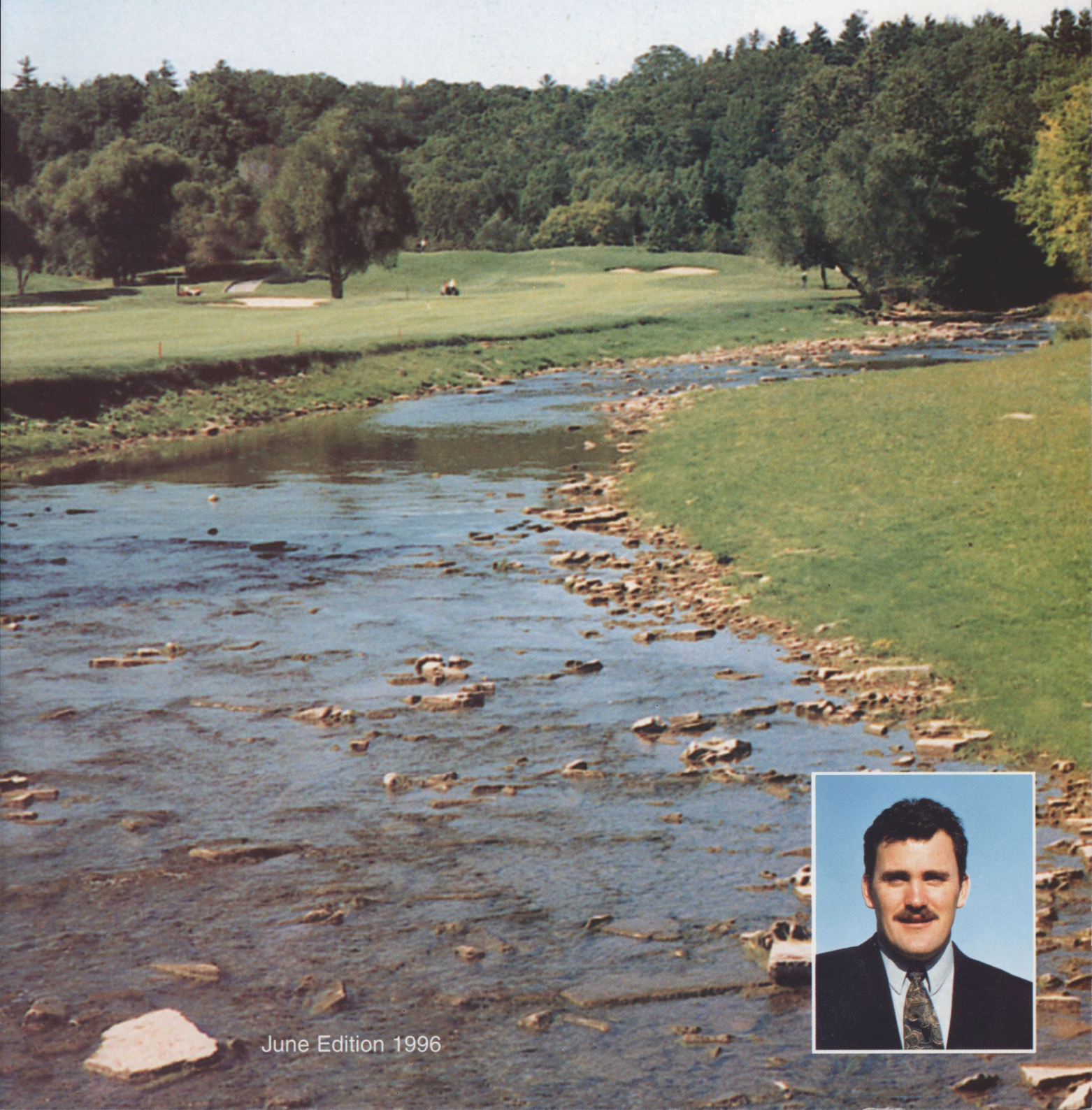
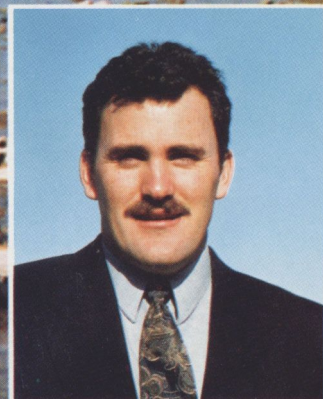


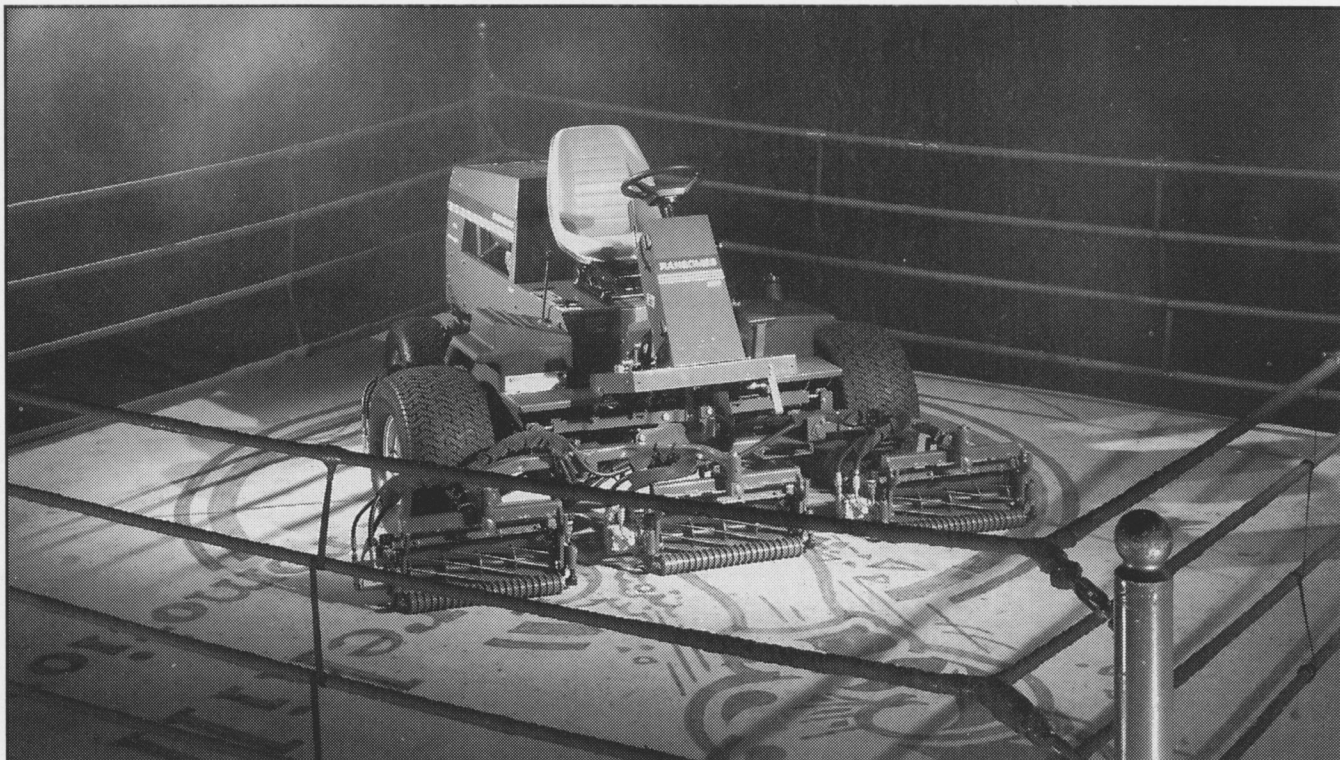
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THE OFFICIAL PUBLICATION OF THE ONTARIO SUPERINTENDENTS ASSOCIATION



