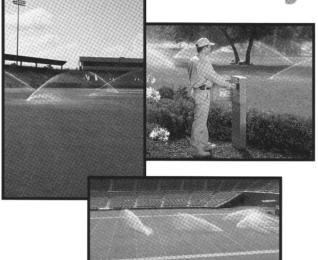
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SPORTS TURF MANAGER

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STA OFFICE HOURS

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

The STA Mailbox

WE WELCOME COMMENTS ON ALL EDITORIAL CONTENT

ongratulations on an attractive and informative March 2002 newsletter. Your promotion of the ASTM standards was great. I served with Don on the F-2107-01 and Chaired the F2000-000. There are other standards that would be of value to your members. I would be pleased to do an article.

— Dr. Arthur H. Mittelstaedt, Jr., Ed.D., Executive Director, Recreation Safety Institute, Ronkonkoma, New York

Editor's note: We have accepted Arthur's generous offer to write this article and look forward to publishing it in a future issue of Sports Turf Manager.

Congratulations on the excellent Volume 15, Issue 1 of the Sports Turf Manager. If you have extra copies of that issue on hand, please send four copies to me. I would like to give them to persons whom I am asking to apply for membership in the Association.

- Robert S. Broughton, Emeritus Professor, McGill University, Sainte Anne de Bellevue, Quebec

Editor's note: We are always pleased to assist our members in promoting the Association and our mission 'safe, natural sports turf through education and professional programs.' Your 'word of mouth' recruitment is the most valuable endorsement we possess!



ASTM Standards Available

VALUABLE GUIDES FOR SPORTS TURF MANAGERS

he following standards are available from the American Society for Testing and Materials.

· Standard Guide for Construction and Maintenance of Skinned Areas on Sports Fields, Guide F2107-01, \$30 US, and

· Standard Guide for Fences for Ballfields and Other Sports Facilities, Guide F2000-00a \$25 US.

For further information or to order, visit the ASTM website at www.astm.org or telephone (610) 832-9585.



MEMBERSHIP PLAQUES

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Sports Turf Association Display Membership Plaque in executive engraved walnut. \$50 plus S&H. To order, contact Lee Huether at the Sports Turf Association office.

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

Quote of the Month

"At a football game there are 70,000 people desperately in need of exercise watching 22 people desperately in need of rest." - Howard G. Hendricks, Say It With Love





Hello to our members.

Well it's that time of year again – spring! For all of us this is truly the busiest time of the year and 2002 is no exception. Can

we have winter back?! The grass is growing, new students are in and all "#\$?#" is breaking loose. Just another year in the life of a turf manager. The only thing that is saving our skin is the fact that it has been a cool start to the spring; otherwise, we would be in deep trouble ...

I would like to take this time to thank all of our members who have renewed and updated their information for the 2002 season and to extend a sincere welcome to new members. This information is extremely important as it allows us to keep our database current, which helps us to inform you of new events, promotions and, of course, the annual STA Field Day. The 2002 Membership Roster is now being compiled and should be out to you in the near future.

Continuing on a positive note, the *STM* Cumulative Index is now complete. And what a task it was. All articles were sorted from 1987- 2001 to allow for quick reference. The project was undertaken by Mike Bladon and Bob Sheard who have spent a considerable amount of time working on this. Of course I should not forget our Executive Manager, Lee Huether, who worked along side Mike and Bob to get this task completed. Thanks from the Board and Membership!

In an ongoing effort to strengthen our association and membership, we sponsored another exciting educational event with our ORFA partners at St. Michael's College in Toronto. These workshops are designed to bring the turf knowledge of our association to the membership of the ORFA group. The workshop was a great success and a big thank you to Chris Mark and Jane Arnett-Rivers for doing some

great public speaking. The next joint venture with ORFA is in Halton Hills on October 23rd at the Mold-Masters SportsPlex. Look for further details in the newsletter.

