Recommendations for a Method of Putting Green Construction* were released.

One main change deals with the addition of the recommendation to include the use of a flat pipe in addition to round PVC drain pipe. As well, there are changes in gravel size recommendations for greens where an intermediate layer is not used. As an alternative to round pipe placed in a trench, flat pipe placed directly on the prepared subgrade may be used, provided the flat pipe conforms to ASTM D 7001, is a minimum of 30 cm in width, and is not covered by a geotextile sleeve. The flat pipe should be stapled to the subgrade, or otherwise held in place to prevent shifting during construction.

In addition, there are changes in gravel size recommendations for greens without an intermediate layer. In previous recommendations, the bridging factor specified that the D15 of the gravel be less

than or equal to 5 times the D85 of the rootzone. This has changed to the D15 of the gravel to be less than or equal to 8 times the D85 of the rootzone. The permeability factor remains the same. The uniformity factor specified that the D90 of the gravel to D15 of the gravel must be

diatomites and zeolites can be used in place of or in conjunction with peat in root zone mixtures, provided that the particle size performance criterion of the mix are still met. The performance criteria are represented by the physical properties of the root zone mix. The USGA also

**Table 1. Size Recommendations for Gravel When Intermediate Layer is Not Used.**

Performance Factors	Recommendations
Bridging Factor	D15 (gravel) less than or equal to 8 X D85 (rootzone)
Permeability Factor	D15 (gravel) greater than or equal to 5 X D15 (rootzone)
Uniformity Factors	D90 (gravel)/D15 (gravel) is less than or equal to 3.0 No particles greater than 12 mm Not more than 10% less than 2 mm Not more than 5% less than 1 mm

less than or equal to 2.5. That has changed to have the D90 of the gravel to the D15 of the gravel to be less than or equal to 3.0. There are additional uniformity factors. No particles in the intermediate layer can be greater than 12 mm diameter. Not more than 10% of the particles can be less than 2 mm diameter and not more than 5% can be less than 1 mm. These changes are summarized in Table 1.

The key to the success of these new recommendations is to work closely with soil testing laboratories to select the gravel. These changes will make materials that comply with the specifications easier to obtain and reduce construction costs.

Secondly, porous inorganic amendments such as calcined clays, calcined

**Table 2. Physical Properties of the Root Zone Mix.**

Physical Properties	Recommended Range
Total Porosity	35-55%
Air-filled Porosity	15-30%
Capillary Porosity	15-25%
Saturated Hydraulic Conductivity	Minimum of 150 mm/hr (6 inches)

specifies that it requires that any of these amendments be incorporated throughout the whole 30 cm depth of the rootzone mixtures. The physical properties of the root zone mix are presented in Table 2. These have not changed from the previous recommendations.

For a complete copy of the 2004 recommendations, visit the USGA web site at <http://www.usga.org/green/coned/greens/recommendations.html>. ♦

## Decoders: The Future in Irrigation Control

ANDREW GAYDON, VANDEN BUSSCHE IRRIGATION & EQUIPMENT LTD.

**T**here is a new system of irrigation control available for commercial and municipal properties across North America. Decoders, technology long since proven in Europe and in the golf industry, are quickly gaining popularity on large turf sites.

Perhaps their most prominent feature is what you don't see. Because they are buried underground in valve boxes beside the solenoid valves, decoders are truly "out of sight, out of mind," making them a great weapon in the battle against vandalism.

### What's a Decoder?

Decoders have been the standard irrigation control technology in Europe for years. Decoder systems use a single pair of wires to operate a large number of stations with individual decoders connected along a two-wire path. Each decoder is its own small control unit that is separately addressable with both power and signal sent over the same pair of wires.

Decoder systems offer many benefits to both the installer and system operator. First, less copper wire and associated labour reduces cost and simplifies troubleshooting. In addition, stations can be added easily in the field after initial installation without digging in new wires and fewer controllers are required to operate large numbers of stations over long distances. Also, decoders are

electrically efficient, allowing more stations to run at once. Best of all, decoder systems are easy to operate. Either a computer or a simple programmable keypad is used.

