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*Golf Industry
Collision Course*

Sign-Posting Based Upon
Re-Entry Intervals
Will Not Appease
Enviro-Terror-Activists

They Will Unceasingly Demand
Extended Sign-Posting
Based Upon Soil Half-Lives
Of Pest Control Products

And More

Environmental-Terror
Against The Golf Industry
Will Never End !

Collision Course!

*Pest Control Products CAN BE USED SAFELY
Because The Amount Required To Affect Human Health
Is Significantly Higher Than Any Potential Level Of Exposure*

RE-ENTRY INTERVALS FOR PEST CONTROL PRODUCTS

July–August, 2010

Paul Hoekstra

GreenMaster Magazine

Selected and adapted excerpts

Pest control products are a key management tool in growing high quality turf.

With the recent attention from the media and other groups on pest control product usage, golf course professionals may be asked questions about the POTENTIAL HEALTH RISK from exposure to these chemicals as a consequence of playing golf on treated turf.

While these products are valuable tools to promote and enhance golf course conditions, the safety of everyone who may be in contact with treated turf is paramount.

As a result, RE-ENTRY INTERVALS are set to ensure that playing a round of golf does NOT negatively affect human health from exposure to low levels of pest control product residues.

Collision Course!

*Pest Control Products, Like Other Chemicals,
Such As Prescription Drugs And Vitamins, Are Safe
When Directions For Use Are Properly Followed*

A RE-ENTRY INTERVAL is defined as the period of time from application of a pest control product to when entry into a treated area is permitted.

PEST CONTROL PRODUCT EXPOSURE AND REGULATION

Fundamentally, pest control products are designed to kill unwanted organisms (e.g. fungi, insects or weeds), and need to be handled with care. These products can be used safely because the amount required to affect human health is significantly higher than any potential level of exposure.

The concept that a low level of exposure to a substance will NOT adversely affect human ties directly into the fundamental principle of toxicology — the study of negative effects on living systems — that « *the dose makes the poison* ».

We are exposed daily to numerous examples of man-made and natural substances that MAY IMPACT HUMAN HEALTH, but HARMLESS IN SMALL DOSES (e.g. low levels of naturally-occurring cyanide in almonds), and conversely, ordinarily harmless substances that can be deadly if over-consumed (e.g. water).

The impact of pest control products on human health is extensively evaluated by Health Canada, prior to their sale in Canada, to ensure that these compounds, like other chemicals, such as prescription drugs and vitamins, are SAFE WHEN DIRECTIONS FOR USE ARE PROPERLY FOLLOWED.

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*Re-Entry Intervals Are Designed To Ensure
That Any Remaining Pest Control Product Residues
On The Treated Surface Do Not Pose
An Unacceptable Risk To Human Health*

A part of this assessment includes specifying the measures required to reduce exposure during product handling and application, as well as for all activities on treated surfaces.

MITIGATING EXPOSURE

The instructions for using a pest control product are outlined on its label.

To ensure worker safety, that label stated that **PERSONAL PROTECTIVE EQUIPMENT** needs to be worn when using the product.

For example, **PERSONAL PROTECTIVE EQUIPMENT** requirements may include coveralls and chemical-resistant gloves.

Using the full suite of **PERSONAL PROTECTIVE EQUIPMENT**, as stated on the label, is crucial to ensure an adequate level of protection.

Beyond the potential for exposure during application, individuals may come into contact with residual levels of pest control products after they have been sprayed onto turf or other surfaces.

Obviously, requiring golfers to wear coveralls and chemically-resistant gloves to reduce exposure is not a viable option.

Another tool is needed.

Collision Course!

WHAT ARE RE-ENTRY INTERVALS ?

Re-entry intervals are set to ensure that any remaining pest control product residues on the treated surface DO NOT POSE AN UNACCEPTABLE RISK to human health.

Re-entry intervals reflect the amount of time required for pest control product levels to DISSIPATE (either from uptake into the plant, or degraded by natural processes) to a level that is well below any point of concern.

For turf, this interval may range from WAITING UNTIL THE RESIDUES ARE DRY, and, in some cases, up to twenty-four hours after application.

