June 1999

Green is Beautiful

The Official Publication of Ontario Golf Superintendents' Association

Working with the environment at Guelph Lakes Golf and Country Club

Compost-amended sand rootzones

MOE changes rules for surface water takings in the GTA

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COVER PICTURE Guelph Lakes Golf & Country Club Photo provided by John Bladon, Superintendent

Advertisers

President's message

Looking to Our Future

Our 75th Anniversary is not only a time for celebration but also a time to look to the future. As the landscape of our industry continues to change, the challenges and demands our Association faces daily continues to expand.

Meeting these challenges and demands is no easy task. As our membership continues to grow, membership services must also expand and move forward. Our new Heritage Scholarship, available to students



lan Bowen Oshawa Golf Club

who are children or grandchildren of Association members, studying a curriculum unrelated to Turfgrass Management, is one example of change. The Association, continues to work Nationally with the Canadian Golf Superintendent's Association, on the development of National Occupational Standards and their associated next steps. Representation on the: Ontario Turfgrass Symposium Committee; Guelph Turfgrass Institute Committee; and the Ontario Turf Research Foundation outline our dedication to serving and representing our industry. Our Chapter status with the Golf Course Superintendent's Association of America, provides benefits to all our members.

The Ontario Golf Superintendent's Association looks proudly on its accomplishments and forward to its future. Membership services and the rewards of being a member are areas of our future focus.





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Green is Beautiful 1999

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Health and safety

In the workplace and home

by Geoff Perkins, Summit Golf & Country Club Greens Chairman 15 years, President 2 years

Sew 'things' are more nerveshattering and morale-destroying than an accident, especially if it happens at work when the victim is using work-related equipment.

Most accidents are preventable.

Dow Chemical (where I was employed for 18 yrs.) is an excellent role model on the subject of safety. Their method is simple, but effective. Talk it, teach it, practice it. I cannot remember a formal meeting that did not include something on the subject of safety, health and environmental issues.

I suggest that Golf Course Managers / Superintendents prepare a 'doctrine' on safety at their course. Cover all pertinent aspects of equipment, driving, tools and personal awareness of players on the course.

I believe that all staff should be reminded every day, before starting work, of the need to employ safe work habits. It is easy to fall into the trap of 'not bothering' to remind employees to perform their work with safety uppermost in their mind. Should an accident happen, you'll never forgive yourself for not having stressed its importance. By then it's too late!

A hit on the head by an errant golf ball is painful... maybe fatal. Wear hard hats when in proximity to players. Don't drive equipment as if you're practicing for a Grand Prix event. It's hard on the equipment and sends a bad message to players, as well as making the Course Manager appear lax at enforcing safety rules, and it's dangerous too.

Learn to treat cutting equipment with respect. Fingers, hands, feet etc. can't be bought in a store. Always wear safety shoes. Don't work without them. Nothing wrong with a sun screen, either. Skin cancer is very real and golf course employees are in the sun for long hours. Think seriously about wearing sunglasses, as UV can do nasty things to the eyes. A lot of energy is lost through squinting and battling the glare. Drink plenty of water throughout the day.

Most of this message revolves around commonsense. All of us have it, but when it comes to safety, some of us don't use it.

Safety in the home is equally important. Summer is here. Swimming, pools, lakes and rivers. Don't dive into unfamiliar water and risk head or spinal injury. Be sure that swimming pool is not contaminated with Ecoli bacteria. Sun screen please, SPF15 or higher, especially on youngsters.

Summer + heat = thirst – liquid = beer, anyone? After a tough day, a beer (or two, or ?) is pretty refreshing. But, consider that alcohol is involved in about 38% of all vehicle accidents. Drinking and driving, unlike scotch and ice, don't mix.

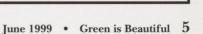
Do you know that 85% of child restraints are improperly installed? Check yours. Vehicle speed: keep a two-second interval between you and the vehicle ahead. Most people believe that accidents happen to others. High speed is not always the cause of a crash. A large percentage of accidents occur at 25-30 mph. Data continues to show that most fatalities happen close to home!

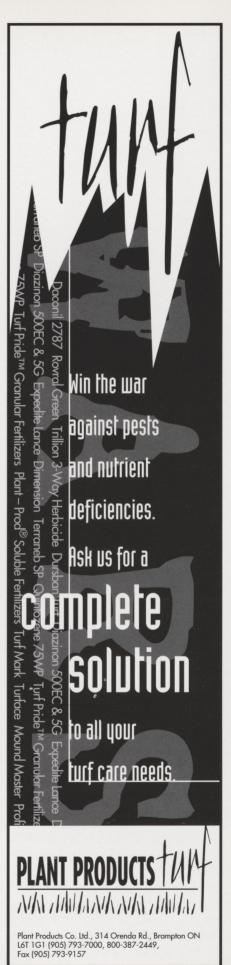
Burns. Immerse in cold water immediately – until it's pain free, in and out of water. Do not rub butter or grease on a burn because they'll seal in the heat and further damage tissue.

Drowning is the second-leading cause of injury-related death for children. Never allow children to swim unsupervised.

Safety is a state of mind. Talk it, teach it, practice it.

Enjoy the summer... and my personal thanks to all the golf course Managers and Superintendents and their staff who, by their diligence and work ethic, make my summer sport so enjoyable.





I.P.M. topdressing

by Jim Moore, Superintendent Puslinch Lakes Golf Club

Back in 1996, I did some experimenting with a topdressing mix, mostly fertilizer. In years past I have used a 90/10 mix from the Hutcheson Sand Company.

This 90% sand and 10% wood/peat mix worked great on the push up greens at Puslinch Lake Golf Club; however, after hearing about how compost fertilizers were helping in prevention of some turf diseases, I thought I would try it in my fall aerating program.