June Edition 1996

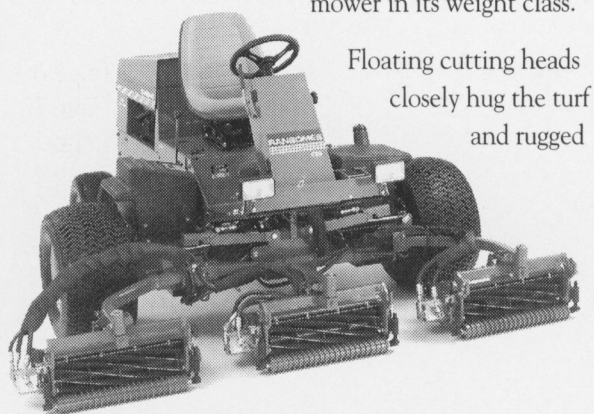




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Georgian Bay Superintendents Association Board of Directors and Ken Wright of The Devil's Pulpit Golf Association



Left to Right: Don Campbell, Ken Wright, President Ron Heesen, Mark Schneider, Gary Gravett, Randy Fielder.

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Cover: Glenn Abbey Golf Club/Dean Baker



President Message...

By Alex La Belle CGCS

Well, well, well! This spring has given new meaning to the term "grassy depression"! No one I have talked to can remember a fall-winter-spring combination like this. In our neck of the woods we had 26/30 days of rain or snow in April. Soil temperatures at my course didn't get above 50 degrees until May 13 Th.

As is customary after conditions like this all of the arm chair supers start chirping. "Why don't we have grass"?! "What did you do"?! "Why can't you get some seed growing, or sod or something"?!!! "Anything"?!!! Then comes the clinical analysis. "You're growing the wrong kind of grass," or, "You've been cutting the grass too short", or my personal favorite, "You toxified the grass with all those pesticides." Those of us that have grass, have magic grass! "Oh well, this course always comes through OK." They forget about us out there getting one or two greens treated whenever the ice and snow cleared during one of the five thaws we had over winter. They don't remember us out with snow shovels and blowers trying to clear enough of the white stuff away to get some fungicide on the turf. I'm not saying all golfers are like that. In fact most really do understand. Its unfortunate though, that the vocal minority panic and have to affix blame on someone. With the recent cold, wet weather keeping us from making any great advances in cultivation this gaggle of Chicken Littles have had more than their usual run at inciting concern.

When something is repeated often enough, whether it is true or not, it becomes believable. Board members are under pressure to supply answers and like it or not, in many cases, both the directors and superintendents are perceived as covering their own aspidistras. I went through this scenario some years ago when we lost 18 greens to ice damage. This is where the services of a consultant may come in handy. The superintendent down the road or the guy next door may be able to share experiences. This issue's article on Re-grassing of Lookout Pointe is an example.

That is how and why associations began. In a very serious situation, the inspection and advice of a group such as the RCGA or USGA tends to lend more credibility to the report and gives the doom-

sayers a target away from home. These groups have had great experience at dealing with stubborn amateurs. You would be surprised at the results. The analysis and advice can be identical to yours, yet the acceptance is much more readily given.

On another note I have been in meetings with the MOEE to look at pesticide licensing and re-licensing. The previous government decided to introduce legislation to require all people applying pesticides to rewrite the examination every five years beginning in 1996. That is not happening yet. They would also have required any people apply under the cover of one license to become fully licensed after two years. That is not happening. What is on the table now is a proposal the have licensed applicators write a test of rules, regulations and safety in order to have the licenses renewed before the end of the five year term of the license. A special position would be created called pesticide technician who would be required to pass a test of safety procedures in order to receive a certificate to allow them to apply pesticides. There would be no requirement for them to pass the exterminator's examination but they would have to be re-certified every two years. Currently we are working on a curriculum and study package to service the needs of the various groups who use pesticides. The objective of Queen's Park is to have the program in place by summer 1997. I will keep you informed of any new developments. I hope to see you at the next golf/meeting day at Angus Glen, July 22 nd.

GTI Update

Rob Witherspoon, GTI Director

Although the rain washed out the main event at the Border Cities meeting at Beach Grove G&CC, I appreciated the opportunity to review research results from 1995 and discuss some of the work we will be doing this season.

The dialogue among superintendents from both sides of the border was very interesting. It was encouraging to hear from Michigan superintendents that IPM scouting is a valuable tool for both decision making purposes and communicating with members. The Ontario Turfgrass Research Foundation has provided partial funding for further

continued on page 7

OGSA Border Cities Golf and Meeting

by Alex La Belle CGCS

Perhaps we should change the title to OGSA Border Cities Meeting and almost Golf Day. Yes, the unfortunate truth is that we got rained out with regards to the golf but had a very interesting meeting thanks to Rob Witherspoon of the GTI and Steven Hall of S.H. Agents Ltd. Steven was the friendly lad taking everyone's shoes and doing away with their spikes! It's not really as nefarious as it would seem. Steven was there at the request of the OGSA to covert everyone's shoes to soft spikes. The OGSA, following the entreaties of David Oatis (USGA) at last year's Green Chairman/Superintendent tournament, decided to cover the cost of outfitting every golfer with a set of soft spikes before tee off time which turned into tea off time. Although most of us didn't get a chance to test the new grippers that



day, I, for one, have developed a genuine fondness for them.

It's not only the reduced damage to greens that result but, as Steven's presentation showed, less damage to cart paths, benches, carts, floors and timbers to mention just a few other items that add up \$\$\$, if you know what I mean. I'm not a particularly elegant golfer, having been known to occasionally lash from the top, and I have yet to experience any slippage of my feet. My game is another story! The OGSA is considering the possibility of providing soft spikes at other events as well. We would appreciate your comments along this line.

Rob Witherspoon gave us a preview of what we can expect to see this year at the Research Day on

August 19 Th. at the GTI. The third portion of the meeting involved an update of the new proposals regarding pesticide licensing. It was a very interesting debate with comments from all corners of the room and both sides of the border. Although nothing new is forthcoming from Queen's Park



about posting, the topic did come up and it was decided that somewhere between the American and Ontario legislations there might actually be some sensible alternative.

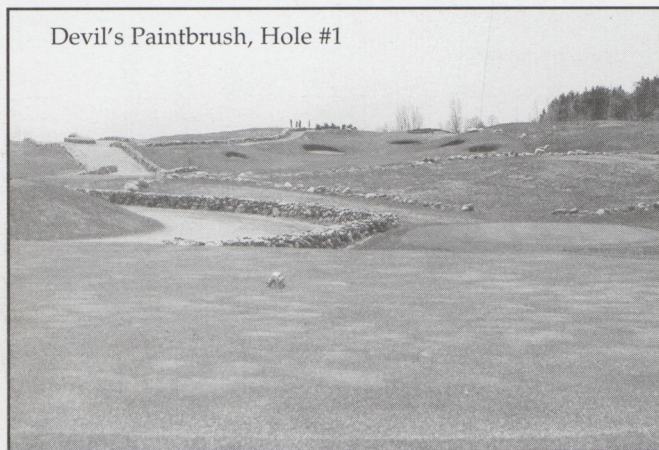
Having already purchased enough prime rib for 90 golfers, we successfully filled the gap between the non-golf and an early dinner while the chef moved his entire schedule up three to four hours. This was no easy task and a tribute to a masterful chef. The staff were excellent! Seventy of us had stuck it out, under foot of these patient people and an anxious, disappointed Randy Hooper CGCS. Randy and his staff had worked their tails off to provide us with a great day of golf only to have everyone's hopes dampened by a downpour and continuous drizzle. After the educational portion and a sumptuous meal Ian Bowen and Jerry Richard deftly handled a seemingly endless draw for the prizes. Towards the end of the meal, Randy, who had been running in and out all day assessing conditions, said we could venture out on foot if we wished. Many deserts were spared!

