



Western Canada Turfgrass Association Member Response to CBC's "Dad and the Dandelions" from March 2, 2017

ISSUE

The CBC's broadcast of "The Nature of Things with David Suzuki" produced by film maker Andrew Nisker, portrayed golf courses in one of his interviews as "toxic waste sites".

The program also negatively implicated sportsfields and other managed turf areas. As an association of multiple sportsturf management sectors, this is a good opportunity for our industry to dialogue with the public, media, government, environmental groups and any other stakeholders, about the benefits of turf and greenspace, sometimes called 'Natural Capital', along with our environmental stewardship efforts as professional turfgrass managers. We should not be afraid to promote our position in our communities.

ACTION

The following messaging will support that dialogue with the intent to align all our individual statements for consistent representation of the facts. The topic of pesticides can be a sensitive one with arguments often based more on opinion and emotion than on science.

Sources for this document include:

Alberta Ministry of Environment
Audubon International
BC *Integrated Pest Management Act*
BC Ministry of Environment
BC Pest Management Program Pub 92-1
BC Special Committee on Cosmetic Pesticides
British Journal of Sports Medicine 2016
Canadian Golf Superintendents Association
Canadian Turf Research Foundation
Golf Course Superintendents Association of America

Guelph Turfgrass Institute
Health Canada
IPM Council of Canada
Karolinska Institute
Mortality study among golf course superintendents,
Burton C. Kross, Ph.D., P.E., Leon F. Burmeister,
Ph.D., and Linda K. Ogilvie
NAGA Canadian Golf Economic Impact Study
Prairie Turfgrass Research Center
University of Guelph

The document is presented in a “Potentially Asked Questions” format. Some of these questions are directly relevant to clarifications needed due to the CBC broadcast and some are more broadly based information you may get asked about from time to time. At the end of this document is an audited list of turfgrass environmental benefits presented by the Canadian Turfgrass Research Foundation.

When being interviewed, keep in mind to never simply answer yes or no without providing an explanation / rationale. Expect that you will never be asked about the good points, so fit in the benefits of golf courses, sportfields, and turfgrass at every opportunity.

It's important to remain respectful and professional when addressing any concerns raised over pesticide issues. Being aggressive or too defensive generally will not accomplish the intended goal of separating the myths from facts of the issue. We recommend you don't attack the sources of any misinformation or alternative opinions or throw any other pesticide user industries 'under the bus'.

Instead, direct any concerns back to the facts, which usually means pointing out that pesticides are stringently regulated including Health Canada's rigorous testing, approval and re-evaluation process, along with individual requirements for the protection of human health and the environment in each province.

Please note: While Health Canada regulates pesticides federally, there are some provincial and municipal variances in terms of pesticide application regulations and governmental responsibilities related to the protection of human health and the environment. Further customizing your comments for more detailed statements about your specific area and circumstances, can be added as required.

The Western Canada Turfgrass Association, with its mandate of 'Research, Education, Networking, and Advocacy', will continue its leadership role through concerted efforts supporting the turfgrass management industry in western Canada and enabling individual professional sportsturf managers from all sectors help the public gain an understanding of our environmental achievements and the benefits to our communities and economies as a result of our responsible efforts.

Keep up the great environmental stewardship!

Peter Sorokovksy, MSc.
President, WCTA

Potentially Asked Questions:

How do you respond to the statement, golf courses are toxic waste sites?

- Golf Courses are living, breathing ecosystems that provide wildlife and plant habitat, wetlands and much needed green space in urban environments. Large areas of golf course properties are unmaintained or naturalized areas.
- The game of golf has been proven to be a healthy activity enjoyed by more Canadians than any other participatory sport with evidence that golfers live longer than the average population.
- The golf industry has a proven track record of environmental stewardship. For example, monitoring has shown that water leaving a golf course is cleaner than when it entered.
- Golf industry personnel are environmental stewards of the land and are well educated in turfgrass management, conservation and best management practices.
- By their very nature, turfgrasses create an environment for trapping and rapid breakdown of all chemicals with minimal chance of movement with surface and ground waters.

Independent university research shows that golf courses do not pose significant risks to environmental quality, wildlife or human health. If golf courses were, as suggested, “toxic waste sites” then on average golfers would be less healthy and have higher cancer rates than the rest of the population, regardless of sex, age, and social group, wildlife would not thrive on golf courses and water leaving golf courses would not be cleaner than when it entered.

What exactly is a pesticide?

A pesticide is any micro-organism or material that is represented, sold, used or intended to be used to prevent, destroy, repel or mitigate a pest. They can include:

- insecticides
- fungicides and antimicrobial agents
- herbicides
- material and wood preservatives
- animal and insect repellents
- insect and rodent-controlling devices
- algaecides

Are pesticides dangerous to human health?

It is important to understand that pesticides are intensely regulated federally by Health Canada and by the provincial governments. Pesticides are extensively tested and re-evaluated for safety and effectiveness and are applied by trained and certified applicators.