### Where Decoder Systems Work Best

Systems with 24 valves and larger are usually the best candidates for decoder applications. Phased projects where it would be difficult and expensive to run wires back to a controller, or where the final number of zones is undetermined, are ideal for this system as well.

Potential uses for decoder systems would be at such sites as industrial parks, sports fields, cemeteries, multi-family home projects, commercial projects and large estates.

Surge protection is vital to the reliable operation of all decoder systems. With the installation and use of grounded in-line surge protectors, decoders are readily equipped to handle sites where lightning strikes or electrical spikes are a big concern.

### How Do They Work?

Decoders can make a large system more affordable and efficient to install since these small control units receive both power and signals over the same pair of wires (solid copper wires wrapped in a polyethylene jacket). The wires are designed for direct burial and when



Standard practice in Europe for years, decoder systems use a single pair of wires to operate a large number of stations with individual decoders connected along a two-wire path.



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possible, are run under pipe for maximum protection.

Controllers, available in stainless steel or plastic key-lockable pedestal versions, permit control of up to 100 stations (plus a pump/master valve) from a single controller. From the controller, a single twisted pair of wire is run through the area to be irrigated. A decoder is spliced into the two-wire path. Decoders, in turn, are connected to their solenoids and additional decoders are spliced in as needed.

When the controller turns on a station, it sends power down the twisted wires along with a digital signal specific to a particular decoder. As the decoder hears its own signal, it applies voltage to the solenoid and communication from controller to the field is complete.

Of course there is the obvious benefit of being able to control and adjust irrigation in the field from a single location. Also, up to 65 programs can be stored in the controller's non-volatile memory allowing the system to water massive irrigation schedules.

With such a high capacity controller, your complete system will require fewer controllers to operate all of your sprinklers without giving up local access (in view of your plants) that field controllers provide. Plus, the two-wire decoder path also makes retrofitting new stations after the initial installation a snap – just snip the wires and splice in another decoder.

As a decoder is actually a simple switching device, there are many functions that it can perform for the benefit of the



**Projects that can benefit from a decoder irrigation system include:**

- School and Industrial Campuses
- Parks and Cemeteries
- Town Centres, Urban Plazas and Shopping Malls
- Businesses with Branch Locations
- Apartment Buildings and Condominiums
- Large Residential Estates and Homeowner Associations
- Sports Field Complexes

In addition to the standard four independent programs, two other distinctive programming options are available. One is blocks, from where 2-8 stations can all be turned on at once and irrigated together. The other is presets, custom programs created to perform special applications only run when instructed from the keypad.

operator. For example, rain sensors and/or moisture sensors as well as flow sensors can be installed. The latter are particularly useful in shutting down the system if there is a water restriction or a pipe break.

Finally, decoders can operate gates, lights and any other security applications on the park site. ♦



**STA NEW MEMBERS**

*Welcome Aboard!*

**Garry Durnan, Geoff Freshwater & Jason Rennick**  
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**Jason Harris**  
Plant Products Co. Ltd.  
Brampton, ON

## STA Member Profile

Cam Beneteau • Manager, Grounds/Arena Department • Ridley College • St. Catharines, Ontario

### What is your role at Ridley College?

My title is manager of the grounds/arena department. My role is to attend property and landscape committee meetings as well as set budgets, schedule work and employee shifts. I also do all the purchasing for the department and oversee the day to day operations.

### What kind of team do you work with?

The core group has four full time employees. We bring in four students to help with landscape projects along with some of the daily jobs. I am happy to say that our full time staff is knowledgeable and have been with the school for a number of years.