Hopefully the weather will become more cooperative in the future.

Georgian Bay Superintendents at The Devil's Paintbrush.

By Alex La Belle CGCS.

The first event of the Georgian Bay Superintendent's Association was kicked off at the Devil's Paintbrush on a beautiful sunny day this past May 21st and was no trivial pursuit! It was the first trip to the Paintbrush for many of us and, without exception, everyone was impressed with the breathtaking scenery and magnificent course



conditions.

Probably the most striking feature to immediately capture our eyes was the mile upon mile of rock wall piled meticulously. It winds like a rhythmic gymnast's ribbon over the hills and through the valleys drawing one's thoughts to the hills of Ireland. Scarcely a tree stands among the fescue but cavernous sod wall bunkers dot the landscape yawning to swallow errant shots. The Penncross greens are short, lean and fast with undulations that dare you to defy gravity. The fescue fairways pitch back and forth, side to side, and seem to keep your ball rolling forever. At this time of year we were forgiven by the fescue roughs standing at only four inches. It will be a much different story come July and August!

Ken Wright was the perfect host and we were treated like royalty by the smartly attired, smiling, congenial staff. Ken also looks after the Devil's Pulpit, the first of these sister courses separated by three miles of rolling farm land on the Niagara Escarpment just north west of Toronto. In fact you can see the skyline of Toronto and the CN Tower from the many elevated tees around the course. Dr. Michael Hurdzan designed both courses and the first hole of the Pulpit has been a source of astonishment

since it was built.

Randy Fielder from Bonaire Golf Club organized the day and kept us moving to the tee in foursomes without a gap, moving groups like a professional juggler. President Ron Heesen, from Monterra Golf Club, was master of ceremonies distributing a bountiful table of prizes generously donated by industry suppliers and purchases from the Pro Shop.

Not enough can be said of the suppliers who have, since the GBSA's inception, supported and promoted the superintendents of the Georgian Bay area unwaveringly. The next event will be at Gary Gravett's course, Saugeen Golf Club, where you will be treated to a tour of the new nine holes recently completed. Gary will have a presentation prepared outlining some of the many adventures he encountered in expanding his track. If the rest of the events are anything like this one (and I'm sure they will be), you're in for some fine golf, excellent friendship and beautiful scenery.



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GTI Update

continued from page 4

development of IPM services in Ontario. OMAFRA Turf Advisor Pam Charbonneau is co-ordinating the effort.

The rain and snow did stop long enough in April for us to get a first cut of the research greens on the weekend of April 27-28. We lost some of the perennial ryegrass areas over the winter - particularly in poorly drained spots. Activity has picked up on the site as researchers begin to layout new research plots and collect data from overwintered experiments.

A new initiative this year is the GTI Fertilizer Performance Trials. We have contacted all of the fertilizer suppliers we could find in various trade show guides and source books to enter their products. We are planning both Kentucky bluegrass and bentgrass trials. It is an opportunity for turf managers to see a variety of products available on the market in a head-to-head performance trial. We will be recording a number of observations including colour response (using both visual assessment and the new digital colorimeter), quality, uniformity, density, weed infestation, temperature and drought stress response, disease incidence and winter survival, injury and spring green-up in 1997. The results will be made available to turf managers and the plots will be part of the research field day on August 19th. We hope to expand the role of the GTI in providing unbiased, scientifically-based evaluation of products available to turf managers.

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THE RE-GRASSING PROJECT AT LOOKOUT POINT COUNTRY CLUB OR YES, I AM THE GREEN CHAIRMAN, CAN'T YOU TELL BY THE ROPE-BURNS ON MY NECK?

By Doug Geddie, Green Chairman- CONTINUED FROM APRIL ISSUE

Continued on page 8

In the spring of 1993, when the snow melted from our fairways at Lookout Point, the golf course looked awful. We were covered with Pink Snow Mould and the amount of dead grass on the fairways was unbelievable. Having sat on the green committee for several years, this was my first year as Chairman. Our Superintendent was despondent

about our course conditions and in attempting to offer suggestions, I asked if we could schedule our annual USGA Greens Section course inspection earlier to get some outside advice.

David Oatis of the USGA paid us a visit in June and immediately suggested that we were sitting on a time bomb known as poa annua. He explained the shallow-rooted, prodigious poa was a weak, disease prone grass that would wilt in the summer heat and die with the winter ice. "Until you get rid of it, you are sitting on a time bomb that can go off at anytime," he said. "Without endless water, fertilizer and fungicides in the summer, you just won't have acceptable fairways at the height we cut fairways today. And next spring can be just as disastrous as this one. You simply have to consider a re-grassing program, and make a dramatic introduction of bentgrass to your course." He then went on to explain the steps in a re-grassing program: killing the existing plant grass with chemicals, bringing in a seeding company to sow bentgrass seed, and waiting six to eight weeks for the new grass to germinate and grow.

I was almost speechless, but I did stammer that there was no way on earth that our members would tolerate an interruption in their playing schedule to accommodate this sort of major renovation. We have a very active membership and every outside tournament results in some grumbling from members who resent interruption in their daily game. What we were talking about was closing the course for at least four days to chemically kill the fairways, re-seeding them and waiting six to eight weeks for new bentgrass fairways to grow in. I really did not think such an action was tolerable.

With a list of other courses that had tried major fairway renovations, our Superintendent, Aldo Bortolon and I headed out for a day in Toronto to inspect three courses. Our first stop was Islington Golf Club and a meeting with course Superintendent, Wayne Rath. He took us out to look at fairways that took my breath away. They were like

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The Grassing Project continued from page 8

green carpet with their even colour and uniform growth. Islington had used a variety of approaches to re-grass. Initially they applied Roundup to three fairways, and re-seeded with bentgrass.

With that success two more fairways were re-grassed using the chemical approach a year later. Wayne also introduced increased bentgrass to some fairways without chemicals by aerifying and slit seeding.

Some fairways he did not touch due to their healthy condition. We concluded that Lookout Point would need more extensive surgery.

Our next stop was St. Georges' Golf Club and their course Superintendent, John Gall. Two years before, St. Georges' had done exactly what we were considering. They closed the course, applied glyphosate or Roundup to kill the existing grass plants, brought in a contractor to re-seed with Penneagle bentgrass seed and re-opened after a week to allow the membership to play from the first cut of rough. They kept their players off the fairways for six weeks. John had extensive photographs of the program and they did a lot to convince me that this was a project for us to consider. Most telling were two photographs on the wall of his office - one taken the spring before they started, and the second a year later. The blotchy "before" picture was shocking next to the uniform green fairways of a year later. John was also candid in discussing the politics of the situation. There is more to extensive course maintenance than pounds of seed and litres of chemicals. There is the approval of the Green Committee, above them the Board of Directors and above them the membership. John admitted that their membership meetings to make the members aware of the need for the re-grassing were very lively.