Annual Field Day

The Sports Turf Association's 15th annual event has been finalized. It will be held September 12th at the River Oaks Recreation Centre in the Town of Oakville. The Field Day will consist of various topics that YOU, our members, have asked for. Irrigation is back on the agenda and no, not the same old stuff. We have allotted a set time in the program for Greg Snaith of Rain Bird to talk irrigation and about the new water management systems that are available to turf managers.

We will also be drawing on the resources of the University of Guelph to learn about turf covers for your soccer fields/ball parks and what to do about winter kill. This session will be presented by Dr. Julie Dionne who is the new Turf Management Faculty member with the Department of Plant Agriculture. Julie recently accepted the position and has since moved her family to Ontario from her roots in Quebec. On behalf of our members, we wish Julie much success.

Mel Lanford, a true turf professional who has earned his reputation from hard work and lots of experience, will be a featured speaker. Mel started out in the municipal sector and then moved to the private sector working with none other than the New York Yankees organization. He is a man who is full of knowledge and tips and he looks forward to sharing those with our members. Mel is featured every month in the Sports Turf Managers Association's magazine SPORTSTURF. Check out the Travellin' Man (as he is known) on page 7. Having Mel come over to Ontario is a major coup for the Association as he is currently one of the hottest speakers on the turf tour.

We will also have a visit from Becky Kellar, a member of Team Canada's women's gold medal hockey team who will tell us about the Olympic dream and the hard work and dedication it takes to get there. Of course she will bring her gold medal with her and I will have my camera on hand to get some shots!



STM

The annual STA Field Day will be held on September 12 at the River Oaks Recreation Centre in the Town of Oakville. An exciting line-up of speakers and exhibitors has been arranged.

I believe that we have another exciting day planned, so book it in your day planners and we will forward further information as it's available. Let's make it the best event yet! I look forward to seeing all of you in September at the Field Day.

In an effort to streamline member transactions and services, we now accept MasterCard and Visa to allow you to pay membership dues, buy books and of course, register for the annual Field Day. This is something you requested. The new Sports Turf Association website will be up and running in the latter part of the year. The new site is registered at www.sportsturfassociation.com and work will soon commence. Keep an eye out for more information. Have a great spring! •

The Ten Commandments of Media Relations

TIPS TO IMPROVE MEDIA COVERAGE OF YOUR BUSINESS, PROFESSION OR CAUSE BY DAVID LEONHARDT



Have you ever seen somebody interviewed on television and thought, "No, that's not how this industry works"? Have you ever faced criticism in the media of how you manage your turf?

he media act as a filter for society. It is the battleground in the war of public opinion. After 3,000 media interviews, I've learned a few things about the media. What follows are the Ten Commandments of Media Relations. They will lead you to greener pastures – and sports fields – in the war for public opinion and boost your credibility among potential clients and the public.

Though shalt not waste a journalist's time. Believe it or not, journalists are busy people. Editors wade through hundreds of news releases each day. Reporters struggle to assemble a story by deadline. The whole team works to edit

for space or time, check spelling and grammar, choose headlines and visuals, and bring it all together. Send a news release only when you really have something to announce. When calling a journalist, make it short and sweet; give the journalist the information he needs and respect his time as you would want yours respected.

Thou shalt build relationships with reporters. Of my three strategies to attract media attention, this is the one most likely to give you recurring benefits. This is the fertilizer that can make an "expert" out of you in the public's mind. And the one that gives you the heads up when a





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Plant Products Co. Ltd. Brampton, Ontario 905-793-7000 or 1-800-387-2449 Fax 905-793-9632 • plantprod.com future trouble spot is brewing in the media. In my online **Make some NOISE!** course, I propose a four-step process to build relationships with journalists. This takes some effort – and like every other relationship, it has to be built on trust.

Thou shalt stick to thy message.

