

SPORTS TURF MANAGER

... for safe, natural sports turf

SUMMER 2003 • VOL. 16, NO. 2

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16th ANNUAL STA FIELD DAY

Mark your calendar now! On Wednesday, September 17, sports turf industry professionals including indoor and outdoor exhibitors will be gathering in Scarborough for our popular annual event. This year's keynote speaker is Larry Noon, Turf Manager of Edmonton's Commonwealth Stadium. See page 11 for further information and stay tuned for a detailed brochure and registration package.



Sprayer Calibration

DO IT RIGHT AND DO IT OFTEN! **Helmut Spieser, OMAF**

The mere mention of sprayer calibration makes some people cringe. Everyone knows that calibration is an essential part of the spraying system but nobody likes to do it. There are many calibration techniques available including calibration bottles, jugs, calibration calculators and many more.

Calibration means different things to different people. Depending on your definition of sprayer calibration, various techniques give you more information than others. If your calibration technique involves spraying a given amount of water over a known area, the only thing you know with confidence is the average output of the boom per unit area. Variability within nozzle to nozzle or boom section to boom section will not be evident using this method.

Ranking Calibration Techniques

1. Check every nozzle measuring true ground speed, nozzle spacing, etc.
2. Spray a known amount of water on a known area.

3. Start with full sprayer, spray known area, measure water added to fill sprayer.

Proper calibration of a sprayer should tell you two things. First, calibration will show you the exact application rate, gallons/1000 ft², of your sprayer with the nozzles, spray pressure and travel speed that you have chosen. This application rate is then used to calculate the amount of product required per tankful of spray.

Second, calibration will show you the uniformity of output of each nozzle across the boom. As you apply 1 gallon/1000 ft² and higher, any small differences in internal diameter of fittings or differences in internal hose resistance may... → page 12





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Jacques Gosselin
President

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

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EDITORIAL COMMITTEE

Jane Arnett-Rivers, Andrew Gaydon, Lee Huether and Paul Turner

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

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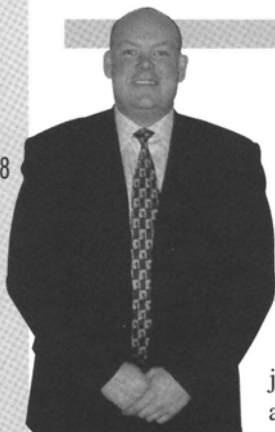


STA OFFICE HOURS

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

PAUL TURNER



Happy Growing!

A warm spring welcome to our membership. As I write this, it finally looks like summer is just around the corner and I hear it's supposed to be a hot, wet one. I most certainly will not complain. This was a long, cold, snowy winter but I guess the reality is that we live in Canada not the Bahamas!

Greening grass is a sign that it's time to renew your STA membership. It was necessary to increase annual fees slightly for the 2003 season, but I think you would agree that the membership still represents great value for the price. The new updated roster is being compiled based on information provided with membership renewals and will be mailed upon its completion.

STA Web Site

To all our members who are using the web site, we say a big thank you and to any potential advertiser who may be interested in purchasing a banner ad, there are still great marketing opportunities available at very reasonable rates. The newly developed site is garnering an unbelievable amount of visits and we will continue to enhance the site to make it fun and resourceful for you our membership and for any visitors. We are looking at the possibility of adding a job board so if your municipality or organization is looking to fill some vacancies, please give Lee a call for an update. There will be a nominal charge for this service but given that our site caters to the key turf professionals in our industry, it may be money well spent.

Annual Field Day

The plans for this year's field day are proceeding well. We are extremely excited to announce that our venue will be held at the University of Toronto, Scarborough

Campus. We thank Gord van Dyk and his staff for submitting an application to host this year's event. If you haven't been there before it is a scenic campus with lots of great rolling hills in the west end of Toronto, very close to Highway 401, with lots of parking. The date for this year's event is Wednesday, September 17th. Please mark it in your day planners to attend. We need a great attendance to keep this event rolling. We have lined up a good combination of speakers to discuss very relevant and functional topics.

Mark your calendars now for STA's popular Annual Field Day September 17th at the University of Toronto, Scarborough Campus.

I would like to say thank you to Board Member Rick Lane for volunteering his time to speak at the Communities in Bloom National Awards & Symposium on Parks & Grounds, September 23 to 28, in Stratford, Ontario. See page 4 for details.

To all our members, I hope you had a great spring and the weather gods look kindly on us so we can grow some fine, lush turf this summer. ♦

STA Scholarship Recipients

Congratulations on your hard work and achievement!

Tennessee Propedo

Supervisor, Parks East
City of Hamilton, Ontario
2003 Turf Managers' Short Course

Glen Kralka

Sault Ste. Marie, Ontario
2003 Ontario Diploma in Horticulture (Turf Option)

News Clippings

COMMUNITIES IN BLOOM • IPM PROJECT AT THE GTI IN GUELPH

The Sports Turf Association, as a partner in Communities in Bloom, is participating in the National Awards & Symposium on Parks & Grounds from September 23 to 28 in Stratford, Ontario. Rick Lane, Manager of Leisure Services for Haldimand County and STA Director, will be presenting *A Grass Roots IPM Program for Sports Fields*.

As communities become more aware, more concerned and desire more input in the care and control of their environment, municipalities have to answer some tough questions. Whether the driving force is political or ecological, the debate will take



place and resolutions will be reached. Where does quality turf fit in? Through proper turf management techniques, you can give the grass a fighting chance against weeds and insects. For more information on this year's national symposium, visit www.communitiesinbloom.ca.

IPM Demonstration Project

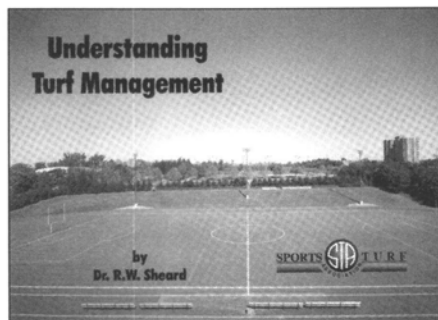
The Guelph Turfgrass Institute has received funding from the Ontario Pesticide Advisory Committee to conduct an integrated pest management (IPM) demonstration project for educational purposes.

The project will demonstrate lawn maintenance under three regimes: conventional management with seasonally timed pesticide applications, an IPM regime, and pesticide free management. Superimposed will be two heights of mowing as well as irrigation or no irrigation. The demonstration plots will be established at the GTI and in two other southern Ontario municipalities.