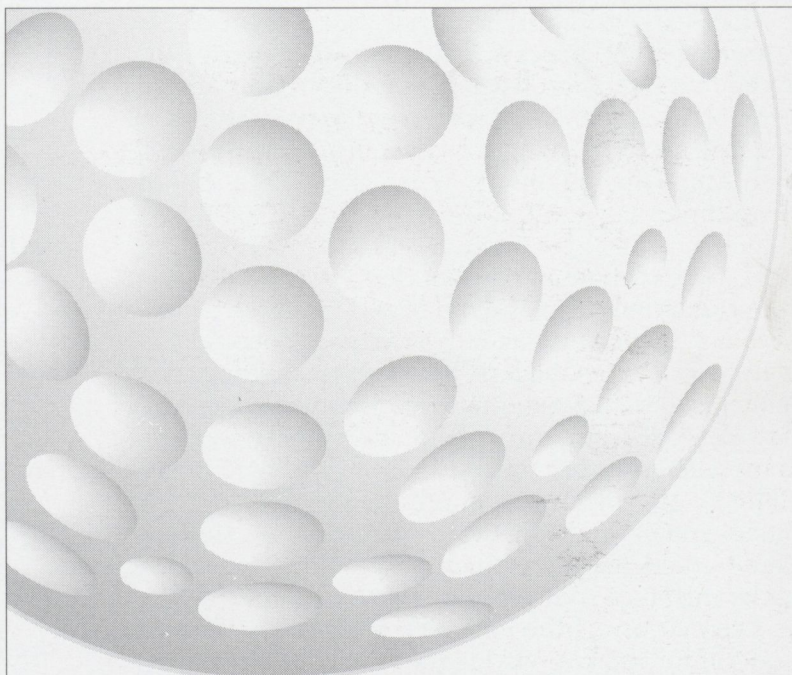
Finally, we visited Oakdale and met with the Dean of Superintendents, Paul Dermott. Paul had been aggressively attacking Poa for years, by aerifying, aerifying, aerifying and overseeding with bentgrass. Oakdale had chosen the non-chemical approach, "There is no question, that if I could do it again with a one-time attack on the course, that is the way I would go," he stated. He endorsed our plans.

The day in Toronto convinced me that we

had to undertake a bentgrass program at our golf course. The question remained about the politics. How could we introduce this drastic re-grassing project and get our members to not only understand but support the program.

Our first step was a discussion with the Board of Directors, and they were very supportive. They agreed that we needed to hold a general meeting and

Continued on page 16



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SUPERINTENDENTS' STORY

by Mike Courneya

Exactly one year ago I became the golf course superintendent of Loyalist Country Club Estates. Since then many things have happened to show mistakes made and success' achieved that will help me to improve myself in the upcoming year. However, before I can make improvements I have to evaluate my skills as a people manager, a turf manager and a financial manager. Where did I learn these skills and who taught them to me?

Experts would say managerial skills become evident early in life depending on how people are raised by their parents. I am not an expert, but I agree that our parents do have a lot to do with our personalities. However, once we leave the "nest" and are on our own, we must learn many skills, including management skills, from the people around us.

I am fortunate in the fact that I was an assistant superintendent at Markland Wood Country Club in Etobicoke where I was surrounded by people who were excellent managers. There was an equipment manager who gave me information that I use every day. Also, the superintendent, Rob Ackerman, was an excellent teacher for me to work with. He openly shared all of his people management, turf management and financial management skills so that I could learn as much as possible. He let me make mistakes (not too many!) and reviewed them so I could correct the problem. To both people I am grateful for the knowledge they have passed on.

The purpose of this article is to point out that I

have learned many of my golf course management skills from a previous superintendent. Similarly, I will pass my management skills on to my assistant, foreman and staff.

So, when I sit in my office today and evaluate my past performance, I must keep in mind that any improvements I make will be passed on to my staff. In turn, they will pass these improvements on in some way. As a result the turf industry as a whole will benefit.

Often I hear people say, "I want to make a difference in this troubled world". Well, as golf course superintendents, here is a chance to make that difference. Evaluate your operation, make changes that will improve yourselves, your staff and your environment; these improvements will be carried on and the future will thank you.

WOGSA NEWS

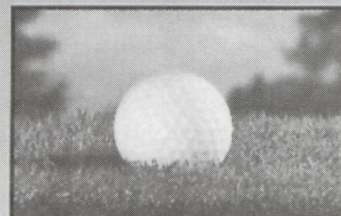
The first meeting was held at the Brock Golf and on May 6, 1996 as our season starts with a bang. Thirty nine members were treated to a great day of golf and fellowship by Walt Windjack and his staff. Ted Bishop was first to the table with a fine round of 65, Tim Coates won low net.

John Taylor was named the new president of the WOGSA, as very long time president O.J. "John Piccolo passed on the gavel. Putting more emphasis on the meeting aspect of our days will be Taylor's immediate focus. Joining the Board will be Gavin Lellogg of Tyandaga GC. Gavin and Steve will handle meeting preparation and scoring for all meeting dates.

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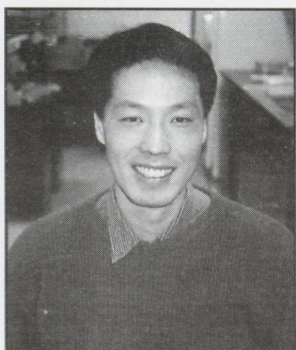


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Fungicide Resistance in Turfgrass Pathogens in Ontario

by Tom Hsiang, Pathologist,
Guelph Turfgrass Institute



INTRODUCTION

Turfgrass managers are always concerned about the development of fungicide resistance. In Canada, we have relatively few fungicides compared to the U.S. and we need to ensure

that the activity of our registered products remains efficacious. In this article, we will look at what fungicide resistance is, how it develops, some history of its occurrence with turfgrass pathogens, and ways of managing fungicide resistance.

FUNGICIDE USE FOR TURF PATHOGENS

American statistics show that the turf fungicide market is larger than for any other single crop, and that golf course putting greens receive the most intensive use of fungicides. Similar statistics are not available for Canada, but they are likely to be similar for the intensity of fungicide use compared to adjacent American States.

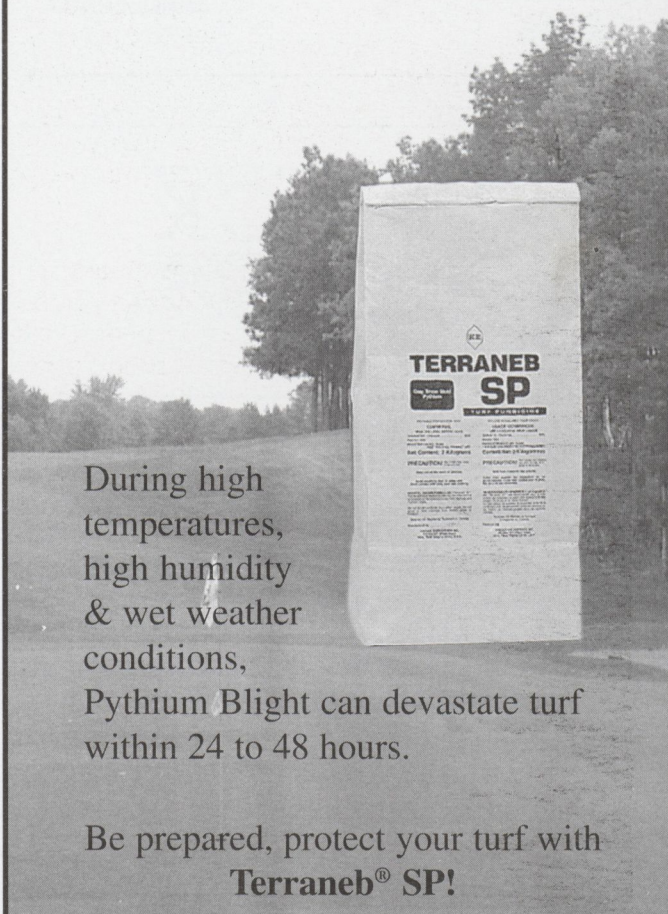
WHAT IS FUNGICIDE RESISTANCE?