### What are you and your team responsible for?

We are responsible for the maintenance of all the turf and gardens during the growing season. We do some landscape projects and we also do the preparation for all sporting events. During the winter months, we are responsible for the ice maintenance and flooding for the user groups along with snow removal. We also look after all of our equipment maintenance.

### What is the biggest challenge in your job?

I find there are two extremely difficult challenges in my job. The most difficult is trying to get all of our work done on a very tight schedule. A heavy field usage schedule along with a small department creates a real nightmare for scheduling work. I also find it difficult to juggle budget monies to accomplish much needed work especially when I have very little control over determining exact costs.

The only fixed spending for me is fertilizer and everything else is an experienced guess.

### What is the most satisfying part, what makes the job worthwhile for you?

To look at the quality of the grounds and to accomplish what we do with so little. I myself was determined to provide athletes with better quality facilities than what I had when I went to high school. The ultimate compliment was paid to us last year when the Headmaster told us that some students had enrolled at the college and the determining factor was the campus and quality of the outdoor facilities.

### What is the biggest misconception about your job?

Simply put, it is not that difficult to maintain the grounds. Many compare caring for a 100 acre campus with maintaining their own home lawn and gardens. We also have many who think that our department is off during the summer months, as are the teachers. It has taken me over ten years to explain and teach others how and why we do things.

### What is your educational/employment background?

I received my ODH in general horticulture in '82 and my ODH in turf management in '92. I also received certificates of achievement as a home gardener in '89 and in grounds maintenance services in '96. I studied business administration for one year at university. Finally, I've spent 14 years in the horticultural industry (garden centres, nurseries and landscape maintenance) and 16 years in the sports turf industry.

### Tell us about your family.

I was born and raised in the Windsor area. I moved to the Niagara Peninsula in '83 to continue my career in horticulture. This is where I met my wife Lori with whom I have been happily married for 14 years. Lori is presently employed as a keeper/horticulturalist at the Niagara Falls Aviary. My daughter Lindsay works in the field of law and security and resides in the Windsor area.



### What do you enjoy doing outside of the workplace? Hobbies, favourite past times?

I'm a sports buff. At present, I play squash and attempt to play golf. I enjoy working on home renovation projects and gardening. I also enjoy having pets around the house.

### What direction(s) would you like to see the industry, as a whole, move towards?

I have found throughout my career that many people do not take our industry seriously. There are inconsistencies in the industry such as hiring practices and

standards of care for sports fields that contribute to these inconsistencies. We need to reach common denominators when it comes to hiring practices. Employers need to demand prerequisites like schooling and minimum years of experience. We also need to set standards for wages and minimum standards for sports field maintenance. By doing this, we create consistency throughout the industry and therefore our credibility increases. Our voices are weak right now because of these inconsistencies. This proves difficult when trying to fight such things as pesticide bans.

### What do you consider to be the biggest benefit of being a member of the Sports Turf Association?

Being a member of this association provides me with the tools needed to succeed in this industry. The association offers seminars and field days geared to our special needs. It also affords me the opportunity to keep up on the educational aspect of our industry. I benefit from the business contacts and can meet and discuss topics with fellow members. ♦

### How Do You Learn?

#### A LEARNER TENDS TO REMEMBER:

**20%** of what the learner hears; your verbal instructions to them.

**30%** of what the learner sees; while they watch the job being demonstrated.

**50%** of what the learner sees and hears; while you explain the job and demonstrate it at the same time.

**70%** of what the learner says while talking; they are repeating the steps to you.

**90%** of what the learner says while doing something; they are verbalizing about the job while actually showing you the various steps.

— *Farmsafe*, Farm Safety Association, Volume 29(2), Spring 2004

# Environmental Benefits of Turfgrass

DR. JAMES B. BEARD, PROFESSOR EMERITUS, TEXAS A&M UNIV.

**A**s well as being attractive, turfgrasses have numerous important functional purposes. These important dimensions that contribute to our quality of life are too often overlooked.