We will be including updates over the season from all sites through *The GTI Advisor* and on our website. Information from the project will also be distributed to Ontario municipalities and will provide a template for additional demonstration projects in the future.

The project is being coordinated by GTI Research Associate Erica Gunn with technical support from OMAF Turfgrass Specialist Pam Charbonneau. Mark your calendar to attend the Summer Research Field Day on August 19th to see this and other projects being conducted at the GTI.

The GTI Advisor is produced by the Guelph Turfgrass Institute (<http://gti.uoguelph.ca>) and is available free on the website or by sending an e-mail to advisor@gti.uoguelph.ca indicating you wish to subscribe.



Understanding Turf Management by Dr. Sheard

Available from the STA

A practical manual for the management of safer, natural turf facilities for outdoor sports. The concepts are applicable for any turf manager, from golf course superintendents to the parks supervisor, whether maintaining golf greens, sports fields or race tracks for thoroughbreds. To order, call 519-763-9431 or visit www.sportsturfassociation.com.

Odds and Ends

Turf Agriphone

The Turf Agriphone is up and running. There are three options for accessing this information:

- 1) Call 1-888-290-4441
- 2) Call 519-824-4120 (x52597) to subscribe to the free email version
- 3) Go to the OMAF web site to see the weekly messages at <http://www.omafr.gov.on.ca/scripts/english/crops/agriphone/index.asp#Turfgrass%20Management>

Quotes of the Month

A perfect summer day is when the sun is shining, the breeze is blowing, the birds are singing, and the lawn mower is broken.

James Dent

Ah, summer, what power you have to make us suffer and like it.

Russel Baker

Membership Plaques

Now available! STA Display Membership Plaque in executive engraved walnut. Just \$50 plus S&H. Contact Lee Huether at the STA office to order.

Autumn 2003 Submissions

If you have something you'd like to submit for the next issue, please forward it to the STA office by July 11, 2003.

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.

Voice Your Opinion!

We appreciate all member feedback. To make this process easier, we have a form on our website, www.sportsturfassociation.com, under the "newsletter" link called *Feedback*. Check it out!

Coming Events

CHECK OUT WWW.SPORTSTURFASSOCIATION.COM FOR UPDATES...

July 22-25

*Turfgrass Producers International
Summer Convention & Field Days*
Bellbrook, Ohio
Information: (847) 705-9898
www.TurfGrassSod.org

August 12

*Ontario Turfgrass Research Foundation
Fundraising Golf Tournament*
Copper Creek Golf Club
Kleinburg, ON

August 19

*Guelph Turfgrass Institute
Annual Summer Research Field Day*
Guelph, ON
Information: (519) 824-4120 x52501

September 17

*Sports Turf Association
Annual Field Day*
University of Toronto
Scarborough, ON
Information: (519) 763-9431
www.sportsturfassociation.com

September 21-24

*Ontario Parks Association
Annual General Meeting*
Stratford, ON
Information: (905) 524-3535
opa@opassoc.on.ca

September 23-28

*Communities in Bloom National
Awards & Symposium on
Parks & Grounds*
Stratford, ON
Information: (519) 271-0250 x241
www.communitiesinbloom.ca

October 22-23

*Landscape Ontario
Garden Expo, Toronto, ON*
Information: (905) 875-1805
www.landscapeontario.com

January 6-8, 2004

*Ontario Golf Course Management
Conference and Trade Show*
Toronto, ON
Information: (905) 602-8873 x 222

January 13-15

Landscape Ontario Congress
Toronto, ON
Information: (905) 875-1805
www.locongress.com

January 20 - 21

Ontario Turfgrass Symposium
Toronto, ON
Information: (519) 767-5000
www.open.uoguelph.ca/ots

February 19-21

*Turfgrass Producers
International Midwinter Conference
and Exhibition*
Santa Barbara, California
Information: (847) 705-9898
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Contact the STA if you have an event you'd like to advertise in the next issue of the *Sports Turf Manager*.



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Sports Field Aerification: Can you afford *not* to do it?

DALE GETZ, CSFM, THE TORO COMPANY

Aerify, aerify, aerify and when you're done, aerify some more. This is the mantra we've heard for the last 20 years and longer. But what does aerification really do for the turf and for the soil? How does it help sports turf? Is there a "best" method? Is there a "best time" to aerify? Can I afford aerification? Can I afford not to aerify? These are the questions I hope to answer.

Aerification is one of the most important cultural activities you can do for turfgrass management and sports turf in particular. Let's look at what we are really asked to do for the sake of sports and how aerification can help. You, as sports turf managers, have to take care of a living, breathing (respiring), growing entity that is 35 times shorter than a six foot human and hundreds of times lighter than a 200 pound human and make it not only survive, but thrive, while being played on, tromped on, overused and abused in many ways.

We want our sports fields to play safely, look great and perform well under a variety of environmental conditions. If you can do all of the previously mentioned under these conditions, you are a genius. Before you get too disappointed and depressed, however, there are some answers, some techniques you can use to help you win the battle. While I can't address all the issues in this article, we can address one of the most important – aerification.

Aerification Basics

What does aerification really do? Essentially, aerification breaks up soil aggregates that have become severely compacted. Aggregates are soil particles that have adhered forming larger clumps or peds. A well-aggregated loamy soil, for example, will consist of 50% pore space and 50% solids. Through compaction, successive periods of wetting and drying and the chemical processes of soil particles, these aggregates become harder and denser, limiting the ability of water and roots to penetrate them and extract needed nutrients. These compacted aggregates

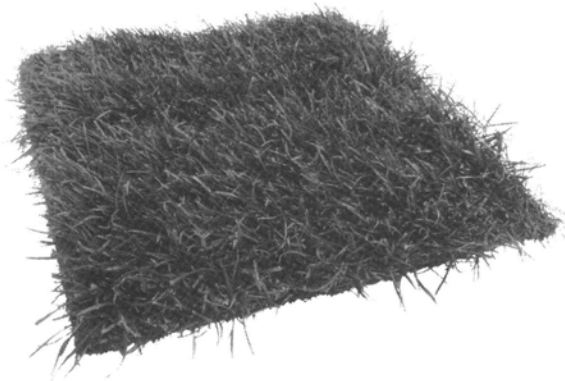
also hinder the ability of the roots to penetrate deeper into the soil where adequate nutrients and moisture may exist. So what does aerification really do?