First of all, when we do our fall coring with 1/2" tines, we would topdress enough to fill the holes half full and let the other half fill in with roots. I had set up one ton of composted fertilizer to be blended in with our regular mix and after it was delivered, I realized the colour of the mix was a lot darker and had a slight odour to it.

What happened then, was the 90/10 mix turned into 80/20. Without thinking, I had applied a heavier topdressing mix on top of a light mix. This was taboo and caused a layering effect on the soil profile causing a drainage problem. As reminded by Dave Otis, a turf consultant from the U.S.G.A. Greens section, a soil test was performed on the organic base to make sure the silts are not too high or higher than previous topdressing. An increase in silt content will start layering over time.

This story does have a happy ending. After checking the soil profile for the past couple of seasons, there were no noticeable changes. The drainage was as poor as it had ever been. After the topdressing that fall season, we experienced a cold damp fall, which was the perfect environment for 'fusurium patch', a very noticeable pink spot. The only



Dragging in heavy topdressing after aerating 15th green at Puslinch Lake Golf Club.

green that showed these spots was the practice green. This green was done a week before with 90/10 mix.

Of course, this was all done with the right application timing. I would recommend topdressing lightly every two to three weeks with a compost-type topdressing. At Puslinch, we topdress every three weeks, at a very light rate; light enough to water in after applying and when dry, feather it in with a leaf blower or drag a safety net across the green (an over-sized fishing net will do also). This will make the topdressing material literally disappear.

A few golf courses around North America have been topdressing with straight sand. These courses have established a good soil profile for moistureholding capacity, similar to a perfect U.S.G.A. rated green. When done lightly and frequently, this helps to break down the thatch layer. When insecticides and other types of pesticides are applied, they may be destroying what little organisms are found in pure sand. By adding some sort of organic material to the sand, you can reduce the amount of the pesticides that need to be applied to control pests. A compost material is known to have the most active ingredients to break down thatch and for its moisture holding capabilities.

This coming year, I will probably try a new product again. Don't forget, "YOU LEARN BY YOUR MISTAKES!" Ontario Seed Co. out of Waterloo, ON has a new product out and if it passes the testing, it may be worth trying. I'll let you know the results.

This article was written for those superintendents who are starting a new job and trying to find ways of saving money on the budget. My pesticide applications have been reduced dramatically over the past few years by using I.P.M.

Please feel free to spread this knowledge through the Association of Superintendents.

CALENDAR OF EVENTS UP-DATE

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THIRD ANNUAL "MICROSCOPIC DIAGNOSIS OF TURF DISEASES" WORKSHOP

To be held, Tuesday, July 13, 1999 12:30 P.M. - 5:00 P.M Room 030 Axelrod Building, University of Guelph.

If there is a big enough demand workshop will be repeated Wednesday, July 14, 1999

Workshop has been designed to make participants comfortable with using a microscope for disease diagnosis and to teach some of the key diagnostic features of the main turfgrass diseases.



The O.G.S.A. office will be closed from July 1/99 through July 17/99.

If it is imperative that you speak to someone immediately, please contact the appropriate director. O.G.S.A. Directors and Portfolios are listed on pages 1 and 2 of your 1999/2000 Roster. Dorothy will be checking for phone messages from time to time as well.



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MOE changes rules for surface water takings in the GTA

Article written by Vito Cirone and Chris Crozier Burnside Golf Services

As of March of this year the Ministry of the Environment (MOE) instituted changes to the process for applying for Permits To Take Water (PTTW) from surface water features within the Greater Toronto Area (GTA). These changes relate to water takings from lakes, rivers, streams, drainage ditches, ponds and reservoirs.

The recent changes are a response to the MOE's concerns over the increased demand and potential conflicts of water users and the natural environment. The overall objectives of the new guidelines are to ensure that: 1) minimum instream flows are required to protect aquatic life and habitat; 2) users minimize unacceptable interference with other water users; 3) water resources are allocated fairly between all users; and 4) water conservation practices are implemented.

The changes could have potentially significant impacts to golf courses that depend on surface water for supplying their irrigation requirements. These changes would come into affect for all new applications, as well as for those permits that expire and require renewal in the near future.

In Ontario, the PTTW application process is administered through the MOE and regulated under the Ontario Water Resources Act (1961). All surface water takings that exceed 50,000 lpd, or approximately 10,000 gpd are subject to the Act and must have a valid permit to draw water. If a permit is not obtained a golf course (owner(s)) could be faced with potential fines, and/or stop orders being issued on water taking.

Burnside Golf Services is becoming increasingly more involved in securing PTTWs for new golf courses and extends to courses that have historically operated without a PTTW, or have had to renew an existing permit.

In the past it was a relatively straight forward exercise to apply for and secure a PTTW from a surface water feature – as long as applicants gathered the necessary stream flow data, determined seasonal irrigation requirements and illustrated that their proposed water taking would not cause adverse impacts to the water course.

Once issued, the permit was valid for a relatively long period of time (up to 10 years) and with very few monitoring requirements attached. However, as of March 1999, this has all changed and proponents will be required to follow a new application and reporting process.

The recently issued MOE PTTW Guideline companion document provides direction on the criteria used for evaluating applications and puts the onus on the water user (e.g., golf course) to meet more stringent requirements, including:



demonstration and implementation of water conservation practices, provisions for the on-site storage of water (i.e, off-line ponds / reservoirs), restriction on water takings during low flow conditions and increased monitoring of water usage and seasonal stream flow data.

Once all of the supporting information is prepared and submitted to the MOE, we expect the MOE will issue a "Temporary" (one (1) year) permit with the requirement for site-specific monitoring. This generally consists of gathering site specific stream flow data and examining the potential impacts to the aquatic environment, prior to a longer permit being issued. The results of the interim monitoring program will likely determine the length of time that a PTTW will be issued for and identify the conditions that will form part of the permit.