This seems obvious, but so often media spokespeople fail to stick to their messages. For instance, if your statement is about the safety of dense turf for children running on the field, focus on safety. Don't try to also sneak in messages about the environment, your expanding market share, or some award your company has won. (And it is not your responsibility to defend pesticide companies, or anybody else, just how you handle pesticides responsibly.) Define your message and make sure everything you say supports that message. Similarly, if a journalist tries to put words in your mouth or get you to wander away from your message, don't let her get away with it. Answer the question in a way that bridges back to your message.

ing pieces. Don't speak to the camera as if you were taping a commercial. The credibility media coverage gives you comes from the fact that it is NOT advertising. And journalists will feel no responsibility to do your marketing for you.

Thou shalt not have another spokesperson. This is the only NEVER I offer in my online course and in my live seminars. NEVER let someone else be your spokesperson. It's fine to hire someone to write and distribute a news release or to set up interviews, but nobody else carries your credibility in the media. It has to be you. Your expertise is sports turf. A P.R. firm's expertise is P.R. Guess which one the reporter will trust when seeking expert advice on sports turf.

Thou shalt comment. So a reporter asks a negative or embarrassing question. What do you do? Avoid saying, "No comment." No answer you can give will look worse in the media than a report that you refused to comment. Provide an answer in your own words; don't repeat a report-

A reporter asks you a question. You don't know the answer. Do you try to fake it or do you just admit you don't know the answer? David Leonhardt explains in point #9 - thou shall not fake it!

Thou shalt not be a dead end. So the reporter calls you with a question you cannot answer. Should you hang up? If you are a reporter's dead end, she'll be unlikely to call you up again. If you can't answer her question, refer her to someone who can (preferably not a competitor). So if a reporter asks a question about residential lawn care, refer them to someone who is an expert in that field. Or promise to call her back with the information. Or give her some other information that may be useful for her story. But don't send her away empty handed.

Thou shalt not advertise. Is the media there to provide you with free advertising? No way. It's there to deliver news to its audience. Erase from your mind the attitude that you are advertising. Don't write news releases to sound like market-

er's negative answer. Say as much as you can. Explain why you cannot divulge more (client confidentiality, the information will be announced later, etc.) When confronted with bad news, the best thing to do is what the makers of Tylenol did in 1982 and 1985. The company pre-empted media questions about the dangers of some poisoned tablets by announcing the safety steps it was taking.

Thou shalt give notice. If you want the media to cover your story, give them notice. They need time to reserve a camera. They need time to do background checks and find other sources to comment. Making last minute announcements is not a good way to cut naysayers out of the story. It is a great way to kill the story. The "naysayers" give the story balance – and without balance, the journalist has no

story. When my book, Climb your Stairway to Heaven: The 9 Habits of Maximum Happiness, was nearing its publishing date, I sent out an advance notice to reviewers. I sent out a reminder note again that the publishing date was fast approaching

Thou shalt not fake it. Here's an interesting scenario. The reporter asks you a question. You don't know the answer. Do you try to fake it or do you just admit you don't know the answer? A former boss of mine answered a question incorrectly before a parliamentary committee, when he knew he had no idea what the right answer was, leaving me to pull up his weeds. You are more impressive saying, "I don't have those statistics in front of me, but here's what I do know ..." than to prove to the world that you don't have a clue what you're talking about.

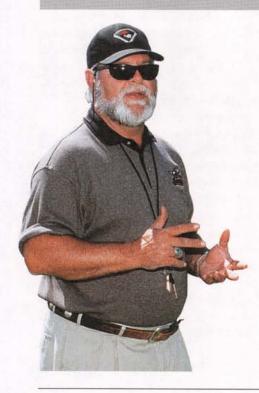
Thou shalt piggyback. Wow! You received great coverage in the morning paper. But did the local radio station see the story? They did if you forwarded a copy. Did all your potential clients see the story? Make sure they do. I was impressed by a marketing kit I received from a high-end caterer. I opened the folder and there I was faced with two items: a letter of introduction and a pair of press clippings. What about other things you do? Do you have a newsletter? Have you added key media contacts to the distribution list? What about a home page on your web site? Do you advise the media when you make major changes? Piggybacking means getting more for your efforts. It's one of several bonus tips I offer in my online course.