- Relieves compaction
- Improves water infiltration
- Promotes deeper rooting
- Improves nutrient availability & uptake
- Improves toxic gas exchange
- Improves drying of the soil

Aerification also has additional benefits related to the overall health of the turf. Aerifying can be used to modify the root zone soils. By picking up or harvesting the cores during core aerification and then topdressing with a coarser material such as sand or a sand/peat mixture, you can improve the texture of the root zone soil so it is not as prone to compaction in the first place. Aerifying and topdressing or dragging in the cores can help control the thatch layer. Finally, aerification can provide one of the best seedbeds for overseeding purposes.

Impediments to a Solid Plan

With all the advantages of aerification for the development of healthy turfgrass, it's hard to imagine someone not having an aggressive aerification plan. But what about the disadvantages – there actually are some. The biggest, of



course, is the cost. The cost of equipment purchases, labour and time. But don't let this deter you. Equipment can be purchased, leased or rented, or the entire service can be contracted. Aerification is such an important practice it cannot be ignored if you want to have healthy turfgrass. Another disadvantage is that aerification can bring weed seeds to the surface and promote their germination. Finally, if done at the wrong time of the year, aerification can cause desiccation to the turfgrass around the hole and cause surface disruption which could impede play.

Sports turf management presents unique challenges in that most sports are played more intensively in pockets or concentrated areas of the field. For example,



in baseball the area in front of the pitcher's mound and the outfield position locations get more use. In football, it's the area between the hash marks and the sidelines that gets the most concentrated use and in soccer and lacrosse, it's the goal mouth. This is both a blessing and a curse. A curse is the fact that: 1) These areas are super compacted, 2) They cannot be moved from week to week in most cases, and, 3) They are overused so finding time to promote good turf growth is limited.

The blessing is that these areas are relatively small in size so what may seem like a daunting task can actually take less time and budget dollars to complete than originally anticipated. In other words, you can concentrate your efforts on the areas that need your attention the most.

Aerification Methods

Core aerification is the process by which actual cores or plugs of turf and soil are pulled up and brought to the surface. This is by far the most beneficial type of aerification for the turf. By doing this you actually decrease the bulk density of the soil. You can then drag or break up the cores allowing the soil to refill the holes in a less compacted state. You can also pick up the cores and topdress with sand (masonry sand works very well for this and is readily available but it is wise to have your soil and sand tested to determine compatibility).

The downside to core aerification is the surface disruption and the time it takes for dragging, topdressing and cleaning up but, once again, concentrating on small areas can go relatively quickly. Also, choosing smaller tine sizes can minimize the disruption; however, it will also minimize the beneficial effects you are trying to achieve. The other downside is that the surface disruption can affect play and surface stability, especially in sand based soils, so timing is very critical. Do not core aerify within two weeks of major events on your field. This will give time for the turfgrass to heal and the surface to stabilize.

Solid tine aerification simply pokes holes into the soil. This can be beneficial when there is a need to aerify during the playing season. For example, you may want to aerify after a game or event that has been played in wet conditions and you

need to loosen the surface to aid in gas exchange or water infiltration (be sure to allow time for the soil to adequately dry before aerifying). The surface disruption is much less and there is no need to clean up with solid tines. Solid tines are available in many different sizes depending upon the situation at hand. One caution, though, is that because you don't actually remove cores from the soil, repeated solid tine aerification can cause compaction at the hole depth and some evidence even suggests that glazing of the sides of the holes can inhibit water infiltration, particularly when soil moisture is high.

Water injection aerification is another valuable tool at your disposal. In this method, water is injected into the soil at 600 mph (5,000 psi). Each burst of water leaves a surface hole of less than 1/4" but can affect up to a 3" diameter of soil below the surface. Water injection aerification causes virtually no surface disruption and can even be used prior to sporting events. Water injection is used

adequate job in large open areas where the soil is not too compacted but several passes may be needed to get the spacing you want. Depth of aerification is highly dependent on soil moisture and type. Also, since the tines are mounted on a drum or roller, they have a tendency to tear the turf and disrupt the soil much more than other types.

Reciprocating aerifiers are designed so the tine enters the soil vertically. This leaves a much cleaner hole and the down pressure guarantees a uniform depth. Reciprocating aerifiers come in many sizes from walking units to large 80-inch units pulled behind tractors. Reciprocating units have a wide variety of tine sizes; some are designed to aerify as deep as 12". Walking reciprocating aerifiers do an excellent job on the smaller areas discussed earlier. They are very maneuverable, relatively inexpensive, have many tine options and are self-contained so you don't need another piece of equipment to pull them with.

Finally, there are drill type aerifiers that



Sports turf management presents unique challenges in that most sports are played more intensively in pockets or concentrated areas of the field.

quite extensively in the southern portions of the United States to alleviate localized dry spots or hydrophobic soils. When managing cool season turfgrasses, water injection aerification is an excellent way to aerify during the summer months when other types of aerification may damage your turf.

Aerification Equipment

There is a plethora of aerification equipment on the market today. The type you choose will depend upon what you want to accomplish, how much ground you need to aerify, what your budget will withstand and what your current soil and turfgrass conditions are today.

Drum or towing type aerifiers are relatively inexpensive and cover a large amount of ground in a short period of time. They are available in either a pull type or three-point hitch mounted. They do an

use carbide tipped bits to drill a hole into the soil up to 12" deep and 1" in diameter. There are even attachments that can automatically fill the holes with topdressing material after they have been drilled. Drill type aerifiers are very expensive but there are many companies that provide this service on a contract basis.

Aerification Timing

Proper timing of aerification is important to achieve the desired results. I will address timing both in terms of the weather and in terms of which sport is played on the field. Obviously weather plays an important part in the quality of aerification. Aerifying during periods of heat and/or drought stress can negatively impact your results, especially with cool season turfgrasses. You will further stress the turf and recovery can take longer. There is also a chance of turfgrass desic-

cation around each hole. This does not mean you can not or should not aerify in the summer but it does mean you should monitor the weather closely and if you see a period when weather conditions improve, plan your aerification. You should also consider using smaller tines. Periods of drought or heat stress are also a good time to consider water injection aerification.

Late fall or early winter can also present aerification challenges. Leaving open holes can cause turf desiccation around them. On the other hand, if you drag in the cores and/or topdress, the desiccation is minimized and subsequent freeze and thaw cycles of winter can actually help loosen the soil further. Late fall aerification is often performed on football fields after the season has ended because any desiccation that may occur over winter will heal prior to the next season.

Soil moisture also plays a part in determining when to aerify. The soil should be moderately wet but not at full field capacity. If it is too wet, the cores will not break up easily and more glazing can occur. On the other hand, if the soil is too dry, the cores will break up easier but hole depth may vary and the turfgrass around the hole will be more prone to desiccation. Experience with your own soil types will be your best teacher.

Scheduling aerification with regard to sports or events on your sports fields is another challenge. For those of you fortunate enough to have separate fields for each different sport this issue is much easier. For those managing multiple-use fields, finding a time to aerify can be extremely challenging.

In general, aerifying immediately after the season or after periods of heavy use is

the best. For football and soccer, this means late fall in most parts of the country. For the spring sports of baseball and softball, this means late spring. If you have special events such as concerts, picnics or large tournaments on your fields, aerifying immediately afterward is also helpful.

Finally, with regard to timing, how many times should you aerify? This is the thousand-dollar question. Once is better than not at all. Twice is better than once and so on. Remember, however, it is not uncommon to aerify the worst areas of a sports field five or six times each year.

Aerification Strategy

Commit to a three-year aerification program to achieve maximum results. This program should be well thought out and in writing. Write a separate plan for each of your sport fields. Consider game and practice schedules (as well as when the preferred time to aerify would be) and what areas of the field you want to aerify.

Following is an aerification plan for a typical high school football field. The field is cool season turfgrass used for 18 home games and some practices in the fall and practices in the spring and late summer.

- *November (after last game)*
Aerify entire field, drag cores, seed, topdress and fertilize
- *Late April (after spring practice)*
Aerify entire field, drag cores, seed, topdress and fertilize
- *Mid May*
Aerify between hash marks, sidelines and painted end zones, drag cores, topdress

- *Early to Mid June*
Aerify only bad areas, drag cores, topdress
- *Early July (weather permitting)*
Aerify only bad areas, drag cores, topdress

Can I or Can I Not Afford to Aerify?

I firmly believe you can not afford not to aerify. It is such a powerful tool in your arsenal of weapons against field use and abuse that aerification must be a part of your overall turf management strategy. Be creative, though. If you have to rent an aerifier, do only the necessary areas. Many golf courses are willing to let schools borrow equipment because their children may go to school there. Contracting aerification services is a way to get aerification done without owning equipment.

Develop a plan of action to improve your sports fields with aerification and take that plan through the budgeting process to obtain equipment dollars. Above all, strive to make your sports fields better and safer through active turfgrass management. ♦

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Emmons, Robert D., *Turfgrass Science and Management*, 3rd Edition. Albany, New York: Delmar Publishers, 2000, 528 pp.

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Reducing Peak Water Use in Guelph

PETER BUSATTO, MARTIN LAVICTOIRE, CHARLENE PINKSEN & JAMES ETIENNE, CITY OF GUELPH

The challenge faced by municipal water providers during a drought involves the balancing of peak water demand with water supply capacity, while at the same time complying with related provincial legislation. In response to drought conditions in the late 1990s, the Province of Ontario enacted the Ontario Low Water Response Plan (OLWRP) in 2000. The OLWRP is triggered by local drought conditions and provides a tiered framework of voluntary and mandatory water use restrictions for major water users. The OLWRP was implemented in Ontario during the dry summers of 2001 and 2002.

Issues raised by Guelph's watering ban in 2001 and the directives of the OLWRP led Guelph Waterworks to re-evaluate the City's approach to managing outside water use and create a comprehensive Outside Water Use Program (OWUP) in 2002. The OWUP consists of colour coded levels of water use restrictions that correspond with levels defined in the OLWRP. The following is a brief summary outlining project development and implementation.

The Guelph Water Supply

The City of Guelph, with a population of 110,000, is located within the Grand River watershed. Although two rivers – the Speed and the Eramosa – run through the city, Guelph relies wholly on groundwater as the source of municipal water supply. This supply consists of 23 groundwater wells, a shallow groundwater collector system, and an artificial recharge system drawing water from the Eramosa River. The collector and recharge systems and a number of wells draw water from shal-

lower aquifers. The capacity of these shallow aquifers is reduced by the lack of recharge that occurs during times of drought.

The water system rated capacity is 75,000 cubic metres per day; however, with quality degradation and the last six years of drought, effective capacity is approximately 63,000 cubic metres per day.

The Recent Drought

Portions of the Grand River watershed have experienced severe drought over the last six years. These drought conditions are similar to those experienced in the 1930s. The precipitation deficit in the Guelph area is almost 500 millimetres. 2002 was the second consecutive year of historic low flows in the Speed and Eramosa Rivers. In 2002, levels in the Upper Speed and Eramosa Rivers met the Level III streamflow triggers of the OLWRP (Figure 1). These levels were

the lowest recorded since monitoring began in the 1960s.

Customer Water Demand

Guelph average day water demand is approximately 54,000 cubic metres per day, with about half of this demand generated by residential customers. In the last few years, peak demand has reached 74,000 cubic metres per day prior to the implementation of watering bans. Without watering bans, and based on the experience of municipal neighbours, it is anticipated that peak demands might double average day demands.



2001 Response to the OLWRP

Guelph Waterworks currently holds 23 provincial Permits To Take Water. Most permits contain conditions allowing the province to reduce the amount of water taken during times of drought. Guelph received a provincial request to reduce water use by 20% in August 2001 and subse-

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quently implemented a lawn watering ban as part of the outside use program at the time (Alternate Day Lawn Watering with Time Restrictions). Although peak water use was reduced, municipal politicians and customers were dissatisfied with the implementation and enforcement of the ban.

Demand Management

With continued drought driving an increase in customer outside water use, a solution was needed to help balance peak demand with available supply capacity. Guelph Waterworks believes peak demand management through a comprehensive OWUP is the solution. Although demand management programs have the potential to create customer discontent and lower water sales revenue, they are an effective, efficient, and environmentally sustainable means to match water demand with supply. Unlike past programs, the new OWUP would provide a long term, goal driven solution.