Additionally, it will not be uncommon for the MOE to issue permits with a five (5) year expiry/renewal date.

Many golf courses today already institute a number of programs aimed at improving water efficiencies and limiting their water taking practices. For these courses, meeting the new guidelines may not be such an onerous task. However, in the case of older golf courses, some of these changes may be more difficult and expensive to implement.

From our experience we have found that applications that meet the new PTTW guidelines are processed and approved, while for those that do not, more detailed studies of stream flows, water conservation initiatives and of potential impacts to the natural environment will be required, prior to approval being issued.

As more information becomes available, we will ensure members of the OGSA are kept informed of the new application process.

Turnover costs can cut your profits

How much does it cost to replace departing workers? Plenty, According to a recent survey of 206 employers conducted by William M. Mercer Inc. Costs:

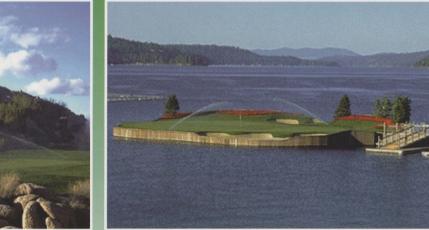
After factoring in lost productivity, search fees, management time to interview, and finally, new-hire training costs, 45 percent of the responding firms said it cost them more than \$10,000.00 to fill a vacated job. At some golf courses, the loss of a superintendent may have ramifications of more than \$100,000.

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Source: Training, August 1998

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O.G.S.A. events

by Dean Baker & Paul Scenna O.G.S.A. Directors, Golf and Meetings

Canadians bring home the Border Cities Cup

Chris Andrejicka, course superintendent, and the group from Essex Golf Club were the perfect host to the Annual Spring Border Cities Golf Challenge, held April 26th. The event has always been well attended, and the 1999 event at Essex proved to be no different. In anticipation of playing Essex this year, many O.G.S.A. members made their way down to Windsor one day early. Most courses in the area were fairly wet from the rains earlier in the week; but proved to be a great warm-up for those getting out for the first time this season. Mother nature was also kind to us... come the weekend, for the weather on Sunday and tournament Monday was perfect.

Playing this year's event on native soil proved lucky for our best four Canadians who brought the trophy home this year. Our thanks go to Scott Gardner, Kelly Barnett, Patrick Hebert and Scott Dyker for their final rounds. For the complete results see the list below.

As part of a full roster, the Detroit chapter was able to have in attendance both Joe Vargas and Trey Rogers from Michigan State University. Their support of this tournament was greatly appreciated along with their kind words at dinner. I believe Mr. Vargas was even able to take home some colourful Canadian money!

Once again, the O.G.S.A. would like to thank the Essex Golf Club for hosting a great tournament. We will certainly look forward to our American friends inviting us back over to their home ground in the year 2000.

Thanks to all who participated, it was a great day!

THE BORDER CITIES GOLF CHALLENGE RESULTS

Closest to the Hole: Canadian - Robbie Robinson American - Kris Early Longest Drive: Canadian - Todd Currie American - Aaron McMaster Low Gross: Canadian - Scott Gardner - 77 American - Carey Mitchelson - 79 Low Net: Canadian - Kelly Barnett -65 American - Robert King - 67 **Best Foursome Gross: Rod Hermitage Rob Field** Scott Ford **Robert King Best Foursome Net:** Paul Dermott Bruce Burger Aaron McMaster **Jim Timmerman Best Four-Some Gross:** CANADA - Scott Gardner - 77 - Kelly Barnett - 79 - Pat Hebert - 80 - Scott Dyker - 80

Pro-Superintendent event, May 18th

This year's tournament was held at the beautiful National Pines Golf Club near Barrie. Host superintendent, Chris Goodman, and his staff provided excellent playing conditions. The course, although demanding at times, was a real treat to play. We had an excellent turn out of 118 players who enjoyed warm and windy spring weather.

The winners for the day were:

1st Low Team (retro 68) Norm Hitzroth and Chris Dew

2nd Low Team (retro 68) Jim Black and Gavin Kellogg

3rd Low Team (70) Brian French and Ray Richards

Low Professional (73) Wayne Middaugh

Low Gross Superintendent (83) Dan Lavis

Low Net Superintendent (76 retro) Chris Dew

CLOSEST TO THE PIN Superintendent #6 Jeff Stauffer

Superintendent #13 Kevin Brohman

Professional #8 Bruce Atkins

Professional #16 Kevin Purcell

LONGEST DRIVE #10 Superintendent

John Taylor

Professional Todd Wear



Paul Scenna, in appreciation of his expertise and hard work in providing us with an excellent course and a super day of golf, at the National Pines Golf Club, presents Chris Goodman with a plaque from the O.G.S.A.

Border Cities Tournament



#1 - A couple of real players, Rod Hermitage and Rob Field

- #5 Low Canadian Team brought home the trophy. Left to right Patrick Hebert, Kelly Barnett, Scott Gardner, Scott Dyker #6 Dr. Trey Rogers, from Michigan State University also spoke at the event
- #7 Paul Scenna presents Scott Gardner with the Canadian Low Gross Prize with a 77
- #8 Paul Scenna congratulates Canadian, Kelly Barnett on winning Low Net with a 65
- #9 Paul Scenna presenting prize to one of the many winners that day.