Now that you've read this article, are you ready to become a media spokesperson? Well, there's still a lot more to learn. But this article does give the most important information you need to know − the Ten Commandments of Media Relations. ◆

For a copy of David Leonhardt's special report Get In The News, send \$15, or for the video It's your message. That's what counts, send \$25 to 417-711 Bay Street, Toronto, ON, M5G 2J8. Or visit him at www.leonhardtonline.com.

On the Road with Ace

"BUILDING A STRONG WORK ETHIC" BY TRAVELLIN' MAN MEL LANFORD, FEATURED SPEAKER, 2002 STA FIELD DAY



n 1999 my wife, Teresa, and I made a decision that changed and enriched our lives. We sold all of our household possessions, purchased an RV, secured corporate sponsors and created the Ace of Diamonds Tour. Three years later, I'm still travelling. I've been privileged to meet some true characters, many of whom have become my teachers and keep me informed of interesting issues and facilities that have deepened my appreciation and love for all things related to baseball.

Each month, "On the Road with the Ace" will profile different people and places that I encounter on my travels. So, sit back and ride along with me for a few minutes while I introduce you to two dedicated colleagues who share your passion for sports fields. I enjoy meeting fellow professionals and learning about your dif-

ferent methods, challenges and personalities and I look forward to visiting a ballpark near you soon.

Building a strong work ethic

"I'd give an arm and a leg for these work ethics."

Hoover, AL—Athletic field manager Kenny Shaw of the Hoover Board of Education maintains two very high profile sports complexes, the Spain Sports Complex and the Hoover High School Complex. Both facilities have eight fields each and the \$55 million, newly constructed Spain facility includes some \$10.5 million in field construction.

Kenny took on this 16-field responsibility a year and a half ago. With no labor force and limited equipment, he tackled the grow-in and maintenance by himself,



welcoming volunteer help from industry partners in the evenings and weekends. He has since assembled a four-man crew and acquired the proper equipment and materials to effectively maintain his fields with a low-labor budget. Like most people in the profession, Kenny's passion for sports field management comes from a lifelong love of sports.

"If it had a ball involved, I played it, " Kenny says. "Working these facilities allows me to remain involved in sports every day."

Kenny isn't your typical amateur athlete turned athletic field manager. Plagued for more than 20 years with avascular neurosis, a condition that causes deterioration of cartilage and bone, the 37-year-old married man underwent surgery February 4 to replace his left hip. After missing only one week of work, he returned mid-February on crutches to do whatever he could until he recuperates. Six weeks later, the other hip will be replaced. Kenny is more

concerned today about the development of his winter ryegrass than he is about his surgeries. In my opinion, Kenny deserves the "Ironman in Sports Field Management" Award.

Excited about the newly formed Alabama STMA, currently supported by Alabama vendors and educators, Kenny believes that athletic field managers have an excellent opportunity at STMA for education and networking that is vital for career success.

Nashville, TN—At an early age, most young people have role models they admire. Whether it's a parent, preacher, coach, teacher or relative, someone instills certain values and sets examples for a good work ethic.

Marty Kaufman, assistant sports field manager for the Tennessee Titans, was raised near an Amish farm community in central Ohio. These devoted farmers and craftsmen set a high standard of discipline and work. When Marty was not involved in school or sports, his spare time was spent at his grandfather's farm, just down the road from his own home.

Grandpa lost his left arm as a young man in a farming accident and had to improvise. When he would do mechanical work on the old tractor or farm implements, he would use his right hand and anything else, his chin, teeth or chest, to get something done. Marty was amazed watching this as a child, but looking back, amazement has turned to respect for Grandpa and a strong appreciation and understanding for what hard work really is.

During the off-season, Marty spends his time arranging upcoming events for the Tennessee Valley STMA, for which he currently serves as program director under president-elect Bob Elliott of Nashville.