Before any pesticide can be used in Canada, it must undergo a comprehensive scientific review and risk assessment by Health Canada addressing a range of health and environment issues, including cancer risk.

Statement from Health Canada:

'Pesticides are stringently regulated in Canada to ensure they pose minimal risk to human health and the environment. Health Canada relies on a number of mechanisms to protect your health and the environment, throughout a pesticide's lifecycle.'

Do golf courses use pesticides? Why?

Due to the harsh and variable Canadian climate, golf courses are challenged by any number of fungal diseases, weed and insect infestations that can negatively affect the quality and playability of the course. The nature of the game of golf requires that turf is managed to acceptable playing conditions as dictated by the end user/golfer. While these standards can vary from course to course, the severity of damage created by diseases, weeds, or insects can render a golf course, or portions thereof, completely unplayable without the occasional use of pesticides.

It's important to note that:

- Golf courses are not motivated to apply more pesticides. In fact, the opposite is true, golf courses do not make more money by applying more pesticides.
- Use of pesticides on golf courses is to prevent loss of turf and is not cosmetic. A four-year study at Cornell University concluded that "nonchemical management [is] not sustainable given the current technology and negative impact on revenue from reduced golfer play."
- The golf industry collectively allocates significant funds toward research programs that helps ensure golf courses are being managed in a sustainable and environmentally conscious manner.

What is IPM? Do golf courses practice IPM?

Integrated Pest Management, or IPM, is a decision making approach that uses all available techniques in an organized program to suppress pest populations in effective, economical and environmentally safe ways. Because IPM requires a proactive and preventative approach, it can lead to a reduction in pesticide use. Studies by the B.C. Government in the early 1990's showed that monitoring alone reduced pesticide use by as much as 65%.

Integrated Pest Management is a widely accepted practice in the golf industry and is a legal requirement for the use of pesticides in some provinces. Golf course

managers, who routinely practice IPM, are being both environmentally and fiscally responsible in their operations. Elements of IPM include:

- Effective planning and managing of ecosystems to prevent organisms from becoming pests;
- Identifying pest problems and potential pest problems;
- Monitoring populations of pests and beneficial organisms, damage caused by pests and environmental conditions;
- Using injury thresholds in making treatment decisions;
- Suppressing pest populations to acceptable levels using strategies based on considerations of biological, physical, cultural, mechanical, behavioral and chemical controls in appropriate combinations, and environmental and human health protection; and
- Evaluating the effectiveness of pest management treatments.

According to the Golf Course Superintendents Association of America's '*2012 Golf Course Environmental Profile*', superintendents commonly use multiple tactics to manage pests. The tactics most often used at 18-hole golf facilities were:

- routine monitoring of weather patterns (97%)
- use of cultural practices (96%)
- scouting (95%)
- recording pest outbreaks (86%)
- higher tolerance of pest damage (71%)

How much pesticides do golf courses use?

Many different factors dictate how much pesticide is used with the greatest influence being the local climate. Health Canada's most recent report (2014) indicated approximately 74% of all pesticides sold in Canada are used in agriculture, 21% for non-agriculture and just under 5% for domestic products. Golf courses are not broken out separately but a BC Ministry of Environment report (2010) showed turf, landscaping and golf products combined, accounted for 5% of all sales in the province.

In a close look at the pesticides used on Canadian golf courses, contrary to the 'Dad and the Dandelions' broadcast, a 2006 survey by the Canadian Golf Superintendents Association showed:

- less than 10% of pest control products used on golf courses are herbicides for weed treatments.
- 15% of pest control products used on golf courses are for insects.

- 75% of pest control products used on golf courses are fungicides to treat destructive fungal organisms.

Are golfers exposed to pesticides when they play golf?

Health Canada has very specific rules that minimize exposure to anyone entering a treated area. As stated, in “Dad and the Dandelions” documentary by renowned turfgrass researcher Dr. Frank Rossi from Cornell University, “Scientific testing has shown golfer contact with pesticides is virtually nil.”

As an additional safety measure, all pesticide labels provide instructions to applicators on the safe handling, application and re-entry intervals of the particular product being used.

How can you be sure that golfers are not exposed to pesticides?

For Canadian golf courses that receive annual snow cover, a preventative pesticide application typically occurs just before snowfall when golf courses are closed so golfer exposure to pesticides in this situation is not possible.

Applications during the golfing season are made by trained and certified personnel. Standard practice by golf course superintendents is to prominently post information related to any pesticide application such as time, date, location applied, product applied and purpose of the application. Re-entry is permitted only when safe to do so. Worth noting, up to 98% of the area on most golf courses receive no pesticide applications at all.

A LITTLE MORE INFORMATION ABOUT GOLF AND GOLF COURSES

In terms of environment benefits, Canadian golf courses provide over 175,000 hectares of valuable green space or, ‘Natural Capital’, including 30,000 hectares of unmanaged wildlife habitat. Societally, the game of golf provides an opportunity for people of all ages and social demographics to pursue healthy, active lifestyles. As a source of employment, golf courses also provide tremendous economic benefits in their communities with over 155,000 jobs nationally. Other benefits of golf courses include:

- Provide plants and green space that produce fresh oxygen, capture carbon and urban pollution and reduce the warming effect of hard surfaces like concrete and asphalt;
- Conserve and protect wildlife, plant and waterfowl habitat;
- Annual source of charitable events and fundraising activities, with over 25,000 events raising more than \$439 million.

APPENDIX 1 – ENVIRONMENTAL BENEFITS OF TURFGRASS

Source: Canadian Turf Research Foundation

“Golf courses are the lungs of our cities.”

Dr. Brad Smith, Dean Emeritus of the Huxley School of the Environment at Western Washington University and former national director of environmental education for the US Environmental Protection Agency.

There are significant benefits of golf courses because they grow turfgrass in our urban environments, these scientifically studied benefits include:

TURFGRASS REDUCES RUNOFF

Turfgrass slows down flowing water, allowing more of it to be absorbed in the soil to the benefit of groundwater reserves. Also, any sediment that has been picked up by the water is invariably trapped within turfgrass. This prevents many of the pollutants and other chemicals that rainwater gathers from ending up back in our water system; instead they go into the soil where they can be broken down safely.

TURFGRASS SUPPORTS BIOREMEDIATION

All chemicals can be broken down by bacteria, fungi and other microorganisms within the soil. Healthy stands of turfgrass possess an extensively fibrous root system, providing both a habitat and energy source for these populations and allowing them to be much more productive than they would in the absence of turfgrass.

TURFGRASS PREVENTS EROSION

The fibrous root system that turfgrass forms will bind soil together, preventing it from being carried off by rains and wind. Grass slows down rainwater dramatically reducing the amount of soil being carried off by the force of the water. With soil erosion becoming an increasing problem, Golf Course grasses can play a vital role in reducing erosion.

TURFGRASS REPLENISHES AIR

Plants take up carbon dioxide and release oxygen into the atmosphere (air) and grass is no exception. The amount of oxygen that a 15 x 15m lawn produces can support 4 people for the entire year. The average 18 hole golf course has been studied and is known to produce enough oxygen for 10,000 people!

TURFGRASS REGULATES TEMPERATURE

Turfgrass has a cooling effect that lowers the temperature of the air around the plant and can reduce the need for air conditioning, thereby conserving energy for other uses. Studies have shown that the amount of heat given off by bare land is substantially more than that of healthy, well maintained turfgrass.

TURFGRASS SEQUESTERS CARBON

Healthy turfgrass plays an important role in removal of carbon from the atmosphere. Turfgrass stores carbon below ground within roots and since turfgrass is an undisturbed and highly productive system, it has the ability to remove a large amount of carbon with studies showing that a hectare of golf course turf is capable of sequestering 1 tonne of carbon into the soil per year for 30 years.

TURFGRASS PROMOTES SAFETY

Healthy turfgrass serves as a barrier to fire damage and is capable of preventing large fires from spreading out of control. Well maintained lawns also deter insect pests from invading and rodent pests are typically deterred from crossing large areas of turf.

APPENDIX 2 – LINKS TO OTHER RESOURCES

[HEALTH CANADA](#)

[BC MINISTRY OF ENVIRONMENT REPORT](#)

[BC SPECIAL COMMITTEE ON COSMETIC PESTICIDES REPORT](#)

[CTRF BENEFITS OF TURF POSTER](#)

[CANADIAN GOLF SUPERINTENDENTS ASSOCIATION ENVIRONMENTAL GUIDELINES](#)

[ALLIED GOLF ASSOCIATION OF BC PESTICIDE BRIEFING DOCUMENT](#)

[ALLIED GOLF ASSOCIATION OF BC PRESENTATION TO SPECIAL COMMITTEE](#)

[ALLIED GOLF ASSOCIATION OF BC SUGGESTIONS FOR ENHANCED](#)

[ENVIRONMENTAL PROTECTION](#)

APPENDIX 3 – WHAT TURF DAMAGE CAN BE EXPECTED WITHOUT USE OF PESTICIDES

Source: Allied Golf Association of BC Presentation to Special Committee on Cosmetic Pesticides

There are some fungal diseases and insect activity (Figure 1.) that if left untreated can kill turfgrass in as little as 24 hours when environmental conditions favour the pest.



IMAGE 1 & 2. DAMAGE FROM ANIMALS DIGGING FOR INSECT GRUBS IN TURFGRASS OVER NIGHT and PYTHIUM ROOT ROT TURF DISEASE.

Without the use of fungicides (which are pesticides) snow mold would kill much of the turfgrass (see figure 2.) on putting greens, tees, and fairways every winter, leaving the golf course with unplayable conditions and costly repairs.

IMAGES 3,4 & 5. FUSARIUM (SNOW MOLD) DAMAGE ON PUTTING GREEN AND TEE DECK AND FAIRWAYS.

