

## Conclusions (of this three part series)

Pesticides are thoroughly tested and the data are reviewed by the Canadian Pest Management Regulatory Agency (PMRA) prior to registration. Pesticide products that PMRA concludes have incomplete databases or that cannot be used safely are not granted registration and cannot be sold, imported, or used in Canada. Our country has the most stringent regulatory requirements in the world. Pesticides, like prescription drugs, *can* be used safely, provided label directions are followed. The recommended personal protective equipment should always be worn when handling and applying pesticides.

The benefits of using pesticides on turf include reduced potential for allergic reactions caused by weed pollen and insect stings and bites, positive health benefits associated with increased participation in outdoor sports such as soccer and golf, fewer sports injuries, reduced soil erosion resulting in less pollution of waterways etc., and the psychological benefits of improved aesthetics. The use of pesticides on residential property is a matter of personal choice which should be respected.

Reviews of sound, scientific, peer-reviewed data indicate that allegations suggesting occupational and bystander exposure to pesticides is associated with health effects such as asthma, cancer, endocrine disruption, developmental effects and neurological impairment in children, is currently *unfounded*. Unfortunately, the media's presentation of possible associations between pesticide use and health effects has served to create an irrational fear about pesticides among the general public.

As mentioned in Part 1 of this article, any pesticide ban approved by a municipality is a political decision based on emotion and not one based on sound science. This fact should be clearly communicated to the constituents of the municipalities involved. ♦

**Editor's Note:** The STA thanks Dr. Houghton for her informative article on Pesticide Exposure and Human Health. Our appreciation is extended to her for not only sharing her expertise but for all the time and energy spent in editing this information into three parts.

## Weather watches, warnings & advisories from the Atmospheric Environment Service

**F**or the safety of people and property, Environment Canada issues severe weather warnings, watches and advisories to the public via the media, weather outlets and Weatheradio Canada.

A *Weather Watch* alerts you that conditions are favourable for the development of severe weather. Watch the skies and listen for updated watches and possibly weather warnings.

A *Weather Warning* alerts you that severe weather is occurring or that hazardous weather is highly probable. Severe thunderstorm or tornado warnings may be issued less than one hour in advance. Other weather warnings may be issued six to twelve hours in advance.

A *Weather Advisory* means actual or expected weather conditions may cause general inconvenience or concern, but don't pose a serious enough threat to warrant a weather warning. An advisory may also be used when conditions show signs of becoming favourable for severe weather when the situation is not definite enough or too far in the future to justify a warning.

The following are some of the more common seasonal weather watches, warnings and advisories issued by Environment Canada. Note that criteria for warnings are established to meet local and regional needs and may vary slightly from region to region across Canada. Contact your nearest weather outlet to confirm criteria for your area.

**Freezing rain warning.** Expect slippery walking and driving conditions, and possible damage to trees and overhead wires due to rain freezing on contact to form a coating of ice. Avoid travel.

**Wind warning.** Expect winds blowing steadily at 60 km/h or more, or winds gusting to 90 km/h or more, for

at least one hour. Secure or put away loose objects such as outdoor furniture, put your car in the garage, and bring livestock to shelter. Definitely not a winter wonderland!



**Blizzard warning.** Expect snow or blowing snow, with a severe wind chill and visibility reduced to less than one kilometre, for four hours or more. Stock up on heating fuel and food. Stay indoors and wait out the storm.

**Heavy snowfall warning.** Expect a snowfall of 10 cm or more (15 cm or more in Ontario) in 12 hours or less. Travel could become hazardous.

**Winter storm warning.** Issued in Ontario when two or more winter conditions reach warning proportions (e.g. wind and snow, or freezing rain followed by heavy snowfall). Be prepared to cancel travel plans and stay indoors.

**Wind chill warning.** Expect very cold temperatures combining with wind to create outdoor conditions hazardous to human activity. Be prepared to stay indoors.