^{#2 –} Dean Baker presents Chris Andrejicka, Superintendent of Essex Golf and Country Club with a plaque, in appreciation for a great day of golf on a great course

^{#3 -} Ready to drive off the first tee are the president and vice-president from the Canadian and American Teams Left to right Keith Bartlett, Ian Bowen, Paul Kobe, Roy Szyndlar #4 – Dr. Joe Vargas, from Michigan State University addressed the Border Cities Group

Working with the environment at Guelph Lakes Golf & Country Club

by John Bladon, Superintendent

n July of 1997 construction began on a new golf course just beyond the east end of the city of Guelph. Overlooking the Guelph Lake Conservation Area on Highway 24, and consistent with the vision of it's three owners; Frank Gray, Ivan Gray and Merlen Kropf, it was obvious that the views afforded by the Guelph Lake were going to create a wonderful backdrop for some excellent golf holes. Designed by David Moote of RF Moote and Associates of Brampton, Ontario, Guelph Lakes Golf and Country Club became a fully operational facility on August 20th, 1998. Four sets of tee boxes, playing anywhere from 4800 yards to 6500 yards, ensure a challenge is presented to every calibre of golf enthusiast.

Like most other new construction projects, in the age where the environment is never far from the tips of most folks tongues, great care is generally taken to minimize the cost to the environment of both the project itself and it's immediate surroundings. Guelph Lakes Golf and Country Club was no exception to this rule and in fact, our hope is that we raised the bar slightly. An area roughly 22 acres in size

containing Wilmot Creek and native plant material was deemed environmentally sensitive. This acreage bisects the property and the goal throughout the project, with regards to this area, was conservation. The focus of this brief article is to share but one component of that



Photo 1 – Weir being planted with birch and red osier dogwood in April 1998 – note the seeds of the Canada Rush and Common Cattail at the water's edge.

plan; to share in the collaboration of work done by David Moote, JD Landscape Construction our contractor, and last but by no means least the Golf Maintenance Team at Guelph Lakes.

continued on page 13



Photo 2 - Maturation of Weir in November 1998



3-Maturation of Weir in May 1999

continued from page 12

On the original master plan were natural storm drains or "weirs" designed by David to capture excess runoff in the advent of heavy rains. Their purpose was to filter that runoff prior to it exiting into the sensitive area thereby keeping nutrient and silt runoff to an absolute minimum. These weirs were positioned in ten strategic locations throughout the golf course. Eight focused on the perimeters of our sensitive area. The original plan was simply to have these areas as "naturalized" or unmaintained turf. Furthur discussions between David and the Golf Maintenance Team led to a slight deviation in that plan. Focusing on ten types of plant material already native or indigenous to the sensitive area, a plan was formulated to have these weirs become a mirror of our sensitive area. The plant material was acquired and installed in relation to water as it existed on our site. The plant list is as follows in alphabetical order:

- Betula papyrifera Paper Birch
- Caltha palustris Marsh Marigold
- Cornus stolonifera Red Osier Dogwood
- Eupatorium maculatum Joe Pye weed
- Impatiens capensis Jewelweed



4-The Golf Maintenance Team at Guelph Lakes

- Iris pseudoacorus Yellow Flag Iris
- Iris versicolor Northern Flag Iris
- Juncus Canadensis Canada Rush
- Larix decidua Eastern Larch
- Typha latifolia Common Cattail

Photos 1, 2, 3

These photos on the previous page were taken April 98, November 98 and May 99 and show the continued growth of these areas over a short time span. The added bonus to our plan is that the "weirs" have been well received by golfers. From a strategic standpoint, they have added a naturalized hazard. From an esthetic standpoint, eight of these plant materials bloom throughout the season thereby adding a point of interest on the golf course. They have helped in attracting a great deal of wildlife. For example, nesting boxes have filled to capacity. The golf maintenance team pictured above, speaks proudly knowing this was something they had a hand in planning and implementing.

Photo 4

All the people mentioned in the article had a hand in this project. We hope that, in time, Guelph Lakes will mature into a sought after golfing experience.



Yellow Flag Iris.



BULLETIN UP-DATE

X

GREENSKEEPING IN ONTARIO AND THE HISTORY OF THE ONTARIO GOLF SUPERINTENDENTS' ASSOCIATION

Work is progressing on our publication. The editorial committee met again on May 27th at the Toronto Board of Trade to continue discussions and designate duties for the various committee members. Our in-house writer, Gord Witteveen spent much time digging into the past and has already prepared the draft for the first chapter.

Editorial members are conducting numerous interviews, and quotations from Canadian Publishers are being assessed.

If you have anything that you think might be of interest, send it immediately to the O.G.S.A. office. Whether it be an old picture, an

anecdote, an old advertisement, or a fond memory of days gone by, don't hesitate, send it immediately to the O.G.S.A. office.

If you have not returned your completed O.G.S.A. survey, please do so, we need your input.

TEAMWORK

TOGETHER WE CAN ACHIEVE THE EXTRAORDINARY



Quotable

"It is no longer a debatable point whether or not today's expectations of golf course conditions are significantly different than they were some 20 and 30 years ago. With that said, is it possible that somehow the changed nature of course conditions have significantly altered both how the game is played and how far golfers, particularly professional golfers, hit the ball?"

GREENSKEEPING

rd to its f

The O.G.S.A. look

Source: From a speech given by Wally Uihlein, CEO of Acushnet at the World Scientific Congress of Golf during the British Open, July 1998



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Golf course hockey challenge

by John Taylor, Superintendent Twenty Valley Golf Club

he fifth annual Golf Course Hockey Challenge was held January 26 and 27 in Fort Erie, Ontario at the Fort Erie Leisureplex, a twin pad arena and sports complex with a Best Western hotel.

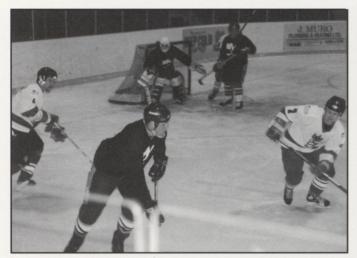
Over 100 Superintendents, Assistants and Suppliers formed eight teams, five from Canada and three from the U.S., for two days of exciting hockey action. The eight teams were separated into two four team pools for round robin action with a champion and consolation champion declared from each pool. All teams played four games, two each day, with an "Attitude Adjustment" party the night of January 26.