Fungicides usually act by inhibiting an important process in fungi such as cell division (benzimidazoles), sterol formation (DMI fungicides), or other general metabolic activities in fungi (dicarboximides). Within populations of fungi, there are many particular individuals that are mutants and can tolerate a larger dose of the fungicide than their normal relatives. In these mutants, some process is altered so that the fungicide either does not penetrate to the site of action within the organism, or the site of action is altered so that the fungicide cannot fully exert its effect. An individual that is resistant to a particular fungicide generally will show resistance to another fungicide that has the same mode of action. For example, benomyl (Tersan) and thiophanate-methyl (Easout) have the same mode of action, and organisms resistant to one will show cross-resistance to the other one. Another major group of fungicides which shows cross-resistance are the DMI fungicides such as propiconazole (Banner) and myclobutanil

continued on page 14

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The Newsletter Editor wishes to apologize to Ken Wright, Course Superintendent of the Devil's Paintbrush for the misspelling of the golf course's name in the last issue.

1996 OGSA GOLF & MEETINGS

PRESIDENT/GREENS CHAIRMAN
SUPERINTENDENT/DIRECTOR:

Monday July 22, 1996
Angus Glen Golf Club
Host: Earnie Amsler

GTI SUMMER FIELD:

Monday August 19, 1996
Galt Country Club
Host: Mark Piccolo

1996 WOGSA GOLF & MEETINGS

June 3, 1996
Rockway Glen
Host: Andre Pelletier

July 15, 1996
Beaverdale Golf Club
Host: Bob Wall

August TBA
Twenty Valley Golf Club
Host: John Taylor

Sept 24, 1996
Brantford Golf & Country Club
Host: Rick Piccolo

OTTAWA VALLEY TURFGRASS ASSOCIATION

OVTRF

July 8
Outaouais Golf Club
Host: Gary Robillard

BULLETIN

OTTAWA VALLEY TURFGRASS ASSOCIATION

EXECUTIVE DAY: August 12
Royal Ottawa Golf Club
Host: Stephen Verrall

FALL FIELD DAY: October 4
Hylands Golf Club
Host: Charles Guy

Contact: France Lacelle
Phone: (613) 443-0027
Fax: (613) 443-0103

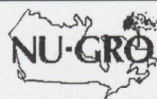
GEORGIAN BAY SUPERINTENDENT'S ASSOCIATION

June 11
Saugeen Golf Club
Host: Gary Gravett

July 23
Marlwood Golf Club
Host: Don Campbell

August 15
Owen Sound Golf Club
Host: Mark Schneider

September 17
Muskoka Lakes Golf Club
Host: James Flett



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Fungicide Resistance in Turfgrass Pathogens in Ontario *by Tom Hsiang, continued from page 11*

(Eagle). In laboratories we can often generate mutants that are resistant to a fungicide, but usually these mutants are weak-growing or lack some feature that would allow them to persist in the field. What we are really concerned with is the occurrence of resistance in the field leading to disease control failure when we make applications at normal rates and schedules.

HOW DOES FUNGICIDE RESISTANCE ARISE?

When we use a fungicide, we impose a selection pressure on the fungi. Within fungal populations, individuals which are able to withstand higher amounts of fungicide can then survive and reproduce. The progeny of these resistant individuals are also able to inherit the resistance to the particular fungicide. Other individuals which are very sensitive may be totally inhibited or killed off by the fungicide. What differs between fungicides is the range of sensitivity that may be found within populations. For some fungicides that are general metabolic inhibitors, the range between the most sensitive and the least sensitive is likely very narrow. For other fungicides, there may be a wide range with the least sensitive isolates able to tolerate very high doses without adverse effect. It is this latter group of fungicides where resistance may develop.

HISTORY OF RESISTANCE IN TURF PATHOGENS

There are several fungicides to which no field resistance has developed. These are fungicides that contain active ingredients such as thiram (Thiram, Arrest), chlorothalonil (Daconil), and quintozone. These types of fungicides are usually protectants and act by inhibiting a wide range of metabolic processes within the fungus. The turf fungicides to which resistance has developed in the past are systemic fungicides. Before the introduction of systemics, the most commonly used fungicides were probably dithiocarbamates such as thiram. There have been no major concerns about field resistance to these older compounds.

Benzimidazole fungicides such as benomyl (Tersan) were introduced in the late 1960's. They provided excellent control of many turfgrass diseases, and their use was very widespread. Very soon afterwards, there were reports of disease control failure for dollarspot disease in Pennsylvania. By the late 1980's there were reports of disease control failure with benomyl for anthracnose in Michigan

and Ohio. Iprodione (Rovral), which is a dicarboximide fungicide, was registered around 1980 for turfgrass diseases. Very soon after that, there were reports of field resistance for *Fusarium* patch in Washington, and for dollar spot in Michigan. There were also cases of multiple resistance to benomyl and iprodione involved in disease control failure for dollar spot in Michigan. There have also been reports of resistance to metalaxyl, which is used to control *Pythium* diseases. More recently, there have been several cases where dollar spot was not control by DMI fungicides. These have been reported from Illinois, Kentucky and Michigan.

ANTI-RESISTANCE STRATEGIES

A case study on the development of DMI fungicide resistance illustrates some of the conditions that may lead to disease control failure. At a golf course outside of Chicago where resistant isolates were found, an older variety of creeping bentgrass was used that was very susceptible to dollar spot. This likely lead to greater frequency of fungicide use. Secondly, nitrogen levels were purposely kept low to prevent the occurrence of other diseases such as *Pythium* blight, which again may have contributed to greater fungicide use. Thirdly, DMI fungicides were used extensively for several years.

Researchers in Michigan recommend that the use of DMI fungicides be limited when dollar spot disease is most severe to reduce selection pressures for resistant isolates. General recommendations to prevent DMI resistance problems in fungi include: 1) not using repeated applications of DMI alone; 2) using mixtures or alternating with non-DMI fungicides; 3) reserving DMI use for the critical part of the season; 4) using label rates rather than reduced doses; and 5) using other measures such as resistant varieties and cultural practices.

RESEARCH AT THE GUELPH TURFGRASS INSTITUTE

There have been few confirmed reports of fungicide resistance for turfgrass pathogens in Canada. In our annual field trials for fungicide control of dollar spot disease, we found that benomyl failed to control the disease after we switched testing for a year to another range of turfgrass, although it worked well the year before and the year after. Subsequently, we found out that benomyl resistance had been encountered in that field 10 years previously and that no benomyl had been used on that range since then.

continued on page 15

PRO / SUPER TOURNAMENT HELD AT GLEN ABBEY GOLF CLUB

Rain, Rain, Rain and more Rain, seems to be the theme for this years O. G. S. A. events. The Professional / Superintendent event was held at the Glen Abbey Golf Club on Friday May 10. Early tee times were the key in completing the event as a third of the 40 teams were unable to finish their round as heavy rains and thunder and lightning forced the players to the club house. Course superintendent, Dean Baker, despite our harsh winter and cold wet

spring, had the course in fine condition. The Club House staff provided the players with a hot buffet in the afternoon and prizes were awarded to the winning teams.