The following four goals were confirmed for the OWUP:

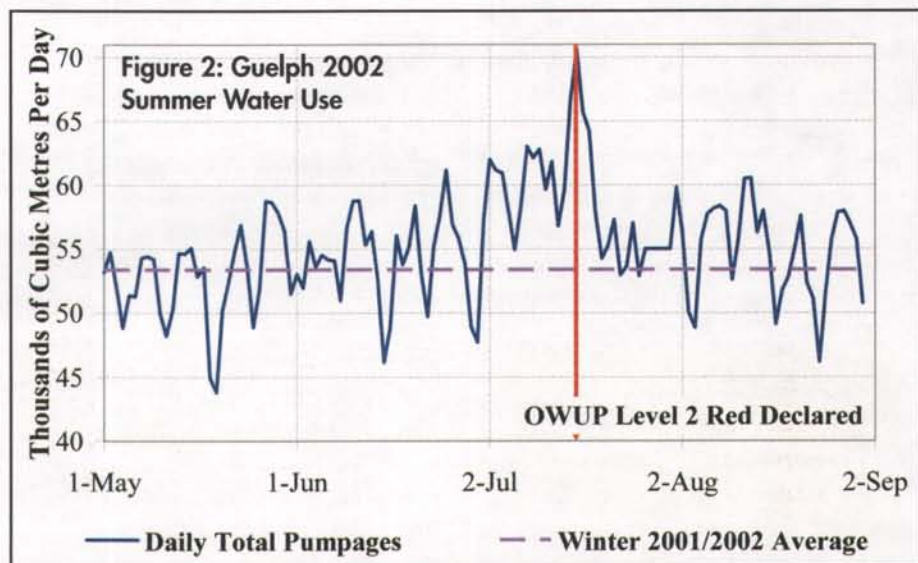
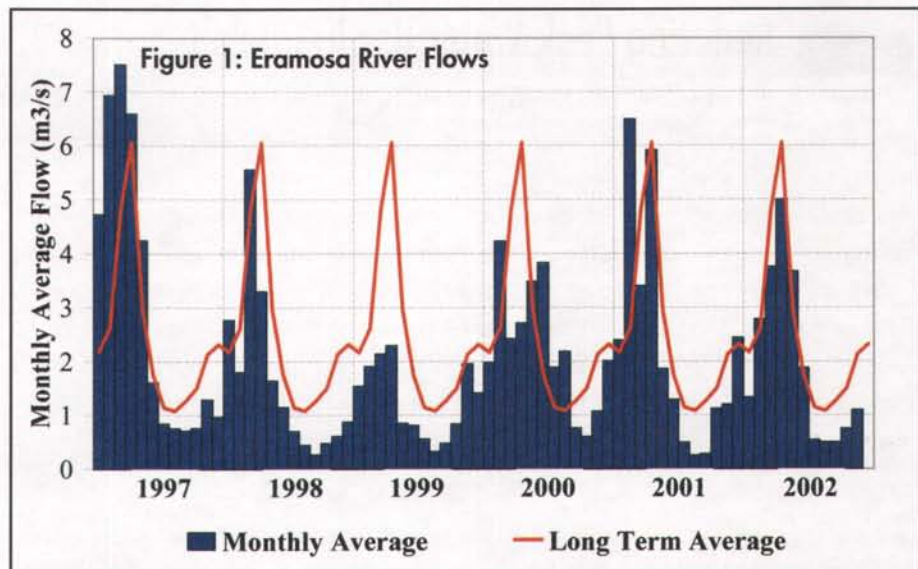
- Focus on non-essential water use;
- Support environmental sustainability through the OLWRP;
- Support program effectiveness, fairness, and practicality; and
- Minimize regulating commercially driven outside water use.

Program Enforcement

The most controversial aspect of previous watering bans in Guelph was the lack of program enforcement. Some customers who voluntarily comply with watering bans will not tolerate the non-compliance of one of their neighbours. Lax enforcement of the program was perceived as part of the problem.

Under the enhanced OWUP and supporting by-law, customers can be charged for the following, most frequent water wasting activities:

- Over watering;
- Irrigating and needless washing of paved surfaces;
- Watering in the rain;
- Leaking ponds and fountains;
- Non-recirculation of fill water in pools and fountains; and
- Vehicle washing with a running hose.



Program Success

In 2002, the OWUP was successful in reducing overall water use by more than 25% below historic peak levels and average day demands by 13% (Figure 2). The program kept over two hundred and fifty thousand cubic metres of groundwater in local groundwater aquifers; some of this water is buoying a stressed ecosystem and may be available for future municipal use. The OWUP also helped the City comply with a provincial requirement to reduce water use and avoid mandatory water use restrictions imposed under the OLWRP.

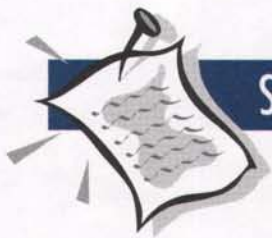
Future Improvements

Any program with the customer impact and complexity of the OWUP is best improved on a gradual basis. Planned improvements to the 2003 program in-

clude the addition of the ability to ticket for program non-compliance, tighter regulation of bulk water sales, the investigation of peak period pricing, piloting of residential cisterns, and piloting the use of wastewater effluent for irrigation.

Future improvements may address encouraging the development of more efficient irrigation systems; the installation of low water use grass and plants; efficiencies in recreational water use including private swimming pools; and applying the OWUP to river and private well takings. ♦

Visit www.sportsturfassociation.com to view or download the entire 16 page report. Go to "newsletter" then "current issue."



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8:00 – 9:00 am Registration and Opening Remarks

9:00 – 10:00 am *Hosting Soccer Championships*, Larry Noon
Turf Manager, Commonwealth Stadium, Edmonton, Alberta

10:15 – 11:00 am *Partnering with Municipalities*, Dave Motley, Past President, Oakville Soccer Club

11:00 – 11:45 am *Central Irrigation Control: The Future is Now!*, Gary Supp, Turf Care Products Canada

11:45 – 1:15 pm Lunch and Meet with Outdoor Exhibitors

1:15 – 3:00 pm *Sports Turf Maintenance Practices*, Dr. Jack Eggens
Professor Emeritus, Univ. of Guelph

Sessions and Speakers

Hosting Soccer Championships

Larry Noon will discuss the preparations required to host an international soccer tournament. He will touch on the planning stages, pre-event, actual event and post event days. Noon has been with the City of Edmonton for the last 25 years in various positions.