The turf industry again stepped forward with some major sponsorship of this event with ClubCar again sponsoring the Tuesday night party, and Turfcare Products again covering the cost of ice time for the two days. Other companies such as Rainbird, OSC, Nu-Gro, Skyway Lawn, Lebanon, Hutcheson, and Duke Equipment all contributed to help make this event a great success.

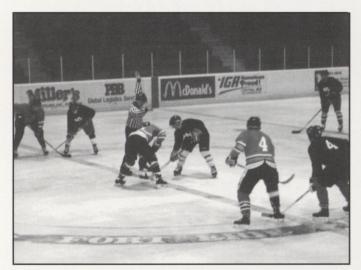
After two days of hard fought hockey action, Team Michigan took

the "A" pool title for the second straight year defeating Team Kitchener in the final. Team North Toronto defeated Team Toronto in the consolation game of the "A" pool. Team Western New York defeated Team London in the "B" pool final with Team Niagara beating Team Turfnet in the consolation final.

Plans are being put together for next year where we would like to expand the tournament to 10 to 12 teams if possible. If you are interested in forming a team please contact John Taylor at (905) 562-4181 for more details.



Action from team Western New York (dark uniform) vs Team London



Team Niagara Faces off against Team Western New York (dark uniform)

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Compost-amended sand rootzones

by Dr. Ken Carey, Department of Plant Agriculture and the Guelph Turfgrass Institute, University of Guelph

// hile straight-sand rootzones may provide the best porosity and compaction resistance characteristics for turfgrass growth, particularly when built to specifications such as the USGA specs, they are not without problems. Straight-sand's droughtiness, poor nutrient holding capacity, and reduced ability to support a healthy population of rootzone microorganisms can all be alleviated by various types of amendments. There is ample evidence of the ability of organic amendments (peats, composts, organic waste such as rice hulls) and inorganic amendments (zeolites, polymers) to improve various deficiencies in a straight-sand mix for turfgrass. Even complex amendments such as topsoil may help in some circumstances.

Compost is particularly interesting as an amendment for sand because, while it is a complex material, it can provide a number of benefits. Nutrient and water holding capacity may be increased through its organic matter content and rootmicrobiology zone may be improved, even to the point of suppressing turfgrass diseases such as dollarspot and snow mould. At the same time, there are concerns about compost (and other organic amendments) in terms of potential for changing behaviour as the organic components breakdown, clogging or layering of the rootzone as the amendment ages, and other changes in porosity which need to be researched in order to specify the optimum use of this material.

In a research program at the Guelph Turfgrass Institute, sponsored by the Natural Sciences and Engineering Research Council of Canada and compost producer AllTreat Farms, we are examining the performance of various composts as organic amendments for turfgrass systems, both in rootzone construction and in topdressing programs.

Out of a number of experimental compost recipes, five were chosen for initial testing for this project. Greenhouse and growth chamber trials on these five narrowed the field to two composts for the sand rootzone research (all five are still being studied for disease suppression in a separate part of the project). Some of the important characteristics of the two composts are presented in Table 1. Further details will be available in the 1998 GTI Annual Research Reports. The composts are type AA composts, from controlled feedstocks, with high organic matter (>50%), no pathogens or inert contaminants, and minimal heavy metal content.

T	able	1.	Analysis	of	mature	composts.	

Component (ppm	Compost number		
unless indicated)	1	2	
Organic matter %	55.90	50.50	
Organic carbon %	27.60	25.20	
Nitrogen %	1.83	1.71	
Phosphorus %	2.00	1.29	
Potassium %	0.96	0.81	
Sodium %	0.27	0.33	
Carbon / nitrogen ratio	15.08	14.74	

Compost in rootzone construction

To study the performance of these composts we built a USGA rootzone facility next to the new green at the GTI. We used three rootzone mixes, one with a standard 80:20 mixture of sand and peat and the other two each with a 80:20 v:v mixture of sand and one of the composts. Each rootzone "unit" is a 2m x 3m rectangle, and

there are four units of each rootzone mix. giving a total area of 6m x 12m. The units were kept separate by plywood barriers as they were being constructed, and the barriers were removed once the grass had established.

The rootzone construction was to USGA specifications, without a choker layer. The plots were seeded with Cobra creeping bentgrass (0.5 kg 100m-2) on July 20, 1998. Because we were interested in the natural fertility of the rootzone mixes, no starter fertilizer was used in any of the plots, but we added 14-28-10 fertilizer (0.75 kg 100 m-2 actual N) at about 40 days after seeding, to try to encourage the grass on the peat-amended plots.

Several very interesting observations emerged out of the first partseason of growth in this trial. Germination and establishment on the mixes with compost were about 20 days ahead of the standard peat mix, with full cover by about 40 days after seeding. The peat-amended rootzone only reached about 90% cover by the end of the season. Both root and shoot growth were significantly greater on the compostamended (Figure 1). mixes Moisture holding capacity (measured by volumetric water content) is also significantly higher in the compost-amended mixes. These differences among the rootzones have persisted into the spring of 1999 (Figure 2).

Compost for topdressing.