### Functional Benefits

- Soil erosion control – the best and most cost-effective means for protecting a vital resource.
- Dust stabilization – the best and most cost-effective approach.
- Reduces precipitation run-off (flood control) due to a dense canopy biomass.
- Increases ground water recharge by water entrapment in dense canopy.
- Active entrapment and biodegradation of organic chemicals via a large, diverse microbial population.
- Atmospheric pollution control, both particulate and chemical, by canopy entrapment.
- Carbon sequestration (soil organic carbon accumulation) in grass-based soils from extensive root decomposition.
- Reduces noxious and nuisance pests – mosquitoes, chiggers, rodents and snakes – Lyme disease, West Nile virus, etc.
- Enhances property security by providing open visual site lines.
- Lowers fire hazard spread via green fire-breaks in urban areas.
- Safety in vehicle operation/equipment longevity on roadside and air fields
- Urban heat dissipation via evapotranspiration.
- Noise abatement – a 40% reduction in 70 ft. of roadside turf.
- Lower water use rate than trees due to lower leaf area per unit land area.

### Recreation and Aesthetic Benefits

- Enhances physical health of participants including cardiovascular functions.
- Serves as a safety cushion against impact injury – best in cost-effectiveness.
- Provides a low-cost surface for outdoor sport and leisure activities.
- Even home lawn care offers physical exercise, especially for senior citizens.
- Improves mental health, especially in urban areas.
- Contributes to social harmony among people.
- Contributes positively to attitudinal work productivity.
- Has therapeutic value to individuals recovering from serious illness.

---

**Among many other benefits, turfgrasses control erosion, increase ground water recharge and enhance property security.**

---

### Summary

Properly maintained lawn and recreational turfs:

- 1) Contribute a diverse array of benefits that make turfgrasses one of the best friends of the urban environmentalists.
- 2) Greatly enhance our quality of life, especially in densely populated urban areas.

### Acknowledgement

This article summarizes a detailed research review paper published in the *Journal of Environmental Quality* by J. B. Beard and R.L. Green. Copyright 2004 by James B. Beard. For a complete copy of the research review paper, contact [info@TurfGrassSod.org](mailto:info@TurfGrassSod.org).

— *Turf News*, Volume 28, Number 2, March/April 2004



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## Understanding Turf Management by Dr. Sheard

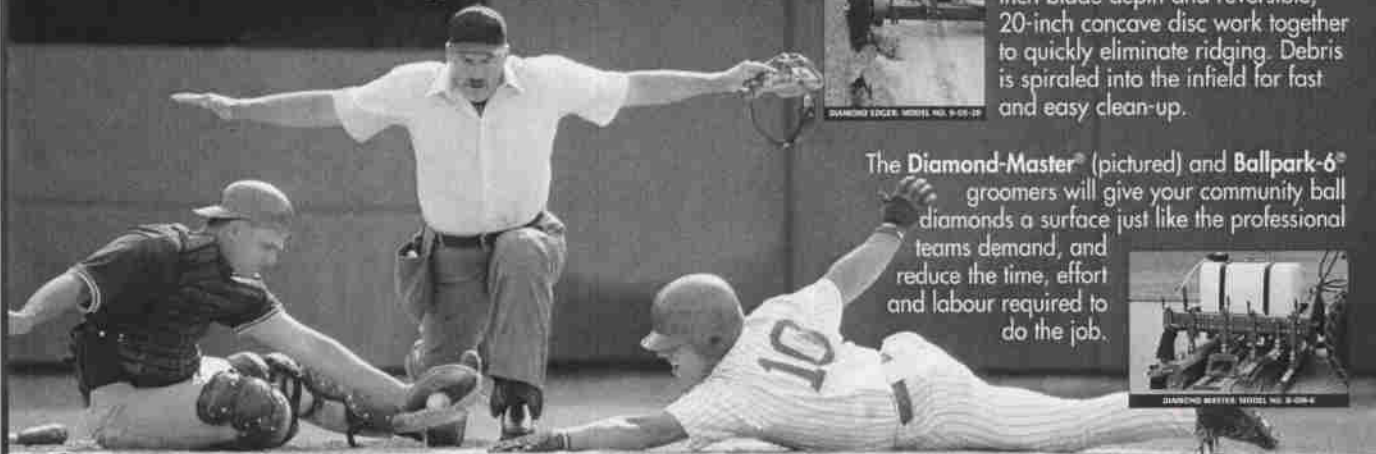
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### Jacobsen Names G.C. Duke Equipment, Ltd. Dealer of the Year