LOW GROSS TEAMS

1st Scott Dyker / David Miller from Beverly Golf Club - 155

2nd Ted DeCorso / Vince Cianfagna from Victoria Park West - 159

3rd Dan Lavis / John Davis from Ingersoll Golf Club - 159

LOW NET TEAMS

1st Ray Richards / Brian French from Mad River Golf Club - 62

2nd Rob Stevens / Brian Hutton from Conestoga Golf Club - 64

3rd Steve Hallard / Al Patterson from Cedar Brae Golf Club - 65

LOW GROSS SUPERINTENDENT

Robbie Robinson from Hidden Lakes Golf Club - 79

LOW NET SUPERINTENDENT

Pelino Scenna from Burlington Golf Club - 68

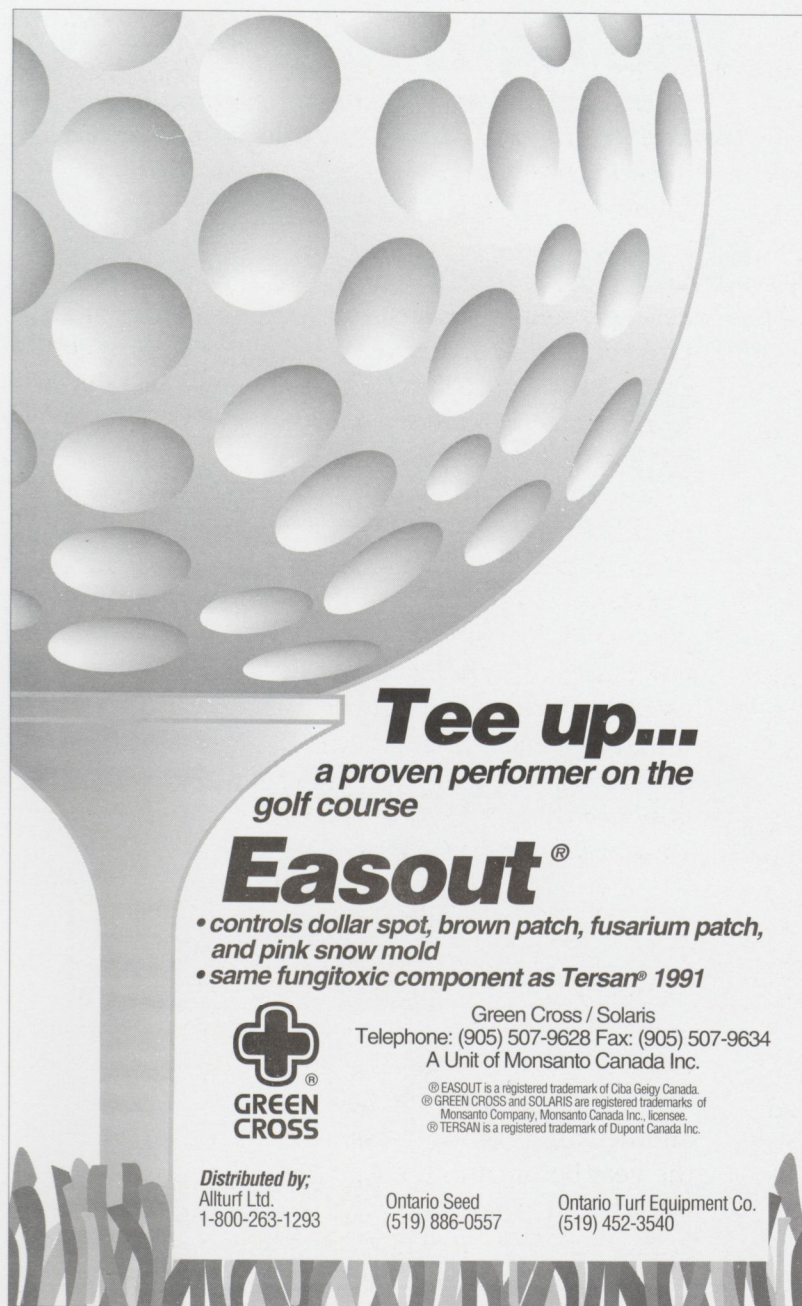
LOW GROSS PROFESSIONAL

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2nd Brian French from Mad River Golf Club - 71

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Fungicide Resistance in Turfgrass Pathogens in Ontario

Propiconazole (Banner), a DMI fungicide became registered for use on turfgrass in 1994. Because of the recent discovery of DMI-resistant isolates of the dollar spot pathogen in the Great Lakes States, there was great concern that resistance would develop in Ontario. We started a study in 1994 to look at baseline sensitivity of the dollar spot pathogen to DMI fungicides. From eight locations throughout southern Ontario, we've found that most populations of the dollar spot pathogen are sensitive to DMI fungicides. However, there is one population near the American border that has reduced sensitivity to DMI fungicides and we suspect that there has been previous exposure to DMI fungicides in this population. Our studies are continuing by examining the effects of various fungicide regimes on the development of DMI fungicide resistance.

The Re-grassing Project continued from page 9

and with the usual promotion and publication, the meeting was held in the first week of October. The meeting was packed, and those who attended heard from two key speakers; David Oatis of the USGA, who gave a wonderful address about the change in golf course management over the years. John Gall brought his slides showing the program of re-grassing at St. Georges', I did not know what to expect from that meeting and at times I feared the worst, but the informative presentations and knowledgeable comments from David and John went a long way toward educating and showing our members just what was involved. The questions were varied and we stayed until they all had been answered.

The next step was the annual meeting. The Board of Directors went forward with a proposal to implement the re-grassing project in August 1994, and on a snowy winter night in January of that year that decision was communicated to the membership. I did a slide show at the annual meeting detailing the steps involved, the schedule and the costs. This would be the time and place for objections, but to my surprise there were very few questions.

The 1994 playing season began at Lookout Point uneventfully. Our newsletters carried up-dates on the re-grassing program, and we tried to deal with the many rampant rumours by publishing a Q&A section about the program, addressing the concerns that were raised.

As summer unfolded, the club rumour mill began to work overtime. There would be a court order or injunction to stop the proceedings. A petition was underway. We heard it all. The fact that the program was about to happen had the 19TH hole abuzz with comments as members became aware that the re-grassing project was imminent.

In fact, on June 17, we received a requisition signed by 46 members asking for a General Meeting to approve several resolutions. Most notably, that the Board should "prove the re-seeding program was necessary." Hadn't we already done that? Hadn't we had two general meetings dealing with the need for this program?

The Board decided that it was not about to be deterred from its' plans by a splinter group

and with due counsel from our solicitors, we chose to ignore the requisition. In the flurry of politics that was unfolding, we arranged a meeting with the two ring-leaders of the petition and their lawyer. The meeting was a good opportunity to clear the air and many things were said. No further meetings, petitions or general shareholders meetings were held.

Continued on page 17

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On Tuesday, August 2, Aldo Bortolon filled his sprayer tank with Roundup and began to spray the fairways. The club was closed to golfers. On Wednesday, August 3, Gord Dol of Dol Seeding pulled up to the maintenance barn with two tractors and huge seeding machines. He made some equipment adjustments and tried a few passes across our fairways. On Thursday, the seeding began. We seeded in two directions for two full days. On Saturday, we opened for play, advising the membership that if their ball landed on the fairway, they should take it to the first cut of rough and continue play. In those early days, the course did not look all that different but as the Roundup did its' job, the fairways turned yellow as the existing grass plants died. Later little plant seedlings began to poke through and with daily inspections we willed the grass out of the ground. John Gall had given us some advice - "Don't look at it too much, it will drive you crazy." He was right.

By September we had green haze on the golf course. On September 22, Dave Oatis made an inspection and with his approval we allowed the golfers back onto the fairways, eight weeks after we had initiated the project. In the spring of 1995, the golf course looked wonderful. We had our best winter in years, and with spring growth, our fairways steadily improved (although the amount of spring seed heads from the poa annua had some members convinced the program had been a failure).

It has now been about a year. Our fairways have never looked better and with careful maintenance we are nurturing our bentgrass and starving the poa. Even a few of our former petitioners are heard to say that the course looks wonderful. In retrospect I think we did the right thing. I am sorry that some of our members were so upset, but they were just as upset when the Board decided to install an inground watering system and renovate the clubhouse. Golfers are just like anyone else - they resist change and fear the unknown.