In another set of experiments, we are looking at the effects of compost

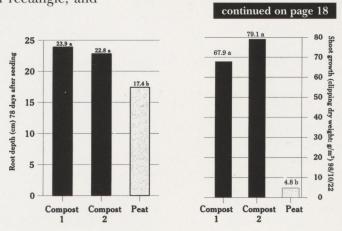


Figure 1. Root and shoot growth on USGA sand rootzones amended with compost or peat.

continued from page 17

as a topdressing material for turf. Compost, either alone or in a mix with sand, could have many of the beneficial effects of traditional topdressings, as well as some welldocumented effects on relieving disease pressure. Initial results indicate some benefits in controlling dollarspot and snow mould, as well as beneficial effects on turf shoot growth, moisture holding capacity, and thatch control.

Several key features of compost use in these turf systems remain to be sorted out. Quality and consistency must be controlled in the compost production stage. Many examples exist of failure of compost in what were initially promising uses, because of inadequate control of quality and consistency. The mid to long term behaviour of the compost also needs to be examined. Because the organic component of the compost will break down with time, leaving a mineral component, the effects of this change on the rootzone porosity, aeration, infiltration and permeability, and microflora will need

to be studied. In the topdressing use, we need to ensure that the material does not produce clogging or layering, and certain production aspects (moisture content, screening mesh size, application methods, shelf life) need to be investigated further. In addition, the economics of the material need to be considered in any turfgrass use. The potential for beneficial long term impact of compost in construction and maintenance of sand rootzones for turf is considerable.

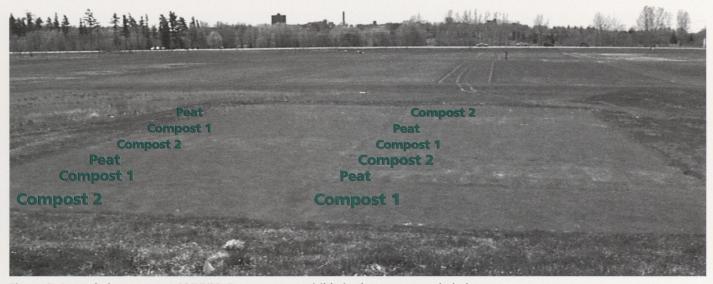


Figure 2. Amended rootzones - 99/05/03. Bare areas are visible in the peat-amended plots.

Announcements

Scenna on Thursday, May 3rd, gave birth to a little baby girl, Martina, unexpectedly four weeks early. Mom and



Baby are doing well. We're still not sure about Dad though.

Dean and Marianne Baker, on Thursday, May 3rd, welcomed a little baby boy, Andres, after a very long wait, into their family.

This is a first for both Paul and Dean, so if they're looking a little haggard lately, you know why. O.G.S.A. sends out their Best Wishes and Congratulations to the Scenna and Baker Families!

Ron Heesen, superintendent at Monterra Golf at Blue Mountain Resorts, has completed a renewal process for maintaining his status as Certified Golf Course a Superintendent (CGCS) with the Course **Superintendents** Golf Association of America (GCSAA). Ron has been superintendent at the Collingwood course since 1988. He initially achieved his title of "CGCS" in 1989.

Scott Wheeler, CGCS has recently completed the Integrated Pest Management; Golf Course Development; Storage Disposal and Recycling; and Underground Storage Tanks specializations in the GCSAA Environmental Management Program (EMP). Scott has already completed the Water Quality Application specialization and has only one specialization left to complete. The GCSAA Environmental Management Program responds to the golf course superintendent's continuing need for

continued on page 19

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current education regarding environmental and regulatory issues affecting golf course management.

Plant Products Co. Ltd. is pleased to announce the appointment of Mr. Mark Scenna to the position of Technical Sales Representative -Turf Products.

Mark comes to Plant Products with a wealth of knowledge having operated in his own company dealing with the environmental compliance issues as they related specifically to golf courses. As well, he was co-author of the CGSA Environmental Management Resource Manual[®] published in 1998. Mark looks forward to meeting and working with golf course superintendents in his sales territory of Central Ontario and the Niagara Peninsula.

MERIT Registered in Ontario

Bayer Inc. head office in Toronto announces that , Merit, a safe, and highly effective insecticide for managing turf grass insects has been registered in Ontario. Merit can be safely handled by professional lawn care applicators and golf course superintendents and has received registration for European chafer and Japanese beetle control; the two key turf insect pests in Ontario.

David J. Kuypers, of Oakville, who spoke at the 1999 Ontario Turfgrass Symposium, is a GCSAA Merit Scholarship recipient. He earned a Bachelor of Arts degree in Geography from Wilfrid Laurier University before attending the Golf Course Turfgrass Management Program. David interned under Brad Owen at Augusta National Golf Club this past season, and will be going to work at Congressional Country Club in Bethesda, MD, under Paul Latshaw.

Fred Grightmire died on April 14th. He was almost 95 years old. Fred was the first greenkeeper / superintendent at the Dundas Valley Golf Club from 1929 till 1969. He was a past president of the Western Ontario Greenkeepers Association, a group that he helped start and get off the ground. He was a contemporary of Morley Findlay at Brantford

Fred Grightmire 1965 standing beside one of the first golf carts displayed at Ford Museum in Dearborne.



A Worthington Overgreen. This triplex cut all the greens at Dundas Valley Golf Club from 1939 to 1963

Golf Club, Jim Hickman at London Highland, Howard Snyder at Westmount Golf Club, Ed Walsh at Hamilton Golf Club and Jack Watts from the Galt Country Club. Grightmire was an avid golfer but his son John claims that he beat his father regularly from the time he was 12 years old. Son John however, never did beat his father at the art of gardening. Fred was known to produce prize winning tomatoes and magnificent flowers for the area fall fairs. A spacious garden at his home in Dundas was a source of pride. Fred Grightmire was predeceased by his wife by two years. He is survived by two sons, one of whom followed in fathers footsteps. his Iohn

Grightmire retired as superintendent from Rosedale Golf Club in 1985.



Fred Grightmire at his cottage. Fishing was his first love away from the golf course.