Charlotte, NC, March 3, 2004. Jacobsen, a Textron company, named G.C. Duke Equipment, Ltd. of Burlington, Ontario, as *Dealer of the Year* during the company's annual dealer meeting held in conjunction with the GCSAA show in San Diego, California.

"We are very proud to present this award to G.C. Duke Equipment, Ltd.," said Jon Carlson, President of Jacobsen. "In earning this award for superior performance in both sales and customer service, G.C. Duke demonstrates that Jacobsen dealers do more than just mow."

Jacobsen manufactures a full range of vehicles and turf maintenance equipment for golf, turf, professional lawn care, sports field and industrial applications. The company markets Bob-Cat®, Brouwer®, Bunton®, Cushman®, E-Z-GO®, Jacobsen®, Ryan® and Steiner™ brand products internationally through an extensive distribution network. Jacobsen is a Textron company. Additional information is available online at [www.jacobsen.com](http://www.jacobsen.com).

Textron Inc. (NYSE: TXT) is an \$11 billion multi-industry company with 49,000 employees in 40 countries. The company leverages its global network of businesses to provide customers with innovative solutions and services in industries such as aircraft, fastening systems, industrial products and components and finance. Textron is known around the world for its powerful brands such as Bell Helicopter, Cessna Aircraft, Kautex, Lycoming, E-Z-GO and Greenlee, among others. More information is available online at [www.textron.com](http://www.textron.com).



### New Products for Spring 2004 Unveiled by Plant Science, Inc.

Plant Science, Inc was founded in June 2003 as a research and development company for Professional Sports Turf Fertilizers. Environmental pressures affecting the turf industry have created a demand for new products and services founded on a scientific approach. Plant Science has introduced two new products during the spring of 2004.

**Nature's Time™ 7-2-5** is a 100% Natural and Organic fertilizer derived from plant proteins from soybean and alfalfa meal. Plant protein is in a desirable form for decomposition by soil bacteria producing a consistent slow release nitrogen profile.

Rob Field, President of Plant Science, Inc., congratulates Jane Arnett-Rivers on the first shipment of Plant Science fertilizer received in Canada.

**Tru-prill™** fertilizers combine Nature's Time Plant based organic material with conventional slow release nitrogen to produce homogeneous bridge products.

Plant Science in conjunction with A&L Laboratories offer an extensive technical services program which includes soil, tissue and irrigation water analysis. The information is used to promote balanced fertility as a first line of defense against pressures from insects, weeds, and disease.

For more information contact Plant Science at 1-866-499-0659.



## Safety Snapshot

# Safe Operating Procedures

JANE ARNETT-RIVERS, SUPERVISOR SPORTS & TURF, TOWN OF OAKVILLE

So yet again it's time to train new staff and refresh the rest of us. Training all staff on all equipment can be daunting for both trainer and trainee. One step of starting or operating a piece of equipment missed can compromise all other safety precautions taken. It is imperative that you have a written plan for training and orienting workers. In order to train 60 summer staff in a short period of time, Oakville has devised a system which has greatly improved past practices. By designing a *Safe Operating Procedure* for every piece of equipment, the message is loud and consistent for every employee. Once reviewed, the trainer and trainee sign off that the information is acknowledged and understood. The safety of the operator and the corporation's investment in the equipment is protected. The following is an example of a *Safe Operating Procedure*.