**Cold wave advisory.** Temperatures are expected to drop by 20°C or more within 18 hours. Dress warmly and check the weather forecast before travelling or venturing outdoors. ♦

**To receive weather information when, where and how you want it, sign up for Environment Canada's free service e-Weather at:**  
[www.weatheroffice.pyr.ec.gc.ca/e-weather/default\\_e.html](http://www.weatheroffice.pyr.ec.gc.ca/e-weather/default_e.html)

# Creating “Fields of Dreams” that are Safe for Participants

DR. MITTELSTAEDT ADDRESSES SAFETY CONCERNS WITH SOCCER, RUGBY AND FOOTBALL FIELDS & FACILITIES

*Turf is only one factor in the safety equation...*

Soccer, rugby and football fields and facilities safety is an increasing concern in sports and athletics because of the alarming number of injuries being reported to the Consumer Product Safety Commission. This concern puts pressure on Field Operators, Turf Managers, Maintenance Supervisors and others to have safe playing fields.

A “field of dreams” is created from a consistent set of proven guidelines and safety standards to ensure consistency around the country. As opposed to synthetic or artificial turf fields, natural turf sports fields have a unique array of variable challenges because of the field conditions created by a multitude of environmental factors. Synthetic or artificial turf fields bear other challenges.

Turf is only one portion of the whole that makes a field safer. Hopefully, other researchers who also address turf field safety will outline the scope of clinical and scientific research into the standard guides or practices being developed for both natural and artificial turfs. This article addresses some of the other factors that make up the whole through the total plan/design process.

A planner should engage in various steps or phases in providing a sports field to create a safe environment for players as well as officials and spectators. The days of the makeshift open lawn must be forgotten or the injuries will continue to grow. The field and equipment used today is much more sophisticated and the influence of the player mind set and technology necessitates careful planning, designing and engineering processes to minimize the potential for injury prior to, during and after the game. All physical planning, designing and engineering is predicated on function dictates form.

Early in the development of a new field, the owner of the potential sports turf field

must apply sound and proven guidelines (which unfortunately are scattered throughout textbooks) in planning and designing or retain the best possible advice to reduce exposure to risks.

The planning process is often subject to analysis as a source for basic causes of injury which result in liability. For example, there is no complete list of such measures and the base norm for each cause of injury has not been compiled. Therefore, objective comparisons can not be made for the different types of fields. There is a composite list of ASTM specifications, ISO specifications, DIN specifications and others, with no cross comparisons available for objective analysis and decision.

The owner or operator of a field must in his/her designing/engineering process retain consultants who know and are responsible for the execution and implementation of the standards of *care* as well as *design* to reduce participant exposure to risks. They must be aware of the following guides:

## Program

The *scale* or dominance of the larger environs that the field is within must influence reasonable supervision and surveillance. The *extent* and *intensity* of programs that will use the field will influence the type of turf.

## Scale of Equipment

The user *age, sex and skill level group* must influence all equipment. The *type of game* being played must establish the field classification and boundaries. The *relationship* of fields and appurtenance and of facilities of one to another must be harmonious and complementary in encouraging and facilitating ball playing.

## Field Turf

The turf surface can be synthetic (artificial) or natural. Synthetic materials can

be soft or firm; they can be piled, turfed, graveled or smoothed; they can be rolled, poured, paneled or sprayed. The ingredients of the turf can be rubber, polymer, pigment, PVC, thermset, thermosplastic, and a host of other new high tech materials. Synthetic products also have substrates which are of varied ingredients.

*Synthetic or artificial turf* has both pros and cons for players and operators. To the players, the top coats and shoe or footwear has interaction, surface disfigures or stays in place; the surface has a resiliency or non resiliency; the ball responds or bounces; the surface dries rapidly, has a cooling effect, is picturesque, affects ball speed, has traction or gives, and a host of other factors.

To the operator, the surface has to drain, be easily repaired, be durable, stable, and easily installed.