Partnering with Municipalities

Can sports organizations and municipalities be partners? David Motley will overview the creation and maintenance of the relationship including exploring areas of mutual concern; developing a mutual understanding of each others needs; involvement in facility planning; and developing a model that works to each partners' mutual benefit. Motley has 40 years legal and development indus-

try experience and 20 years of involvement in community sports.

Central Irrigation Control

Do you want to know with certainty how much water you used for irrigation on your parks last night without having to leave your office? How much you used last week? Last year? See what your future looks like. Live demonstration also included. Gary Supp has been actively involved in the irrigation industry since 1971 and is presently Irrigation Sales Manager and Certified Irrigation Designer (CID) with Turf Care Products Canada.

Sports Turf Maintenance Practices

Join Jack out on the field for a hands-on review of sports turf maintenance practices. Eggens is co-founder of the popular Turf Managers Short Course.

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Cover Story Continued... The Necessity of Sprayer Calibration

DO IT RIGHT AND DO IT OFTEN! BY HELMUT SPIESER, OMAF, RIDGETOWN

... affect flowrate to a whole boom section. A plumbing fitting that is slightly smaller in internal diameter can cause up to a 20% reduction in flow for a whole wing section. Visually you cannot see this difference in nozzle output. When you calibrate your sprayer check each and every nozzle on your boom.

Many operators are adding rate controllers to any new sprayers purchased. Rate controllers don't calibrate your sprayer. Rate controllers, as their name implies, make adjustments to the sprayer to deliver a pre-selected application rate. This is a great technology that maintains the desired sprayer output as travel speed fluctuates.

Rate controllers deliver constant application rates with a high degree of accuracy. If, however, a hose were to plug or collapse, the rate controller would increase pressure to compensate for this restriction and deliver the intended application rate. The rate controller will make adjustments regardless of problems with the nozzles or the plumbing. So, even if your sprayer has a rate controller, you still need to calibrate it properly.

When to Calibrate

- at least once a year for each set of nozzles that you use

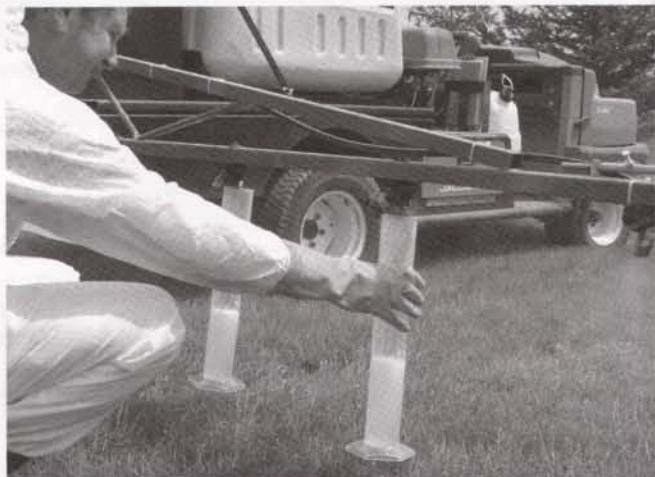
- every time water volumes are changed
- every time nozzles are replaced

Things to Do Before You Calibrate

- ensure that the sprayer has been cleaned thoroughly both inside and outside
- remove and clean all nozzles with a nozzle tip brush
- remove and clean all nozzle screens with a nozzle tip brush
- remove and clean all screens and strainers in the plumbing system
- gather all the equipment needed for the calibration technique that you plan to use
- enlist the aid of a friend or helper – with two people, one person can operate the stop watch while the other collects the liquid from the nozzles

Once you have checked all the nozzles, look at your nozzle output values that you recorded. Any nozzle outputs that differ significantly from other nozzles should be cleaned and rechecked. If the output from these nozzles did not change, move the nozzle to a different part of the boom. Recheck the nozzle output again. If the output problem went with the nozzle, it's

time to replace it. If the output problem stayed with the original nozzle location on the boom, you may have a plumbing problem at that nozzle location. As a general rule, any nozzle that varies more than 5% of the average nozzle output should



be replaced. While you are doing the calibration on your sprayer take note of the nozzle spray patterns. Each nozzle should have a uniform spray pattern without heavy streaks or skips. Nozzles with distorted spray patterns should be replaced.

Keep Notes

- of all calibration parameters
- nozzle make and size
- spray operating pressure
- gear and throttle settings
- application rate
- turf conditions and date ♦

Editor's Note: Try it! Visit the OMAF web site to utilize the *Sprayer Calibration Calculator* at www.gov.on.ca/OMAFRA/english/crops/sprayer/ep75.htm

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More News Clippings

SOCCER STADIUM IN THE WORKS FOR TORONTO • HEALTHY LAWN TIPS • NFL PLAYERS PREFER NATURAL GRASS

The Canadian Soccer Association, bankrolled by a grant of some \$625,000 from FIFA, has started work on plans for a 30,000-seat natural grass soccer stadium in central Toronto. The FIFA grant money will be used for "design, investigation, economic, business modelling, architectural plans and so on," Kevan Pipe, chief operating officer of the Canadian Soccer Association, said from Ottawa.

"Will it get a shovel put in the ground? No, of course not. You're talking a multi, multimillion-dollar facility. But what it will do is provide all the legwork, rationale and analyses we are going to be putting together... to eventually see the construction of this facility."

There are still plenty of hurdles. The CSA still needs to arrange funding from

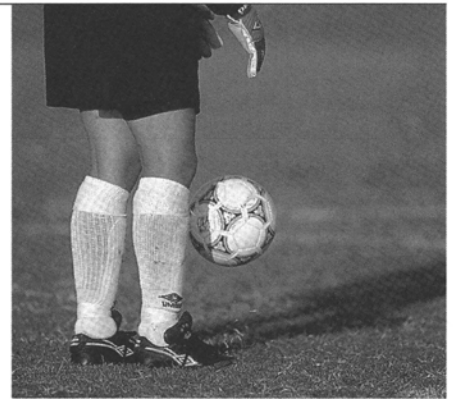
three levels of government, plus the private sector and other organizations interested in using the facility. Still the grant is a step forward in the process.

"I'm delighted to hear it," Canadian men's coach Holger Osieck said. "It definitely gives us a good prospectus for the future, that's for sure."

Osieck has long campaigned for a new stadium in Canada's largest city. "If we don't have it here, where else should we have it?" he asked.