Golf courses are living places that constantly evolve and change. Trees grow, maintenance practises change, the playing conditions vary. A golf course needs constant supervision and occasionally a hard decision must be faced to maintain the playing conditions and integrity of a golf course. Therein lies the role of the Green Chairman. It is his or her task to learn about maintenance practises, to study recommendations from the superintendent and to


present the facts to the Board and the membership. It may not make you popular, but it is often necessary. The facts of a re-grassing project are clear. Bentgrass is a preferable golf course turf. Teaching your members this fact is a serious task that deserves a great deal of attention in order to make them understand and approve of your actions.

A FEW FAST FACTS

- The cost of the project? \$25,693.00 including Roundup chemical, Penncross seed and the Dol Seeding contractor's services.
- Knowing that we were going to re-seed the fairways, we brought in the course architect, Thomas McBroom, to help us re-contour the fairways in the spring. The new contours were cut early to allow the fairways to grow in their new pattern before the glyphosate was applied.
- Play fell during the eight weeks of the project, although many continued to play daily. On the PGA tour 67% of the players hit the fairways. Our members found playing from the first cut was not all

continued on page 19

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PARTNERS IN ENVIRONMENTAL MANAGEMENT

Report on a workshop on Environmental Management Initiatives

Undertaken by Golf Courses Through a Partnership Approach

On March 26th, 1996, at the Aurora Highlands Golf Club, the Audubon Society, the Lake Simcoe Region Conservation Authority, and Metro Toronto Region Conservation Authority jointly sponsored a workshop on Environmental Management for golf course superintendents, owners, business groups, and resource persons. Its aim was to form networks to support the efforts of course personnel involved in environmental management; to acquaint Conservation Authorities of the concerns of those involved; and finally to inform participants of existing programs that could support these efforts – so they wouldn't have to reinvent the wheel.

The keynote speaker was John Santacrose, the vice-president of the Audubon Society of New York who spoke on the Audubon Cooperative Sanctuary Program and the role of the newly chartered Audubon Canada. Paul Scenna then spoke on why golf courses should get involved in environmental management. The concept of fostering partnerships between Conservation Authorities and the golf course industry was addressed by both Gayle Wood, chief administrative officer of LSRCA, and Joan King, councilor, and member of MTRCA. A presentation of actual projects implemented by Paul Dermott illustrated some of the difficulties and successes involved in working toward the recent full certification of his course, the Oakdale Golf and Country Club.

After opening presentations, superintendents had the opportunity to discuss their concerns in small groups and report back to the group at large. From later comments, I feel there was not enough time for the formal exchange of concerns, though lunch was successfully designed to encourage informal networking.

The afternoon program was led off by Bob Johnston from the Metro Toronto Zoo. The Zoo, also, is working on different aspects of restoration of natural areas and have several programs that would be of great assistance to superintendents. The main

thrust of Bob's talk was, however, a caution to first get a sense of where your particular piece of land fits into the bioregional landscape. None of us can do everything; therefore, the best approach is to try to link up with the surrounding greenspaces, concentrate on projects that are appropriate in this context, and not to become overwhelmed by trying to do everything. Mike Walters (Manager of Environmental Services, LSRCA) and Dave

Rogalsky (Acting Coordinator of Resource Management Projects, MTRCA) both told us of various programs and expertise they offer to support environmental management. Bernie McIntyre closed by giving us an idea of the diverse requirements of fish habitats – especially appropriate since the Oak Ridges Moraine is the

headwaters of much of Lake Ontario's and Lake Simcoe/Georgian Bay's rivers and streams.

It was a long day, but evaluation of the closing questionnaire indicated almost unanimously that the workshop was worthwhile, the format was balanced, and that participants would support another such workshop. Making future workshops more interactive will, however, be a priority. Some of the other comments from participants make up the rest of the article.

Future topics / programs in which there was the most interest include (in order): Wildlife Habitat / Naturalization, Water Quality / Conservation, Public Education / Relations / Involvement / Partnerships, and IPM. With the support of the Audubon Society, I will be working on developing three (Wildlife habitat/Naturalization, Water Quality/Conservation, and IPM. The Public Education, Relations, Involvement and Partnerships will become an integral component of each of the workshops. John Santacrose will also be seeking credit status toward Environmental Management for each of these. No date has been determined as yet.

The main barriers to getting involved in environmental management were ones that



hopefully can be mitigated. The most commonly mentioned concerns, time and manpower, cannot be overcome except by tackling the program one step at a time, but I have been gathering lists of resources, expertise, and existing programs that at least reduce the time needed for "research". The need for more information about resources can be addressed through newsletters such as this, and some Conservation Authorities will be carrying information on the Audubon work in order to explain our efforts to the public. For those of you who use e-mail and the Internet (and I strongly encourage you to learn), this information will be readily available for you to access, ask questions, and exchange information. It is hoped that this will be available through Audubon Canada. Regarding the economics of the work, many superintendents have documented substantial savings from environmental management. In our case, much of the work has been done by volunteers, materials have been scrounged, and expertise has been generously donated. While there is no question that major work will require outlay of time and money, an inventory of your own resources will help prioritize what projects you can undertake.

The lack of support (from management, members, community) is a very real, and legitimate concern. As most of the superintendents indicated, they don't need personal incentives, they are already interested; but getting support from golfers and management is a slow process. There is, however, much that can be done, and for each of the projected future workshops, specifics will be shared on how to involve the public in supporting your work.

One of the questions asked "How can the Audubon Canada be made most relevant?" Participants responded with the request that the program and resources be structured with a regional Canadian content. This is being addressed through studies commissioned by the RCGA last year, though I haven't seen results yet. My work for the past two years has resulted in an emphasis on Southern Ontario, in particular the GTA. However, many of the principles of environmental management apply equally well across the country.

The final questions asked what the next steps should be for those interested in working on environmental management. Wisely, many answered that it was important to go slowly. It is better to do a little well,

than a lot poorly – or even worse, end up with a member backlash and have to backtrack. Over and over came the request for more information – develop resource lists, hold more workshops like this, but make them more technical, and how-to. There is a real need to get management involved. Without their support, there is only so much that can be done. And finally, most recognized the need to get involved with the community. Maybe we will have to make the moves. What are the areas best suited to superintendents' time and skills?

COMMUNICATION !!! was the theme of this workshop. How will we know if it was successful? ... by the number of new courses joining the Audubon Program, the number of calls to Conservation Authorities for information and/or assistance, by increased numbers of projects on your courses, achievement of certification in different categories, and above all by the increased confidence of superintendents to educate members and the public about the valuable ecological potential of golf courses to maintain water quality, add to the region's wildlife habitat, and set an example for environmental management.

*by Barbara Allan-Shaw
(e-mail: es051117@orion.yorku.ca)*

The Grassing Project continued from page 17

that difficult.

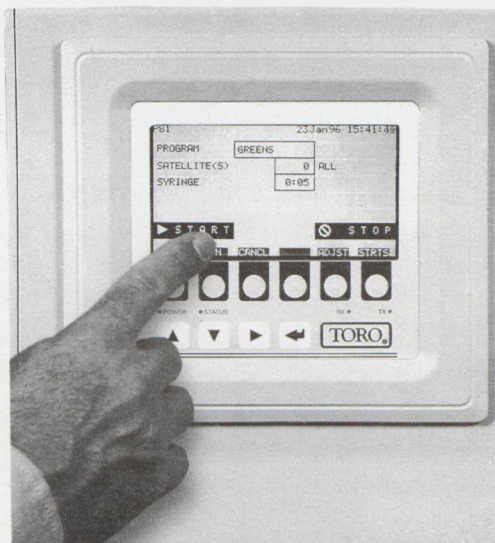
- When the course was closed we seized the opportunity to put our own men to work and managed to aerify, topdress and overseed all our tees and greens. This was a mid-season course maintenance bonus.
- There's seven million seeds in a pound of bentgrass. We applied 1,800 pounds of seed. From the arithmetic alone you know this project will be successful.
- Bentgrass requires less water. Our hydro bill is \$1,000 lower this year because of the reduction of the pumping of water through the watering system to maintain the fairways.
- The support and information available from other golf courses and particularly from the Superintendents was an invaluable resource.