[See later segment entitled Re-Entry Interval According to Label Directions.]

This time period must elapse before people can re-enter the treated area.

Re-entry intervals are established using a science-based approach to predict the amount of a pest control product that may be deposited onto the skin from contact with any treated surface.

In the case of turf, the exposure assessment may not only require some understanding of the residual levels present on the golf course, but also the amount of pest control product that is available to be transferred from the treated surface and onto skin.

For most pest control products, application rates are generally stated on the label in terms of either grams or volume of product needed to treat a certain area of land.

Determining the potential amount of exposure from post-application activities on turf, such as golfing, requires a step-wise approach to convert the amount of pest control product applied to a more relevant measure of dermal exposure.

This approach is based on a number of key variables — Coefficient of Transfer, Transferable Residues, and Dermal Adsorption.

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*The Amount Of Exposure To Pest Control Products
During A Round Of Golf Is Relatively Low*

COEFFICIENT OF TRANSFER

Clearly, workers and golfers are **NOT** in contact with every piece of grass or vegetation treated with a pest control product.

The amount of exposure is dependent upon the frequency and intensity of contact with the treated surface for a specific activity.

In general terms, golfers have limited contact with the turf surface compared to other activities, such as weeding by hand.

Consequently, the amount of exposure to pest control products during a round of golf is **RELATIVELY LOW**, based on the nature of the activity.

TRANSFERABLE RESIDUES

Depending upon the type of product, and its intended use, pest control product formulations are specifically designed so that the active ingredient — the component of the product that is responsible for controlling the target pest — either quickly penetrates the vegetative tissue, or adheres to the plant surface.

The amount of pest control product residues that are transferable from the treated surface may be experimentally determined by a variety of techniques, such as the California roller method.

In general, the amount of pest control product transferred during direct contact with treated turf surface is **LOW** (typically less than five per cent of the applied rate).

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DERMAL ADSORPTION

Skin is a PROTECTIVE BARRIER that impedes the absorption of natural and man-made substances into our bodies.

Consequently, NOT ALL of the pest control product that comes in contact with exposed skin is taken into the body.

HAND WASHING after playing golf, or working on the golf course, is a simple and effective means to MINIMIZE INDIRECT EXPOSURE to pest control products (via transfer of residues from your hands to food, etc ...).

By considering these variables, the level of exposure is determined by assuming that individuals are exposed to pest control product residues immediately after application.

If these levels are at least one-hundred times less than the most conservative toxicity date for the pest control product (i.e. the level at which no effect was observed in any animal model), then this minute level of exposure is NOT OF CONCERN, and RE-ENTRY into the treated area is permitted ONCE THE RESIDUES ARE DRY.

If not, then additional time may be required for the residual levels of the pest control product to dissipate, which may result in a RE-ENTRY INTERVAL of twelve or twenty-four hours, in some cases.

It should be noted that several pest control products that are registered for use on turf may also be applied to flowers and other vegetation.

As a result, these products may have several different RE-ENTRY INTERVALS based on the type of activity (e.g. maintenance, irrigation, harvesting, etc ...).

RE-ENTRY INTERVALS serve the same function as PERSONAL PROTECTIVE EQUIPMENT in reducing exposure to pest control products to acceptable levels.

The responsible use of pest control products on golf courses not only requires knowledge on how to properly handle the product, but also good communication to ensure that workers and golfers are protected.

Background Information from an Independent Perspective

RE-ENTRY INTERVAL ACCORDING TO LABEL DIRECTIONS

Product Name	Active Ingredient	Type of Product	Re-Entry Interval
Acelepryn	chlorantraniliprole	Insecticide	Do not enter or allow worker entry into treated areas until sprays have dried
Aliette Signature	fosetyl AL	Fungicide	Do not re-enter treated area until residues have dried.
Banner MAXX	propiconazole	Fungicide	Keep people off treated area until foliage is dry.
Cadence WDG	boscalid	Fungicide	DO NOT enter or allow others to enter treated area until spray has dried.
Compass 50 WG	trifloxystrobin	Fungicide	DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.
Conserve	spinosad	Insecticide	Do not enter, or allow adults, children or pets to enter into treated areas until pesticide residues have dried.
Daconil 2787	chlorothalonil	Fungicide	Do not apply this product in a way that will contact workers or other persons or pets either directly or through drift. Only protected handlers may be in the area during application.