Anthracnose basal rot of creeping bentgrass

by Drs. Tom Hsiang and Paul Goodwin, Plant Pathologists University of Guelph

nthracnose leaf blight and basal rot are diseases of many plants including the turfgrasses, annual bluegrass (Poa annua) and creeping bentgrass (Agrostis palustris). On grasses, these two diseases are caused by the same fungus, Colletotrichum graminicola. This pathogen has long been known for causing anthracnose blight on annual bluegrass, but has more recently been found causing basal rot on creeping bentgrass. Reports of basal rot appear to be increasing in central Canada, northern United States and Europe. Basal rot has only been reported on annual bluegrass and creeping bentgrass, but leaf blight has also been found on fine fescues, perennial ryegrass and various bluegrasses.

Strains of the anthracnose fungus may be highly specific to host species. In mixed turf, some grass species remain unaffected whereas others are severely diseased. Often, either annual bluegrass or creeping bentgrass will be affected, but not both at the same time. A study in the northeastern U.S.A. showed that the strain from creeping bentgrass could attack annual bluegrass, but the strain attacking annual bluegrass was much less able to attack creeping bentgrass. However, the study did not show consistent genetic differences between the strains from annual bluegrass vs. creeping bentgrass. This lack of differentiation between strains may have been due to the relatively small number of infected plants that were examined from a large geographical area.

Symptoms

On turf, anthracnose blight can cause extensive damage virtually overnight. Usually there is some predisposing factor such as drought stress or heat stress. On fairways, patches of annual bluegrass are killed giving irregularly shaped reddish to bleached tan turf among the surviving creeping bentgrass (Figure 1). On leaves, anthracnose blight results in irregular, tan to brown, dead spots with dark margins, which can enlarge causing the entire leaf blade to die back. On leaves killed by anthracnose, small black spots known as acervuli can be seen (Figure 2). The acervuli are spore-producing bodies, and contain small dark-brown hairs known as setae which can be observed with a hand lens (Figure 3). The presence of these hairs is a key characteristic to identify this fungus.

Anthracnose basal rot differs from anthracnose blight in that it infects the crown of the plant, and then spreads upward. It almost always results in death of the plant. The infected tissue usually becomes blackened, particularly the stolons, as the fungus spreads in the plant, and the characteristic dark-brown setae can be found in the infected tissue along with spores. The blackened tissue can also extend into the roots. Small black fungal masses can form in infected tissue. Eventually, dead reddish or bronze-colored patches of bentgrass appear (Figure 4), and this can expand to several square meters as the fungus continues to grow. Basal rot is more common in western Europe, coastal British Columbia and western Washington state; whereas leaf blight is more common in warmer regions, such as central Canada and the midwestern USA.

Life Cycle

The fungus overwinters as mycelium or spores in infected tissues. Basal rot is favoured by cool (15-20°C) moist weather during the late spring and early summer. Leaf anthracnose is favoured by high humidity and much warmer temperatures, and is usually observed in mid to late summer. Anthracnose spores are readily spread by rain and splashing water, but the fungus can also spread by growth through infected tissues.

Conditions Favouring Disease

Anthracnose basal rot is frequently linked with poor soil conditions and restricted root growth. It can be favoured by overcompaction, poor drainage and nutrient deficiency in turf. Reducing compaction by aerifying and improving soil fertility can reduce the amount of disease. However, for annual bluegrass, wounds in crowns created during aeration and topdressing can also possibly increase the amount of basal rot. Basal rot has also been linked to damage caused by parasitic nematodes feeding on grass roots, but the relationship of nematodes to the disease is still uncertain. Controlling nematode populations can reduce the amount of basal rot, and a combination of fungicide and nematicide was more effective in control than fungicide alone. However, fungicides are often ineffective in controlling basal rot, especially when the plants have been weakened, for example, by poor soil conditions. Fungicide resistant strains of the pathogen have also been reported from turfgrass.

Survey

Anthracnose basal rot is increasing in prevalence across Ontario. Five years ago, it was virtually unknown, but in the past two years, turf managers have been confronted with increasing incidences of a dieback due to a basal rot that has been very difficult to manage. Despite intensive use of fungicides, the grass often does not recover properly. Even in the U.S.A, there has been very limited research conducted on this disease. Many recommendations made for its control come from our experience with anthracnose foliar blight which seems to have major differences in development from anthracnose basal rot.

Because basal anthracnose has been observed more frequently in Canada in the recent past, and because of very limited research on this disease even in the U.S.A., we are conducting a survey on the incidence of anthracnose basal rot, particularly in Ontario, in order to examine the relationship between anthracnose isolates which cause basal rot to those which cause foliar blight.

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By studying the differences between the fungal isolates in terms of their genetic relatedness and modes of infection, we can gain insights into how to better manage the disease. This research will also address how serious this disease is in Ontario, and whether the anthracnose fungus is resistant to commonly used fungicides in turf.

If you have observed anthracnose basal rot in the recent past, we would appreciate your participation in this survey, particularly if you have a disease sample to contribute. Please fill out the enclosed form and send it back to us. We will publish the results of our survey in a future issue, and your participation will help us to investigate this disease and find better ways of managing it.



Figure 1 – Fairway with morning dew showing areas killed by anthracnose blight



Figure 2 – On leaves killed by anthracnose, small black spots known as acervuli can be seen. Researchers have speculated that fungal spores may be transmitted by insects,

such as the ladybird larva pictured here above the dead leaves bearing acervuli.



Figure 3 – Acervuli are spore-producing bodies, and contain small dark-brown hairs known as setae which can be seen with a hand lens. The presence of these hairs is a key characteristic to identify this fungus.