Where did you get your work ethic? ◆

— Reprinted with permission of SPORTSTURF, Volume 18 (3), March 2002



STA 15th Annual Field Day - Program at a Glance

THURSDAY, SEPTEMBER 12, 2002, RIVER OAKS RECREATION CENTRE, OAKVILLE, ONTARIO

8:00 – 8:45 am Registration
Refreshments with Indoor Exhibitors

8:45 - 9:00 Opening Remarks

9:00 – 10:00 Intelligent Irrigation Gregory Snaith, P.Eng., Rain Bird International

10:00 – 10:15 Refreshments with Indoor Exhibitors

10:15 – 11:00 The Olympic Experience, Becky Kellar, Member, Team Canada, Women's Hockey

11:00 – 11:45 Introduction to Turf Covers, Dr. Julie Dionne, University of Guelph

11:45 - 12:30 pm Lunch

12:30 – 1:30 Meet with Outdoor Exhibitors, *Demonstrations on request*

1:30 – 3:30 The Ace of Diamonds
Travellin' Man Mel Lanford

3:30 - 4:00 Questions/Mix & Mingle

Sessions and Speakers

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Gregory Snaith received his Agricultural Engineering degree from the University of Alberta in 1988. Following graduation, he worked in Alberta for eight years specializing in agricultural irrigation. In January of '97, Gregory launched out on his own, managing an irrigation engineering consulting business. In December of '98, he joined Rain Bird International and

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The ICR is especially useful for landscape maintenance and installation personnel who monitor irrigation operations of large commercial and residential sites.

Using the ICR, contractors can quickly access irrigation systems of shopping centres, industrial complexes, college campuses, condominium associations, cemeteries, sports fields, municipal parks and other large multi-station facilities.

In areas obstructed by large buildings, walls or trees, the ICR has the power to communicate within a half-mile range. It accepts up to 128 different programmable security codes so that any number of ICR receivers can be installed in the same area.

Irrigation professionals find the ICR offers important time-saving advantages

because it eliminates the need to travel back and forth to a controller in order to activate a system.

During winterization, for example, the user can quickly "blow out" the lines by advancing through the zones. At installation and startup, pumps, valves and sprinklers can be activated with the ICR to verify operation and to flush de-

bris from the lines. During routine inspections, contractors can pinpoint irrigation problems by running through the zones using the ICR.

The ICR features a large LCD display and easy push button operation. The unit also offers variable remote activated station run time, which allows a

one-time change in the watering schedule without affecting the regular program. The product has a five-year warranty.

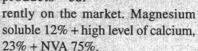
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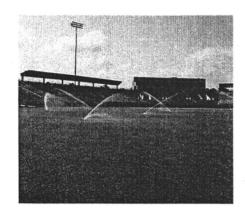
are now available from all Ontario distributors.

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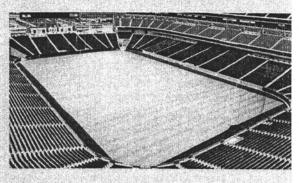
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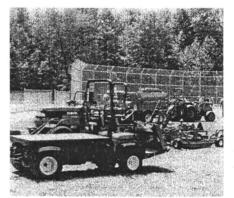
hash marks or in goal mouths. Used with sod, it enhances and accelerates root growth to establish strong and healthy turf in much less time and much more vigorously than with conventional methods.

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annual Field Day

The 15th Annual STA Field Day will be held on September 12, 2002 at the River Oaks Recreation Centre in the Town of Oakville.

If your company is interesting in exhibiting or sending employees to the event, please contact Lee Huether at the STA office at 519-763-9431 or email sta@ati.uoquelph.ca.

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Biocontrol of Broadleaf Weeds

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The Problem

Dandelion (*Taraxacum officinale* Weber) is a major turfgrass weed in golf courses, sports turf, municipal parks and home lawns. There are several herbicides registered for the control of dandelion and other broadleaf weeds. These herbicides generally provide good weed control but there have been mounting concerns about the potential negative effects of pesticides on humans, animals and the environment.