### Standard Operating Procedure • Front Cut Mower • User Department: Public Works, Parks & Facilities

#### WARNING!

This Safetygram is designed as a tool to be used in conjunction with the operator's manual in the safe operation of Front Cut Mower. Further site training and experience are necessary for competent operation.

#### SAFE PRACTICES

- **DO NOT USE** equipment unless trained.
- If equipment is damaged or malfunctions, **DO NOT USE**. Report to your supervisor immediately.
- **DO NOT REMOVE** or circumvent any safety devices on the equipment.
- **ALWAYS WEAR** prescribed personal protective equipment.
- **FAMILIARIZE** yourself with the operating manual before use.

#### PERSONAL PROTECTIVE EQUIPMENT

- Safety footwear
- Gloves
- Hearing protection
- Long pants
- Eye protection

#### PRE-USE INSPECTION & MAINTENANCE

- Use diesel
- Use 15W40 Oil
- Refuel on hard surface
- Check all levels
- Clean entire machine daily
- Grease all fittings as prescribed
- Ensure all guards are in place and secure

#### STARTING PROCEDURE

- Understand how to start and stop machine
- Adjust seat and (mirrors) to suit you
- Remove feet from the pedals, turn the implement switch to the off position and engage the hand brake
- Turn ignition switch to the ON position
- Depress the glow plug if cold for 7 seconds
- Turn key to start engine

#### OPERATING PROCEDURE

- Walk area to be cut checking for debris that could cause damage to equipment, operator or property
- Do a complete circle check each day before starting
- Make sure mower is set at the proper height
- Be aware of people and surroundings close to work area
- Never leave running when unattended
- Always stay well clear of bystanders, be aware of chute direction
- WEAR SEAT BELT
- DO NOT engage blades until mower deck is lowered, disengage blades prior to lifting deck
- Mow so discharge is away from uncut area
- Mow across the face of slopes, never up or down. Keep off of wet slopes
- To STOP, slow engine speed by moving throttle lever to stop position and releasing deadpan lever



## TRANSPORTATION

- Shut off machine
- When loading avoid hot parts
- Always make sure mover is properly secured before transporting

## CAUTION

- Use only CSA approved fuel containers with WHMIS label attached
- Familiarize yourself with the manufacturer's recommended operating procedure
- Wear all necessary PPE when operating this machine
- Never operate this equipment if it is broken or you feel that it is not running properly
- Exercise caution when refuelling
- Never tow this vehicle
- Never unclog machine with hands or feet while still running
- Keep hands and feet away from cutting blade while machine is running
- Never bypass or disconnect any switches
- Exercise caution when refuelling
- Never use your hands to search for hydraulic oil leaks
- Avoid stopping or starting suddenly
- Before leaving the operator's position for any reason; disengage all drives, lower implements, set the parking brake, shut the engine off and remove the key from the ignition

Reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_

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Ontario Parks Association  
Annual General Meeting & Summer  
Educational Institute  
Oakville, ON  
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www.opassoc.on.ca

### July 27-30

Turfgrass Producers International  
Summer Convention & Field Days  
Harrisburg/Hershey, PA  
Info: (847) 705-9898  
www.TurfGrassSod.org

### August 17

Guelph Turfgrass Institute  
Summer Research Field Day  
Guelph, ON  
Info: (519) 767-5009

### August 23

Ontario Turfgrass Research Foundation  
Fundraising Golf Tournament  
Burlington G & CC, Burlington, ON  
Info: email cchar26920@aol.com



### September 16

Sports Turf Association  
Annual Field Day  
Mississauga Valley Community Centre  
Mississauga, ON  
Info: (519) 763-9431  
www.sportsturfassociation.com

### October 20-21

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Garden Expo featuring Florist Expo  
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New York State Turfgrass Association/  
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### January 11-13, 2005

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