Figure 4 – Anthracnose basal rot on a (cup cutter-sized) plug of creeping bentgrass

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terrific golf, prizes and a great meal cause the day to be an early sell-out. The networking opportunities for Superintendents, Assistants, Managers and Suppliers are second to none. Watch your mailbox for registration forms in June and get them in early.

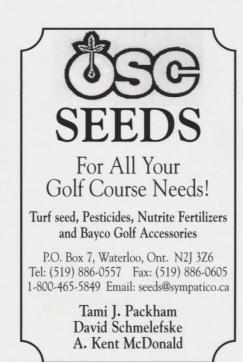
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Pesticide use and control

by Doug Johnson Doug Johnson and Associates

Have you checked your pesticide handling procedures this year?

This is a short note to remind everyone of some of the issues to consider when dealing with pesticides and some tips to make your workplace a little safer.

As you are aware it is imperative that individuals mixing and applying pesticides be outfitted with a proper Organic Vapour respirator. The respirator must be fit tested to ensure the applicator is being properly protected. Fit testing ensures that there is no leakage and that all the inhalation is done through the Organic Vapour cartridges.

It is imperative the applicator wear chemical goggles and that there be an eye wash fountain available for all workers. A number of clubs are now mounting equipment close at hand.

The applicator must be wearing rubber boots and a disposable hooded coverall when working with pesticides. The coverall must be disposed of in the proper manner.

Hand washing and showering is recommended after any handling or dispensing of pesticides.

A number of applicators are now wearing inner latex or PVC gloves under their chemical gloves for comfort and sanitation. It avoids that slimy build up of palm sweat and dirt inside the chemical gloves and reduces the potential for contamination of the applicators hands.

One last point. It is a recommended practice that those individuals involved with pesticides have their blood checked at least once a year for changes in cholinesterase levels. Some pesticide users have this done at the beginning and the end of the season to confirm that there is no contamination during the season.

Looking back

Twenty years ago today

by Barry Endicott, Nobleton Lakes Golf Club

n 1979 the OGSA directors were Stuart Mills (pres.), Paul White (vice-pres.), Blake McMaster, Ken Nelson, Paul Scenna, Bill Bowen, Paul Dermott, Bob Brewster, John Smith, George Garner and Rusty Warkman.

Hugh Kirkpatrick moved to Westmount in Kitchener and **Dan Ardley** replaced Hugh at Dalewood. **Jim Wyllie** accepted the position at Bayview and **Paul White** moved to Lambton, **Nicol Thomson** who was professional and superintendent at the Whirlpool Golf Club, from the time it opened until his retirement 7 years ago, passed away.

The OGSA welcomed these new members: Thom Charters, Islington Golf Club, Allen Lettler, Walkerton Golf Club, Ron Thorne, South River Golf Club, Ted Tom, Uplands Golf Club, Raymond Richards, Merryhill Golf Club, Bruce Vollett, Conestoga Golf Club, John Treloar, Trehaven Golf Club, Carl Bennet, Richview Golf Club, Ted Ellis, Greenwood Golf Club, Hugh Moulton, Windsor Park Golf Club, Charles Eggleston, Niagara Chemicals, Neil Acton, Green Acres Golf Club, Brent McCafferey, Carrying Place Golf Club, Bob Labbett, Beaverdale Golf Club and John Woodhouse, Pine Orchard Irrigation Ltd.

100 Superintendents, assistants, students and distributors attended the 9th Annual Management Symposium at North Halton Golf Club. The speakers were Doug Hoskins, George Garner, Bill Hynd, Bill Glashan, Barry Endicott, Jack Eggens, Fred Charman, Art Dodson, Blake McMaster, AI Shantz, Doug Suter, Geoff Perkins and the chairmen were Norm McCollum and Dave Moote. Meetings were held at Oshawa Golf Club, Rusty Warkman, Whirlpool Golf Club, Bill Glashan, Thornhill Golf Club, Dave Gourlay, and Weston Golf Club, Bob Brewster. Seventy people participated in the Galt Field Day and Bill Bowen won low gross at 71. The President, Greens Chairman, Superintendent Tournament was held on July 20 at Mississaugua Golf and Country Club with the Credit Valley Golf Club team of Doug Suter, Jack McGregor and Jim Clelland winning first prize. The pro-superintendent day was held on August 13 at Victoria Park Golf Club. The low team was from Victoria Park with 149, the low superintendent was Hugh Kirkpatrick with 76 and the low pro was Gary Maue with 70. The McClumpha Tournament was held at Glen Eagle with Hugh Kirkpatrick shooting a 73 for low gross and Bill Bowen firing a 75 for 2nd low gross.

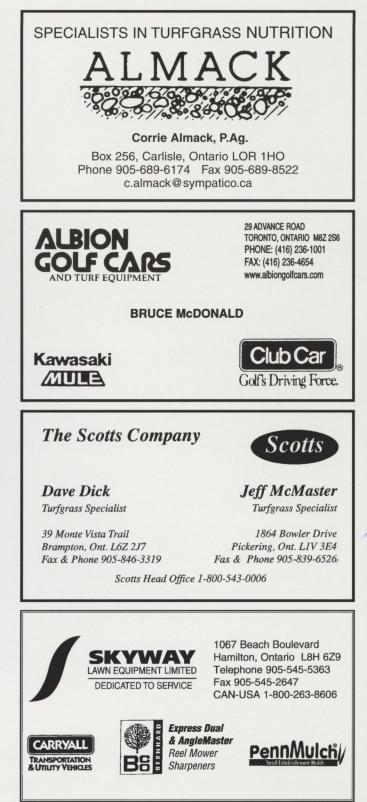
The Ontario Turfgrass Research Foundation was founded with **Keith Nisbet** as president, **AI Beeney** as vice-president and **Paul Dermott** as secretary-treasurer.

Reminder

1999 O.G.S.A. Heritage Award

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