These concerns have resulted in numerous municipalities in Ontario, Quebec and elsewhere to ban or severely restrict the use of 2,4-D and related herbicides on public and private property. In Canada, most pesticides (91%) are used for agricultural purposes, and herbicides account

for 85% of the market. 2,4-D still accounts for 1/4 of all pesticides used in Canada and it is the most common herbicide used for domestic purposes. Similarly in the United States, 2,4-D has the largest volume of usage in non-agricultural sectors (23-26 million lbs. in 1997).

Project Team

A Collaborative Dandelion and Broadleaf Weeds Bioherbicide Project was established in 1994 supported by a NSERC TPP grant involving three academic institutions, McGill University, University of Guelph, Nova Scotia Agricultural College, and several industrial partners including BioProducts Centre Inc. (Saskatoon), Saskatchewan Wheat



moved with his family to Ontario to manage the turf market for Ontario, Manitoba and Saskatchewan. Gregory resides in Guelph and is the Area Specifications Manager working closely with landscape architects, city park managers and water conservation authorities.

The Olympic Experience

Becky Kellar will share her journey with the Women's Olympic Hockey Team to Salt Lake City and, ultimately, the gold medal game which saw Team Canada victorious over the United States with a 3-2 win. No stranger to the world arena, Becky was a member of the silver medal team at the 1998 Olympic Games in Nagano, Japan and played in three World Championships in 1999, 2000 and 2001, winning three gold medals. She graduated from Brown University in 1997 where she played hockey for the Brown University Bears for four seasons. An Academic All-Ivy Award winner (academics and athletics), Becky is also well acquainted with turf, having played four years on the Brown University softball team.

Introduction to Turf Covers

Although still in the experimental stage on soccer, ball and football fields, covers have long been relied upon on golf courses to protect turf. Whether the renovation season must begin later due to late fall permitting or trying to get that germination in early April for mid-May use, covers can extend your germination window. With both successes and failures under our belt, here is what the sports turf industry should know. Reduction of winter damages (freezing temperature, desiccation, ice), enhancement of turf establishment, and other potential uses of covers will be discussed.

Dr. Julie Dionne is the new Turf Management Faculty Member with the Department of Plant Agriculture at the University of Guelph. Her research interests include physiology of turfgrass species in relation to environmental stress tolerance; winter protection of golf greens; biology and physiology of annual

bluegrass; turfgrass management and fertilization; and, integrated pest management in urban landscapes and golf courses.

The Ace of Diamonds

Mel Lanford, a 30-year veteran of the groundskeeping industry, is the creator and host of the Ace of Diamonds Tour. A former professional groundskeeper at the collegiate and minor league level, Mel travels across the United States year-round presenting hand-on seminars, demonstrating proper infield and sports turf maintenance materials, equipment and techniques to athletic field managers. We are fortunate to have the opportunity to import Mel and his expertise over the border and into Ontario for the day!

For More Information

The complete Field Day brochure with registration details will be forwarded soon to all STA members. For more information, contact Lee Huether at the STA office. •

Pool and Dow Agro-Sciences Canada Inc. The overall goal of this project was to develop a natural, safe alternative to traditional chemical pesticides, an environmentally benign product for the biological control of dandelion and other broad leaf weeds. Moreover, this product should be competitively priced, easy to use, well packaged and have good storage stability.

Research

Experiments were replicated at three locations (McGill, Nova Scotia Agriculture College and University of Guelph) and applied in June, July and September. KILLEX (2,4-D/dicamba/mecoprop) at 1.7 kg ai ha⁻¹ was the standard chemical herbicide treatment used in all experiments. A commercial preparation of 0.6% Killex was applied at a rate of 200 ml m⁻². Eight fungal isolates were evaluated for their efficacy to control dandelion under field conditions. The fungal isolates included spore and/or mycelial liquid formulations of Phoma herbarum (G5/2), Phoma exigua (GIII), Phoma sp. G961.16), Myrothecium roridum (AC133), Plectosphaerella cucumerina, MAC2 (Curvularia inaequalis), MAC4/ H (Colletotrichum sp.), and two solid formulations of Sclerotinia minor (MAC1a and MAC1b). S. minor was applied as sodium alginate granules (MAC1a) and barley grit formulation (MAC1b). MAC1 was consistently the most effective isolate at controlling dandelion in these trials.

Efficacy of MAC1

The product may be broadcast on turf using a drop spreader (1X rate of 60 g m⁻²) or spot applied to the crown of broadleaf weeds (0.4 g per plant). Best efficacy is achieved with the barley grit formulation, although a kaolin-based formulation of the liquid fermentation product also gives very good results. When conditions are most suitable for activity of MAC1, lesions develop quickly and a complete kill can be achieved within 7 days (about twice as fast as Killex). These conditions include daytime highs of 18-24°C and rainfall or irrigation within 12 h of application. In these conditions, overall activity is as good as, and often better than Killex. The risk of poor performance in hot and dry



Toxicity studies haven't yet been performed, but based on literature and experience, the fungus poses no acute or chronic toxicity concerns.

weather can be minimized by applying the product in the evening and irrigating 12 h later. The product showed no effect at 2X on several turf grasses. The product is compatible with normal lawn maintenance operations such as mowing (except for a 3-day post-treatment no-mowing period), fertilization and irrigation.

Production/Economic Considerations

MAC1 is mass produced on barley grits for solid state production or scaled up in liquid fermentation prior to formulation in granular form. Quality control and quality assurance procedures have been developed. Currently, shelf life is approximately 5 months at 5°C and 2-4 weeks at 20°C. Further improvements of the production method and shelf life can be achieved. Preliminary research on the turf weed control market in Canada was performed. Preliminary estimations of field, registration and scale-up R&D, anticipated production costs, target pricing and market penetration demonstrated a high potential profitability with investment recoupment 2-3 years after launch.

Safety and Regulatory Issues

Toxicity studies have not yet been performed, but based on literature and experience, the fungus poses no acute or chronic toxicity concerns. It does not grow at 33°C or above and is not known to pro-

duce mycotoxins. A pre-submission consultation with the PMRA has taken place and the studies required and possible waivers were discussed and outlined. Additional information has been gathered since then and a follow-up consultation will take place in the near future.

Damage ranging from small lesions to complete kill may occur on a relatively wide range of desirable broadleaf species (ornamentals, vegetables, etc) when the mycelium growing on barley grit or weed tissue is brought in direct contact with the susceptible plant. Therefore, desirable species should not be treated directly. Similarly, when mowing the treated lawn, use of a mulching mower is recommended. Alternatively, clippings should be directed away from desirable broadleaf plants.

Despite a potentially wide host range in optimum disease conditions, the fungus has an agronomically significant effect on only one minor crop host in Eastern Canada. It is endemic to ecoregions 1 and 4 (BC coastal, Southern Ontario, Quebec and the Maritimes). Formation of sclerotia occurs only rarely following turf application. When it does occur, it is limited and mainly associated with clumps of barley grits rather than infected weed tissue. The viability of laboratory-produced sclerotia decreases rapidly on the soil but a few sclerotia may remain viable for 11 months. Sclerotia are rapidly killed in active compost. Various field experiments using a highly sensitive broadleaf species showed no infectivity of the MAC1 product in the turf environment after only 4 months. Research is underway to develop failsafe mechanisms that prevent sclerotial development by the product.

Summary

MAC1 is a safe and well-characterized plant pathogenic fungus with a narrow agronomic host range. MAC1 can be cultured in liquid or solid fermentation. When formulated as a granular product, an application of MAC1 to dandelions in turf results in rapid control of the weed with no injury to turf grass. Other broadleaf weeds can also be controlled. Direct dosing of desirable broadleaf species should be avoided. •