The lack of a suitable facility outside of Edmonton's Commonwealth Stadium has long frustrated Canadian soccer officials. Toronto has been virtually shut out of international soccer since Varsity Stadium went under the wrecker's ball.

The CSA, in announcing its intention to go after the 2007 Women's World Cup,



said a new soccer stadium was part of the bid.

The grant was issued under the world governing body of soccer's Goal Program, which benefits soccer associations around the world. It marks Canada's first participation in the program.

— *Canadian Press, The Record, Nov. 7/02*

→ page 14



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Pesticides are regulated carefully in Canada by Health Canada's Pest Management Regulatory Agency (PMRA) through a program of pre-market scientific assessment of new pesticides and re-evaluation of registered pesticides. Only products which have value and pose no unacceptable risks to health and the environment are registered by PMRA.

In recent years however, pesticide use in urban areas has become an issue for the public. Many citizens have expressed an interest in reducing their use of pest control products. PMRA, in partnership with provincial and territorial governments, is helping to address these concerns through the *Healthy Lawns Strategy for Urban Pesticide Risk Reduction*.

The strategy will help homeowners to reduce reliance on pesticide use for lawn care. The strategy emphasizes Integrated Pest Management (IPM) approaches such as pest prevention, application of pesticides when necessary and use of reduced risk products where possible.

In support of this initiative, PMRA is distributing copies of its *Healthy Lawn Tips* folder to members of the Federation of Canadian Municipalities. The folders will provide homeowners with the basis for making informed choices about managing their lawns and gardens. The folder is also available on the Healthy Lawns web site at www.healthylawns.net.

NFL Players Continue to Prefer Real Grass

WASHINGTON, D.C. Nearly 89% of NFL players greatly prefer grass fields over artificial surfaces. That's the result of the fifth NFL Player's Association



(NFLPA) field survey conducted during the 2002 NFL season. More than 1,300 players, greater than three-quarters of active NFL players, responded.

"This survey clearly demonstrates the increasingly strong preference of NFL players for top-quality natural grass playing surfaces," said Gene Upshaw, NFLPA executive director. "However, with five grass fields ranked among the League's ten worst, this year's survey demonstrates that a grass surface alone is no guarantee of excellence."

More than 95% of players also believe artificial surfaces are more likely to contribute to injury (up from 91% when NFLPA conducted this survey in 2000).♦

— Released January 30, 2003, taken from www.landscapemanagement.net

Add www.landscapemanagement.net to your internet bookmarks. It is a good resource for the landscape & turf industries.

2002 TEN "BEST" FIELDS FOR PLAYERS

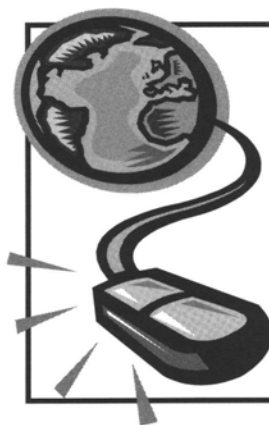
1. Tampa Bay Buccaneers, *Raymond James Stadium*
2. Arizona Cardinals, *Sun Devil Stadium*
3. Seattle Seahawks, *Seahawk Stadium*
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6. Tennessee Titans, *Coliseum*
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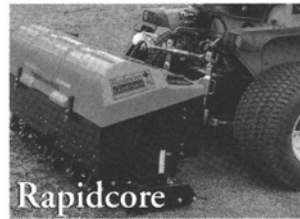
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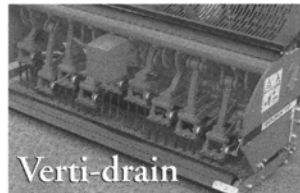
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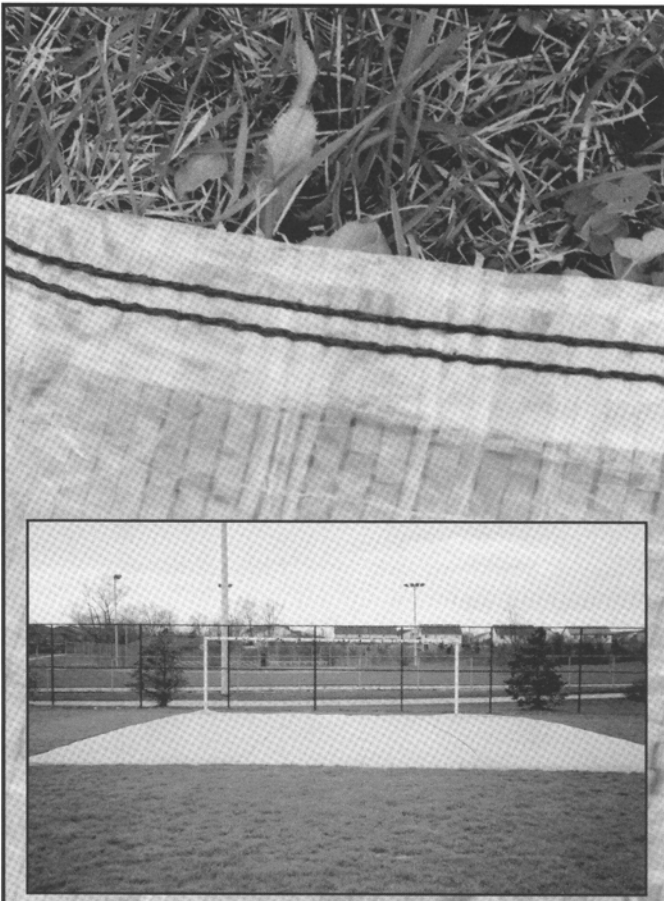
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In brief point form, this article will explore the development of the City of Brampton's pesticide policy.

Why Develop a Pesticide Policy?

- It is a consistent informational tool for your council, staff and the public.
- It is a road map for present and future activities
- Pesticide use is a very sensitive issue that requires you to take a position.
- To defend your position on pesticide use.

Pre-Policy Issues

- Current pesticide use practices.
- Determine what your pesticide use practices will be in 5 to 10 years. Include issues such as new products, environmental and health issues and public acceptance. Work back to create milestones.
- How much information have you provided to your council in the past and what is their understanding of the issues.
- Most important – what does the public want as mirrored by your elected officials.