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Computer Assisted Renovation

By: Ian C. Andrew

Ian Andrew is a golf architect with Carrick Design, based in Toronto, Ontario.

Anyone involved in golf course renovations knows the frustration of looking at a set of plans. Despite the efforts of the architect to explain all the details of their design, many people still can not visualize the final product. How do you make a decision based on the proposal's merit when you can't understand the drawings? This can be overcome through sketches. By taking a photo of the existing hole and placing it beside an accurate sketch of the same image, a person could now compare the "before" (existing) to the "after" (proposed).

Let's take this concept one step further. A video opens with a view from the tee of the hole to be renovated. The trees and hillside framing the hole are the same as the existing hole, but in the hillside are new fairway bunkers. The image now rises from eye-level to follow a golf ball's flight to the landing area, then settles back to eye level and stops in view of the green site. Again, all the trees and mounds looks as they always have, except that there is a new pond fronting the green. Once again the image follows the ball's flight, stopping at eye level just in front of the green. The image now backs away skyward to look down at the entire hole. This video contains all the trees, water and landforms of the existing hole accurately. Anyone who is familiar with the hole could immediately imagine all the proposed changes. This would make a decision based on the merits of any design easier to evaluate.

The Process

Creating a video is a simple series of steps. First, an accurate survey of the area to be renovated is obtained. When loaded into the computer assisted design software, the survey provides enough information to create a three dimensional image (without the existing trees.) The second step is to visit the site to make notes and take measurements of existing features in order to improve the accuracy of the image (in particular, the trees). These steps provide an accurate view of the existing hole. The hole is then regraded and a new plan for the renovation is developed. There would still be a need for plans. These plans are actually drawn by the computer in three dimensions, even though a traditional plan is only an overhead view. The information is then converted from lines to a "3-D

surface" and can be viewed from any angle. This surface is called a terrain model and has colours and textures applied to create rough, fairway, sand, water, etc. The result is a three dimension model of the changed hole, without trees. The trees are added by placing digital photos of trees into the model. Once the 3-D model is completed, a "fly-through" program is required to copy the information into video format. The fly-through program follows a designated path through the model, with a camera taking still photos continuously, which, when run together, produce a video image.

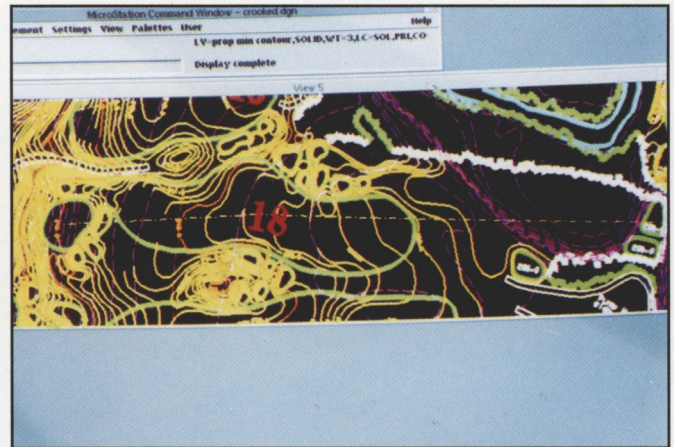
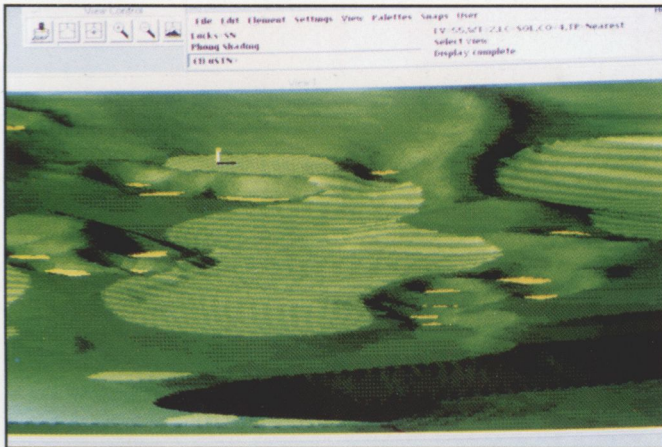
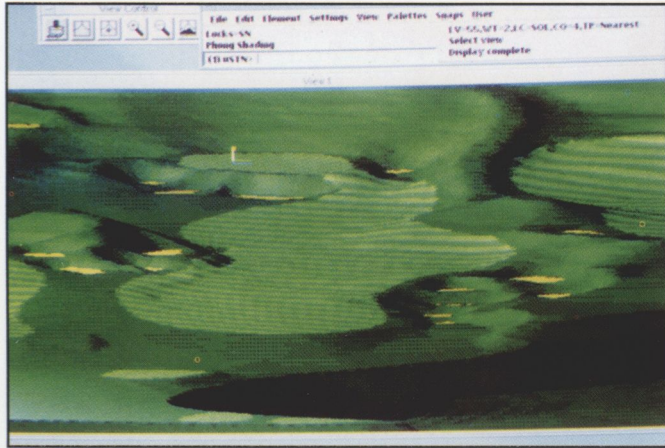
Computers in Golf Design

Engineers and surveyors were the first professionals to convert to computer assisted design because it was faster and more accurate. While golf design does not demand the same level of accuracy, details such as earth-moving quantities and materials estimates are still required to get an accurate construction budget. The computer uses the software to generate quantities, which reduces the chance of human error in hand calculations. The computer is of greater benefit on larger scale projects than on minor renovations. For a bunker renovation, computer drawings are excessive, but for a green, the advantages are obvious. Where the computer really helps is visualizing a sensitive or controversial change.

Computers are not necessary for the future of golf course renovation; like drawings, they are still only a communications tool. Nothing can replace good site direction and a talented shaper. Although, with greens committees taking more interest in renovation projects, more accuracy is required in both budgeting and communicating the vision of the architect to achieve approvals. Contractors are being asked to bid with more competitive prices, the only way this can be accomplished is through more accurate drawings and quantity estimates to avoid interpretation in bidding. Computers are capable of much more than this little glimpse into golf renovation. The superintendent, like the architect, must understand where a computer can help sell a renovation project.

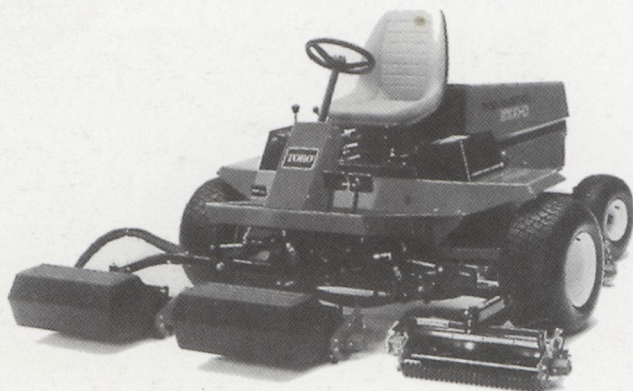
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Computer Assisted Renovation



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