In addition, there are a variety of other test methods that are measured to compare topcoat and substrate ingredients. These include linear coefficient of expansion, tensile strength, elongation, moisture absorption, hardness range, compression set, temperature stability, compression properties, density, pile height, thickness, coefficient of restitution, abrasion resistance, flame resistance, coefficient of friction, thermal conductivity, oil resistance, ozone resistance, solvent resistance, liquid extends, water resistance, low temp resistance, colour retention, tear resistance and other criteria.

*Natural turf* has a corresponding attraction to players and operators. As a result, the former debate over concern goes on. In addition to the real or perceived preferential concerns there are corresponding technical factors that can be measured as evidenced in the artificial turf. In addition, the hardness, growing treatments, drainage, aerating, mowing, vacuuming and a host of other conditions applicable to a natural material must be reviewed. In es-

sence, a natural turf is not more resilient than artificial turf. However, it is perceived to be softer to the player.

### **Illumination**

Lighting and the actual field lights are critical to safety. The illumination level for soccer is 20 footcandles for the field. The air should be checked for contaminants that can cause the reflector surface to change by increasing diffusion and decreasing total reflection resulting in less total light energy leaving the face of the light with less lumens. There should be no shadows on the field which may create unsafe catching, nor should there be any glare or irregular bright patches.

**Lumen – a measure of light, much like a mile is a measure of distance.**

**Footcandle – one lumen of light spread over one square-foot of surface. In other words, a light level of 30 footcandles means that 30 lumens of light are being projected onto each square foot of playing surface.**

All stanchions or poles should be out of the field of play. If because of space limitations they are in the outfield, they and any other obstruction should be super padded for impact attenuation of a crash encounter and a sufficient buffer or warning zone placed around the pole. There should be no other changes in grade around the pole that could create a tripping hazard.

### **Orientation**

There are various thoughts as to the orientation of fields. It depends upon where the field is and the time the games are to be played.

### **Barriers**

Throughout a field area and more particularly around the perimeter of the field, barriers are required for different purposes, i.e. security, isolation, enclosure, separation, noise abatement, wind screening, sun screening, pedestrian and vehicular traffic control along with protection. Each of these purposes must be kept in



mind when selecting the placement and type of barriers. However, the purpose is to prevent players from contacting obstructions and to prevent spectators from being hit by the ball.

The barrier should protect sideline spectators, bleacher spectators, players in player benches and pedestrians moving around the field. The barrier should be a minimum of six feet in height and without cross pipe or H beams that could be contacted by a player hitting or brushing against them. Outfield fencing netting should be placed on the field side of the post. Advertising boards placed on the fence should be outside the field of play.

### **Player Bench Space**

The space set aside for players, coaches and others involved in the game must be a protected area. Often it is thought that dug-outs are open, however, because of the number of injuries, a shield of shatter proof glass or plastic is in front of seated players and the entrance from it to locker rooms or area beyond. The barrier should be at least at the six foot height from a standing person in the space.

### **Kicking Cage**

The space for kicking practice should have perimeter barrier screening and screening around the area the ball is hit into – either a close-in net or a larger area. The screening should be doubled so that should a ball hit it and it gives with the impact, anyone standing or walking by the area will not be impacted.

The floor area should have a minimal pitch enough to run off any water and of a rough texture to provide foot transition. Appropriate warning signage should be displayed.

Dr. Arthur H. Mittelstaedt is Executive Director, Sports Field Safety Consultant of the Recreation Safety Institute. The Institute is a national and international association of experts and specialists in recreation, sports, play and related fields. Their mailing address is P. O. Box 392, Ronkonkoma, NY 11779, phone (516) 883-6399. ♦

**Editors note:** Dr. Mittelstaedt will be speaking at the 2003 Ontario Turfgrass Symposium. His session *Update on Sports Turf and Field Standards* is scheduled for Thursday, January 23, 2003.



## Press Releases

NEWS FROM THE SPORTS TURF INDUSTRY... PLANT PRODUCTS SELLS DIVISION & TURF BIG ROLL BROCHURE ONLINE

### Plant Products announces sale of Consumer Products Division

Brampton, Ontario. (October 8, 2002). Plant Products Co. Ltd. announced recently the sale of its Consumer Products Division to Nu-Gro Corporation. The sale of assets associated with this division, including the SMARTCOTE™ brand name, also includes a long-term supply agreement between Plant Products and Nu-Gro for all Nu-Gro's Consumer Water Soluble Fertilizer needs as well as a licensing agreement for the Plant-Prod® trade name in the Canadian consumer market.