Development of the Policy Document Requirements

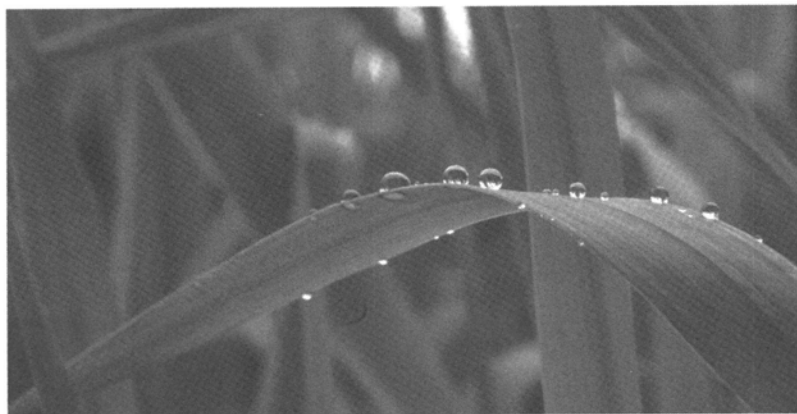
- Corporate template
- Benchmarking with your peers. Don't reinvent the wheel.
- Public and professional satisfaction. Develop thresholds you can live with.
- The use of public surveys and polls
- Public meetings vs. city council
- Building the communication plan

Dealing With People Who Oppose the Use of Pesticides

There are two types – individual residents and activists. Never disregard a member of your public because they appear to be an activist. **They** are the customer.

- Have concerned citizens and advocacy groups opposing pesticide use already approached your department or your council?

- Determine their objective through initial contact via phone, e-mail or the media. Is it 1) a complete ban, including agriculture (not likely); 2) cosmetic only; 3) synthetic only; or 4) antagonism?
- Plan your response and the use of the "cool off period."
- Schedule your council presentation to coincide with their delegation. Be focused.
- Determine their level of sophistication.
- Use of experts. 1) What are their information sources? 2) Are they credible? And 3) How much support do they have in your community?
- Presentations and delegations to committees of council should contain: quality, **applicable** information, studies, etc.; the use of experts and their areas of expertise; determining the origin of the group and their tactics; the use of media; and compromise.



Legitimate Alternatives to Pesticides: More Tools for the Toolbox

- Where is the industry heading? IPM Accreditation
- Pesticide free zones
- Upgraded cultural practices on sportfields and high exposure areas
- Sand in playgrounds
- Mulching programs
- Aquacide weeds
- Biological controls
- Weed mats
- Increase mowing frequency
- Install more irrigation systems

Presentation of the Finished Document Should Include

- Policy Statement: How and when pesticides will be used.
- Purpose: Guidance to council, staff and the public.
- Procedure: Determining when and when not to use pesticides.
- Accountability: Who in the corporation is ultimately responsible?
- Administration: Department that maintains the program.
- Contacts: Names of staff members within the department.
- Information Sessions: With staff, council and the public.
- Annual Review: of policy and implementation of milestones. ♦

WANT TO KNOW MORE...

A number of related articles are posted on our website at www.sportsturfassociation.com. Click on the "Integrated Pest Management" link.



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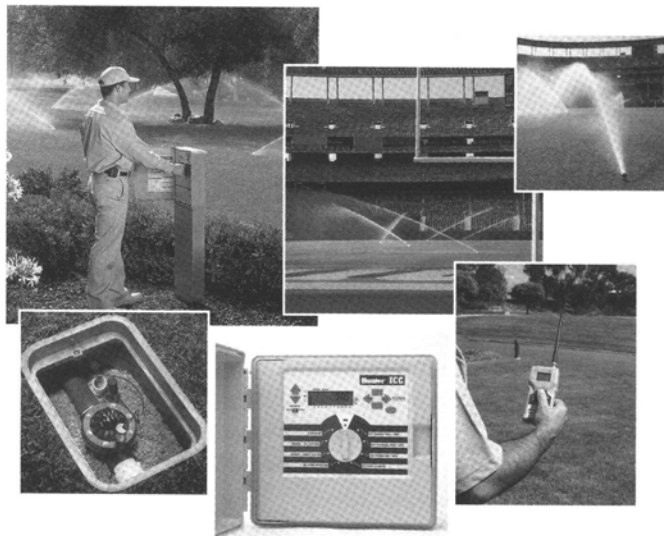
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Bob Cooke, Jim Gouleous & Mike James
University of Toronto, Scarborough Campus

Weather Watches, Warnings & Advisories

FROM THE ATMOSPHERIC ENVIRONMENTAL SERVICE

A *Weather Watch* alerts you that conditions are favourable for the development of severe weather. A *Weather Advisory* means actual or expected weather conditions may cause general inconvenience or concern, but don't pose a serious enough threat to warrant a weather warning. An advisory may also be used when conditions show signs of becoming favourable for severe weather when the situation is not definite enough or too far in the future to justify a warning.

A *Weather Warning* alerts you that severe weather is occurring or that hazardous weather is highly probable. Severe thunderstorm or tornado warnings may be issued less than one hour in advance. Other weather warnings may be issued six to twelve hours in advance.

The following are some of the more common seasonal weather watches, warnings and advisories issued by Environment Canada during the summer.

Heavy Rain Warning

Issued when heavy or prolonged rainfall is sufficient to cause local/widespread flooding. Expect 50 mm of rain over 12 hours or less, or 80 mm of rain in less than 24 hours.

Severe Thunderstorm Watch

Conditions are favourable for the development of severe thunderstorms with large hail, heavy rain, intense lightning or damaging winds within the areas and times specified in the watch.

Severe Thunderstorm Warning

A severe storm has developed, producing one or more of the following conditions: heavy rain, damaging winds, hail of at least 20 mm in diameter or intense lightning. Severe thunderstorms may also produce tornadoes. The storm's expected motion and developments will be given in the warning. If you are in the area specified, take shelter indoors.

Tornado Watch

Conditions are favourable for the development of tornadoes within the areas and times specified in the watch. Be prepared to take shelter, preferably in the lower level of a sturdy building.

Tornado Warning

One or more tornadoes are occurring in the area specified. The expected motion, development and duration will be given in the warning. If you are in the path of a tornado, take emergency precautions immediately. If you are near the area specified in the warning, be alert for the development of additional tornadoes or severe thunderstorms. ♦

To receive weather information when, where and how you want it, sign up for Environment Canada's free service e-Weather at: www.weatheroffice.pyr.ec.gc.ca/e-weather/default_e.html



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