



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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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 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. ♦



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U of G Hires New Turfgrass Faculty Member

DR. ERIC LYONS JOINS DEPARTMENT OF PLANT AGRICULTURE

Dr. 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 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

The 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. 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 m² 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 m².

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 m². The effect of the Corn Gluten Meal 8-2-0 (10 kg/100 m²) 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. ♦

Acknowledgements

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- Pam Charbonneau, OMAF
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- 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 17th 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.

There 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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