Plant Products will remain Canada's primary supplier of fertilizer and pest control products to the Canadian Commercial Horticulture and Professional Turf Care industries. The Turf and Horticulture Divisions have now been consolidated under the leadership of Harold van Gool, who has been appointed Vice President, Sales and Marketing.

Plant Products leading brand of soluble fertilizer, distributed under the Plant-Prod® trademark, is sold worldwide. Remarking on the impact of the sale on Plant Products primary business segments, Mr. John Lewandowski, President of Plant Products, noted that "this will now allow Plant Products to devote more resources to our core strengths, the production of water soluble fertilizer and technology transfer for the commercial horticulture and turf markets."

Mr. David Watson, having built the Plant-Prod® and SMARTCOTE™ brands in the consumer marketplace with Plant Products, will continue his commitment to this marketplace, assuming new responsibilities as Category Manager/Fertilizers & Pesticide Products at Nu-Gro. "I'm pleased that Plant Products will continue to be the manufacturer, ensuring Plant-Prod®'s quality and consistency will be unchanged and reliable," said Mr Watson.

"The sale and supply agreement sets the stage for future growth for both Plant Products in our current professional markets, and also for Plant-Prod in the con-

sumer market," said Mr Lewandowski at the signing of the contracts. "Everyone on our management team is eager to capitalize on the operational benefits of this transaction and devote all our energies to serving our customers and making a world-class fertilizer."

For further information, please contact Plant Products Co. Ltd., President John J. Lewandowski, at 905-793-7000, email [jlewandowski@plantprod.com](mailto:jlewandowski@plantprod.com) or visit [www.plantprod.com](http://www.plantprod.com).

### New "Turf Big Roll Installation Guide" available on TPI website

Rolling Meadows, IL – The "Turf Big Roll Installation Guide," a new brochure, is now available on the Turfgrass Producers International (TPI) website at [www.TurfGrassSod.org](http://www.TurfGrassSod.org) as an electronic brochure. It can be downloaded and printed in full colour. The brochure – based on interviews with professional landscape contractors – provides an informative overview of the big roll sod installation procedures and a summary of the significant cost- and time-saving benefits to landscape contractors.

"Our purpose in creating this brochure is to help inform landscape contractors about the benefits they can gain from turf big roll installation," said Dave Dymond, TPI Board Member and Marketing Committee Chairman. "Big roll installation capability will allow contractors to increase their business by taking on any size job with half – or less – the number of workers required for standard roll installation of similar sized areas. And because big rolls are handled mostly by machines, there is considerably less physical labour involved."

Dymond added that, because the turf big roll installation benefits extend to the

customers of landscape contractors, TPI decided to present the "Turf Big Roll Installation Guide" on the public-access portion of the association's website. "We wanted it available to the widest audience possible to help everyone involved in turfgrass sod installation to make better decisions," said Dymond, "and this includes not only landscape contractors, but also their customers such as sports field managers, landscape architects, and builders of residential and commercial properties."

At the TPI website, the "Turf Big Roll Installation Guide" is offered in three PDF versions that can be downloaded and printed locally. Each PDF begins with an instructional page describing how to print the two-sided brochure and which PDF option is best suited for an inkjet, laser or commercial printer. To review, download and print the brochure, go the TPI website, click on "Pressroom," and then "Bro-



chures & Fliers." You'll see the "Turf Big Roll Installation Guide" listed first. Click on it and follow instructions to produce a two-sided, gate-fold, full-colour brochure.

Turfgrass Producers International is a 37-year old, independent, not-for-profit association of more than 1,200 turfgrass sod and seed producers, equipment manufacturers and suppliers, and various individuals involved in education and/or research, located in over 40 countries. ♦

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