Background Information from an Independent Perspective

Re-Entry Interval According To Label Directions (Continued)

Daconil Ultrex	chlorothalonil	Fungicide	Do not apply this product in a way that will contact workers or other persons or pets either directly or through drift. Only protected handlers may be in the area during application.
DeltaGard	deltamethrin	Insecticide	DO NOT allow people or pets to re-enter the treated area until product has dried.
Eagle WSP	myclobutanil	Fungicide	Do not enter treated areas until sprays have dried. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.
Heritage MAXX	azoxystrobin	Fungicide	Do not re-enter treated turf during the restricted entry interval (REI) of 4 hours.
Insignia EG	pyraclostrobin	Fungicide	Do not re-enter treated area until sprays have dried.
Instrata	chlorothalonil, propiconazole, fludioxonil	Fungicide	DO NOT enter or allow entry into the treated area until INSTRATA Fungicide is dry.
Killex	2,4-D, mecoprop, dicamba	Herbicide	Do not allow people (other than applicator) or pets on treatment area during application. Do not enter treated areas until spray has thoroughly dried.

Background Information from an Independent Perspective

Re-Entry Interval According To Label Directions (Continued)

Merit Solupak	imidacloprid	Insecticide	Keep children or pets off treated area until spray is dry.
Premis 200 F	triticonazole	Fungicide	DO NOT re-enter turf until residues have dried.
ProTurf DSB 20-3-19	thiophanate-methyl	Fungicide	—
Proturf Fungicide X	iprodione	Fungicide	—
Rovral Green GT	iprodione	Fungicide	—
Scimitar CS	lambda-cyhalothrin	Insecticide	Vacate premises during application and keep all persons out of treated areas until surfaces are dry.
Senator 70WP	thiophanate-methyl	Fungicide	—
Sevin SL	carbaryl	Insecticide	Do not allow public use of treated areas during applications or until sprays have dried.
Subdue MAXX	metalaxyl	Fungicide	Do not re-enter treated areas for 12 hours following application.
ZeroTol	hydrogen peroxide	Fungicide	Do not enter or allow worker re-entry to treated areas until residues have dried.

Background Information from an Independent Perspective

*Re-Entry Intervals Will Not
Deter Enviro-Terror-Activists*

*The Golf Industry Is On A Collision Course With
Sign-Posting And Neighbour Pre-Notification*

CRITICAL ISSUES

The critical issues with the use of pest control products on the golf course not only includes the implementation of RE-ENTRY INTERVALS, but also SIGN-POSTING and NEIGHBOUR NOTIFICATION.

Throughout the Green Space Industry, whenever a pest control product is applied in a public area, a warning sign is posted, normally at the entrance of the treated area.



THE HISTORY OF SIGN-POSTING

In 1987 and 1988, the Professional Lawn Care Industry in both the Provinces of Quebec and Ontario VOLUNTARILY ADOPTED SIGN-POSTING POLICIES.

Enviro-Terror-Activists DEMANDED SIGN-POSTING with NO scientific justification !

Moreover, Enviro-Terror-Activists also DEMANDED signs which prominently displayed the IMAGE OF A SKULL, again, with NO scientific justification !

As an alternative to the IMAGE OF A SKULL, sign with the internationally recognizable symbol of « DO NOT WALK » was proposed, and finally accepted by Government Officials.

Sign-posting policies were originally adopted by the Professional Lawn Care Industry in the MISTAKEN BELIEF that it would APPEASE the Enviro-Terror-Activists.

Terrorists OF ALL KINDS are NEVER APPEASED.

Mr. William H. Gathercole is personally credited for the creation of these signs, although he was personally opposed to their use, since the pest control product solutions applied in Professional Lawn Care programs had long been rated as « *practically non-toxic* ».

Background Information from an Independent Perspective

The Professional Lawn Care Industry soon realized that ADOPTING SIGN-POSTING POLICIES was a STRATEGIC ERROR, since Enviro-Terrkr-Activists began to realize the scale of Professional Lawn Care operations.

Moreover, shortly after SIGN-POSTING was adopted, Enviro-Terrkr-Activists publicly declared Professional Lawn Care as « DANGEROUS » because of the hundreds-of-thousands of signs clearly visible on residential lawns throughout the community.

Cute Enviro-Terrkr trick !

First, Enviro-Terrkr-Activists DEMANDED SIGN-POSTING.

Then, Enviro-Terrkr-Activists LAWNS WITH SIGNS AS SANGEROUS.

ENVIRO-TERRKRIST DEMANDS NEVER ENDED AFTER SIGN-POSTING

By 2004, Environmental-Terrkr-Organizations, like the rabid student-operated Sierra Club of Canada, were not only demanding SIGN-POSTING, but also PRE-NOTIFICATION OF NEIGHBOURS PRIOR TO AN APPLICATION.

Sierra was even SELLING-FOR-PROFIT its own signs, with LUDICROUS statements like « *I love my family and the environment more than my lawn* ».



According to Enviro-Terrkr-Activists at Sierra —

« *It is impossible to keep pesticides confined to the place they are applied; each use of pesticides can affect up to FORTY other homes.* »

In other words, if a Professional Lawn Care company were to perform a pest control application on a residential property, Enviro-Terrkr-Activists at Sierra DEMANDED FORTY NEIGHBOUR PRE-NOTIFICATIONS.

ENVIRO-TERRKRIST INTERPRETATION OF POISON CONTROL REPORTS

As justification for the LUDICROUS DEMAND of PRE-NOTIFICATION, Enviro-Terrkrists at Sierra TWISTED their own interpretation of Poison Control Centre reports —

« *The Quebec Poison Control Centre and the Quebec Ministry of Environment and Wildlife reported a staggering 1,650 pesticide poisoning cases in 1996. Their statistics showed 79.4% of the cases were in private homes and 46.1% of the victims were children under age five. As well, 31% of these cases were due to oral ingestion and 34.9% followed a pesticide application.* »

Background Information from an Independent Perspective

Here is another example, from David Takayoshi Suzuki, on June 21st, 2007 —

« More than 6,000 Canadians are directly poisoned by pesticides each year and nearly half of those are children under the age of six, according to a new report by David Suzuki Foundation. »

Now, the fact that people across Canada are reporting such problems with pest control products is NOT UNUSUAL.

Poison Control Centres also report poisonings with house plants, paints, solvents, detergents, cooking oil, drain cleaners, etc ...

PEST CONTROL PRODUCTS ARE NOT STORED SAFELY IN THE HOME

The vast majority of poisonings with children involve toxic, and CONCENTRATED, products STORED IN AN UNSECURED FASHION WITHIN THE HOME.

In 2007, Suzuki even admitted to this issue in another of his foundation reports (The EM-PHASIC on some words is our own) —

« This disproportionate level of impact reflects a number of factors but primarily UNSAFE STORAGE and the different behaviours of young children who tend to put everything in their mouths and cannot read labels and respond appropriately. Parents and other adults bear some of the responsibility for protecting children from exposure to pesticides, but there is also an important role for governments in publicizing, preventing, and/or minimizing risks. »

In 2001, a Poison Control Center in the Province of Quebec reported that ...

« Close to 40% of reported cases [of poisoning by pest control products] involve oral exposure, primarily in children, which points to the risks associated with IMPROPER STORAGE OF THESE PRODUCTS IN THE HOME. »

For decades now, the Professional Lawn Care Industry has advocated that using its services is SAFER FOR CHILDREN than Do-It-Yourself Lawn Care.

Obviously, Professional Lawn Care Companies apply pest control products in a DILUTE form.

Do-It-Yourself Homeowners who apply these same products themselves must store them in the home in a CONCENTRATED form.

DILUTED products are tens of thousands of times LESS TOXIC than CONCENTRATED products.

Of course, the FEAR-MONGERING Enviro-Terrør-Activists wish to give the FALSE IMPRESSION that children and adults are being exposed to dangerous cancer-causing agents whenever a Professional Lawn Care company applies even DILUTED products.

Background Information from an Independent Perspective

*Enviro-Terrxr-Activists Will Demand That
Signs Remain Posted On The Golf Course
For At Least Five Soil Half-Lives Of The Chemical*

GOLF INDUSTRY POSITION REGARDING SIGN-POSTING

On February 15th, 2008, Canadian Golf Superintendent Association (CGSA) declared its position on the matter of SIGN-POSTING in the Golf Industry —

« [...] *most golf courses have controlled access. All golf courses are required to post signs 24 hours in advance of using pest control products. THESE SIGNS ARE PLACED AT THE ENTRANCE TO THE GOLF COURSE, IN THE PRO SHOP AND AT THE FIRST AND TENTH TEES. Also, in most cases, entry to the property is through controlled access points where a fee is required to be paid, further limiting the possibility of uninformed access to the property.* »

This policy will NOT appease Enviro-Terrxr-Activists, who will make MORE demands.

Enviro-Terrxr-Activists will increasingly complain that the Golf Industry DOES NOT ADEQUATELY NOTIFY GOLFERS regarding the application of pest control products, nor are treated areas on the golf course properly or clearly identified.

Enviro-Terrxr-Activists will DEMAND that SIGN-POSTING at the entrance to the golf course, in the pro shop, and at the first and tenth tees, IS NOT ENOUGH.

DEMANDS FOR EXTENDED SIGN-POSTING BASED UPON SOIL HALF-LIFE

Enviro-Terrxr-Activists will DEMAND that SIGNS REMAIN POSTED FOR AT LEAST FIVE SOIL HALF-LIVES OF THE CHEMICAL, until all traces have diminished to less than five per cent of the original concentration. RE-ENTRY INTERVALS are considered MEANINGLESS.

See later segment entitled SOIL HALF-LIFE VALUES OF PEST CONTROL PRODUCTS.

The SOIL HALF-LIFE of pest control products used by the Golf Industry varies from 1 DAY, to 365 DAYS, and even 1000 DAYS.

Background Information from an Independent Perspective

The SOIL HALF-LIVE VALUE is the period of time required for half of the quantity of a pest control product to be degraded or evacuated in the soil.

PRE-NOTIFICATION IN THE PROVINCE OF ONTARIO

PRE-NOTIFICATION is already a legal requirement in some jurisdictions.

In the Province of Ontario, the Golf Industry has been awarded with an EXCEPTION STATUS from the PROHIBITION of pest control products.

However, the Golf Industry HAS NOT been excepted from PRE-NOTIFICATION.

Every golf club in Ontario must NOTIFY THE PUBLIC ANNUALLY regarding the use of pest control products on a WEB-SITE. A report must also be provided upon request.

Furthermore, every golf club in Ontario must NOTIFY THE PUBLIC ANNUALLY at a PUBLIC MEETING held before December 1st in each calendar year.

MORE ENVIRO-TERRKRIST DEMANDS

Here are more examples of DEMANDS that will be placed on the Golf Industry by Enviro-Terrkr-Activists –

- PRE-NOTIFICATION in writing of all neighbours surrounding the golf course forty-eight hours prior to application, with copies of the labels and material safety data sheets.
- SUSPENSION of all pest control product applications because of neighbours allegedly hyper-sensitive to chemicals who reside in homes adjoining the golf course.
- SIGN-POSTING every fifty metres around any treated area just prior to the spray application, which would include putting greens and fairways.

*Environmental-Terrkr
Against The Golf Industry
Will Never End !*

Background Information from an Independent Perspective

SOIL HALF-LIFE VALUES OF PEST CONTROL PRODUCTS

Active Ingredient	Product Name	Type of Product	Soil Half-Life Persistence	Persistence Classification
2,4-D	—	Herbicide	less than 7 to 10 days	Low
azoxystrobin	Heritage	Fungicide	65 days	Moderate
benomyl	Tersan 1991	Fungicide	240 days	High
carbaryl	Sevin	Insecticide	7 to 28 days	Low to moderate
chlorothalonil	Daconil	Fungicide	30 to 60 days	Moderate to high
chlorpyrifos	Dursban	Insecticide	30 days	Moderate to low
chloroneb	Terraneb	Fungicide	130 days	High
chlorthal dimethyl (DCPA)	Dacthal	Fungicide	100 days	High
diazinon	—	Insecticide	14 to 40 days	Moderate
dicamba	Banvel	Herbicide	7 to 28 days	Low to moderate
glyphosate	Roundup	Herbicide	30 to 100 days	Moderate to high
iprodione	Rovral Green	Fungicide	60 days	Moderate

Background Information from an Independent Perspective

SOIL HALF-LIFE VALUES OF PEST CONTROL PRODUCTS (CONTINUED)

iprodione	Rovral WP	Fungicide	14 days	Low
imidacloprid	Merit	Insecticide	30 days on turf covered soil	Moderate
imidacloprid	Merit	Insecticide	150 days on bare soil	High
malathion	—	Insecticide	1 day	Very low
MCPA	—	Herbicide	14 to 28 days	Low to moderate
mecoprop (MCPP)	—	Herbicide	21 days	Low
metalaxyl	Subdue	Fungicide	70 days	Moderate
myclobutanil	Eagle	Fungicide	6 to 66 days	Low to moderate
paraquat	Gramoxone	Herbicide	1000 days	Very high
propiconazole	Banner	Fungicide	30 to 110 days	Moderate
pyrethrins	—	Insecticide	12 days	Low
quintozene (PCNB)	—	Fungicide	365 days or more	Very high
thiophanate-methyl	Senator	Fungicide	10 days	Low

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Force Of Nature presents THE WHOLE TRUTH FROM AN INDEPENDENT PERSPECTIVE from National Organization Responding Against Huje that seek to harm or misinform the Green Space Industry (NORAHG). It is a series of Reports destined for the Green Space Industry, the Environmental Terrør Movement, Governments, and the Media, nationwide across Canada, the United States, and overseas. This Report has been developed for the education and entertainment of the reader by providing TECHNICAL INFORMATION WITH COMMENTARY. The neutrality of the Report might be disputed.

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The information presented in this Report is for preliminary planning only. Before making a final decision, the turf manager is expected to obtain trusted expert advice from extension specialists, local distributors and/or agronomists. All decisions must take into account the prevailing growing conditions, the time of year, and the established management practices.

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All products mentioned in this Report should be used in accordance with the manufacturer's directions, and according to provincial, state, or federal law. For the official advantages, benefits, features, precautions, and restrictions concerning any product, the turf manager must rely only on the information furnished by the manufacturer. The mention of trade names does not constitute a guarantee or a warranty.

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A

Force Of Nature is the brainchild of William H. Gathercole and his entourage. Mr. Gathercole is a principal founder of the Modern Professional Lawn Care Industry in both Ontario and Quebec. He holds a degree in Horticulture from the University of Guelph, and another pure and applied science degree from McGill University. He has worked in virtually all aspects of the Green Space Industry, including golf, professional lawn care, and distribution. Mr. Gathercole has supervised, consulted, programmed, and/or overseen the successful execution of hundreds of thousands of management operations in the urban landscape. He has trained, instructed, and advised thousands of turf managers and technicians. Mr. Gathercole has also been an agricultural agronomist. Mr. Gathercole is personally credited for crafting the Exception Status that has allowed the Golf Industry to avoid being subjected to the prohibition of pest control products. He is also the creator of the signs that are now used for posting after application. Mr. Gathercole is now retired, although his name continues to appear as the founder of Force Of Nature.

H

The following Force Of Nature Reports are currently available —

- A Look At
- Environmental Terrør NEVER Ends
- Environmental Terrør Talk
- Environmental Terrørists Unmasked
- Famous Quotations
- Fertilizer Terrør
- Green Alternatives
- Heroes
- History of the Environmental Terrør Movement
- Myth Busting
- Needless Hysteria
- Paranoid Theories
- Pets and Lawn Care Chemicals
- Positive Waves
- Conspiracies Prohibiting Pest Control Products
- