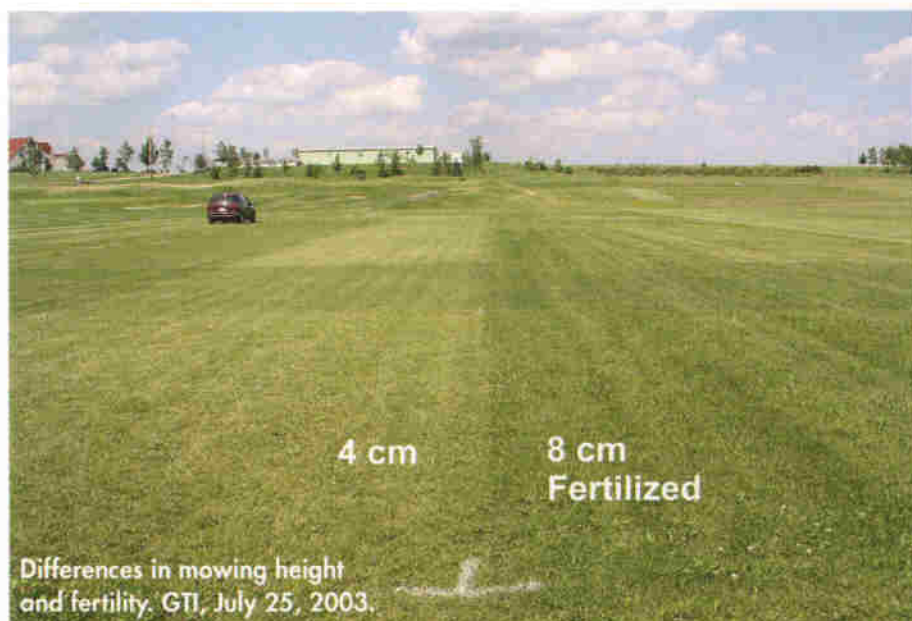


SPORTS TURF MANAGER

... for safe, natural sports turf

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IPM Demonstration Project

ERICA GUNN, RESEARCH ASSOCIATE, GTI



17TH ANNUAL STA FIELD DAY

Thursday, September 16. Mark your calendar now! Sports turf industry professionals including indoor and outdoor exhibitors will be gathering in Mississauga for our popular annual event. See the inside front cover for further information.

In spring 2003, the Municipal Integrated Pest Management (IPM) Demonstration Project was established to demonstrate the effectiveness of conventional, IPM, alternatives and non-pesticide approaches to lawn maintenance. By setting up this trial in three municipal settings, Guelph, Brantford, and London, we were able to show the impact of IPM versus no pesticides in comparison with conventional methods in areas with slightly different microclimates, pest pressure and soil types. As well, we have been able to initiate a way of communicating our results to area residents and turf managers.

Study Description

At the Guelph Turfgrass Institute (GTI), there are 32 plots, 9 x 5.5 m each, with a total demonstration area of 1,584 m². There are four management programs followed: conventional, IPM, alternatives and

no pesticides. The alternative products were only demonstrated at the GTI due to their experimental nature. The Brantford demonstration project is located at the Glenhyrst Art Gallery near the Grand River. Conventional, IPM and no pesticides plots were compared on 24 plots, 7 x 5 m each, with a total demonstration area of 840 m². In London, the plots are located in Watson Park near the Thames River. There are 16 plots, 10 x 4.5 m each, with a total demonstration area of 720 m² with comparisons between IPM and no pesticides. Conventional plots were not set up in London due to the current City of London issues with pesticide use.

In each municipality, demonstration trials were set up on an established, predominately Kentucky bluegrass turf with an existing moderate level of weed infestation. The trial areas were divided according to each specific... → page 6



Municipal IPM Lawn Demonstration Project • Cover Story Continued...

RESULTS SHOWED THAT A 40-60% PESTICIDE REDUCTION IN IPM PLOTS HAD LITTLE EFFECT ON TURF QUALITY

... management program. The areas were then subdivided with one side receiving fertility, 2.0 kg/100 m² of nitrogen over the growing season, and one side receiving no fertility. Two heights of mowing, 4 and 8 cm, were superimposed on the demonstration area to illustrate the impact of mowing height on turf health and weed infestation. Irrigation was also superimposed upon the area with half the area irrigated and the other half non-irrigated. Rainfall amounts were considered and amount of irrigation was dependent on the rainfall values. However, due to the amount of rainfall over the entire season and lack of visual turf dormancy, we were unable to demonstrate irrigation versus non-irrigation effects.

The trial started at all three locations at the beginning of May 2003 with an initial monitoring for broadleaf weeds. It continued weekly until mid-November with visual ratings, mowing, fertilizing and monitoring for pests and then treatment specific to each of the four management programs in each municipality.

Results

At the Guelph Turfgrass Institute, conventional plots received a total of five

pesticide treatments whereas the IPM plots received only two, the second application being a spot treatment. In Brantford, conventional plots also received five pesticide treatments. The IPM plots received one broadcast treatment and then two spot treatments.

The London location with only IPM plots received three treatments, a broadcast and two spot treatments. Therefore, there has been a 40-60% reduction in pesticide use in these areas and the reduced usage equals reduced costs. Also, along with pesticide and cost reduction, we have considered the amount of time to monitor and the number of people it requires (Table 1). It is apparent that it takes very little time and labour to see what pests are present and to decide whether a pesticide application is even warranted.

Turf quality was rated visually on a weekly basis and takes into account turfgrass colour, uniformity and density. Overall, turf quality in the conventional

and IPM plots at the GTI and Brantford showed no significant difference (pictured above). The IPM plots in London are comparable to the ones in Guelph and Brantford. Also within each management practice there are differences in quality of the plots with respect to the fertility, as fertility affected the turf colour and the higher mowing height affected density (see front cover picture).

Table 1. Time spent monitoring for pests at the GTI, May to Nov., 2003. The total area was 1,584 m².

Pest	Time/1 person/season
Broadleaf Weed Count #1	1 hour 45 min.
White Grub Count	4 hours
Crabgrass Count	2 hours
Hairy Chinch Bug Monitoring	2 hours
Broadleaf Weed Count #2	1 hour 45 min.
Broadleaf Weed Count #3	1 hour 45 min.

In comparison, the no pesticide plots in all three areas had lower overall quality ratings (see picture on page 8). Increases in the percentage of broadleaf weeds from May to November as well as the lack of fertility were major factors affecting the weekly quality in these plots.

European chafer grubs were not a major factor as they were only found in Brantford and London. Crabgrass was only seen at Brantford and London. Hairy chinch bug was found in Brantford however in very low numbers. Sod webworm was not found at any of the three locations.

At the Guelph Turfgrass Institute, the alternative plots showed little differences from the no pesticide plots. The product, Nature's Weed & Feed 7-0-5, proved to be interesting as it required applications every 2-6 weeks throughout the season and was extremely thick and difficult to apply. It was applied with a backpack sprayer at a rate of 5 L product to 5 L water per 100 m². The effect of the Corn Gluten Meal 8-2-0 (10 kg/100 m²) as a pre-emergent is not easily shown as there did not appear to be any crabgrass in the entire trial area. Plots receiving both products, due to their fertilizer properties, did not receive any additional fertilizer and did have a better turf colour than the unfertilized plots.

Conclusions

It is important to note that a 40-60% pesticide reduction in the IPM plots had little effect on quality. Also, with 2-3 pesticide applications (with an emphasis on spot treating) in the IPM plots as well as fertility and a higher mowing height, the turf appeared healthier than no pesticides or no superimposed treatments. Along with pesticide reduction, there is a reduction in cost and that can be achieved with very little time and labour.

Season two will prove to be interesting as the impact of decreased pesticide use on the IPM plots as well as zero pesticides on the no pesticide plots will be greater felt. We're also hoping to see if pesticide reduction can be sustained over more than one year and if there is further reduction of quality and weed invasion in the no pesticide plots. A quicker spring start with the alternative product Nature's Weed & Feed might show more of an impact and maybe some new products will be investigated. Also, if there is lower rainfall

it will show the differences in irrigation versus no irrigation.

Turfgrass insects were not an issue in all three municipalities. European chafer grubs were present in Brantford and London, however there was not significant pest pressure. Hairy chinch bug was also found in Brantford. Perhaps next season will bring more insect issues into account. Aeration versus no aeration will also be added.

Part of the project's objectives was to educate area residents and turf managers and this was achieved in several ways. In Guelph, the demonstration area received press attention with two articles in the *Guelph Tribune*, a city-wide distributed newspaper. Approximately 100 area researchers, turf managers and industry personnel visited the plots during the Annual GTI Research Field Day. The plots were available for viewing during a public Open House on an evening in August. About 50 people came out for a look and were able to have some... → page 8

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No pesticide plot.
London, August 14, 2003.

questions about their own lawns answered. In October, a small class from the Niagara Parks School of Horticulture visited and they had a tour of the plots as well. Over the winter, results were presented at the Ontario Turfgrass Symposium, Turf Managers Short Course and the Landscape Ontario IPM Symposium in Barrie, London, Toronto and Ottawa.

For more detailed information about this project, please visit the website www.gti.uoguelph.ca/OPAC. ♦

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- Allan McFadden, Dow AgroSciences

Guest Editorial: Facing Challenges

ARTIFICIAL TURF CONTINUES TO BE AN OPTION IN THE US

Until man can duplicate a blade of grass, nature will laugh at his so-called scientific knowledge. ~ Thomas Edison

Sports turf managers are used to challenges. We face them every day in one form or another. The trend of artificial turf field installations, including replacement of natural turf fields with artificial turf systems, has added yet another challenge for our profession. As sports turf professionals, we must be a source of facts when decisions are made about installing a specific type of turf. Installation decisions made today produce the playing surfaces that we will be managing tomorrow and for years to come.

Surveys show that a good natural grass field is still the overwhelming preference of players and fans alike. However, as we are aware, no grass surface will withstand unlimited use and still provide the desired playing conditions. As professionals, our goal is to provide the best playing surface possible for all levels of play, regardless of the surface involved.

We must look at these new systems not as a threat, but as another tool that can help us do our jobs better. The new turf systems are clearly superior to the old artificial turf. There exists a place for these surfaces; such as in an environment not conducive to natural grass or on fields that receive so much wear that it is impossible to adequately maintain a natural grass field.

Currently the marketing departments of installers and manufacturers are supplying most of the information on the new systems. Unfortunately, some field installation decisions are being based on this information with little or no input from the sports turf professional. I would encourage the companies marketing these artificial surfaces to recognize the professional turf managers at our facilities and accept us as the experts on our sites. Sports turf managers should

expect to be a part of the decision-making process, and these companies can do a lot to further this ethical practice.

Much of the information about the new systems we hear today sounds very similar to that of the late 1960s and 1970s. Over time, we learned the strengths and weaknesses of those fields and that every option has both pros and cons. We have gone through the same learning process with sand-based natural grass fields. At this time, we simply do not know how these new fields will perform and hold up over an extended period.

As an organization, the Sports Turf Managers Association (US) must assume a leadership role in gathering and disseminating information concerning artificial turf, just as we have with natural turf fields. We must take part in the discussions and learning process by providing facts and relevant research, by sharing our experiences with these surfaces, and by working with other turf-related associations to help compile the body of information on these surfaces. As sports turf managers, we must become aware of all of the issues related to all of the athletic field options so that we are adequately equipped to be involved in the decision-making process to determine what type of field best fits our particular situations.

I ask you, as professionals, to provide your input on this new generation. Bottom line: To ignore this issue is to do so at our own peril. ♦

— Bob Campbell, CSFM, President, Sports Turf Managers Association. *Excerpt from SPORTSTURF*, Vol. 19(4), April, 2003.

Editor's Note: Representatives of the City of Mississauga will discuss their artificial turf infill system at Parkway Belt Park 357 at the STA's 17th Annual Field Day, Thursday, Sept. 16 (see inside front cover).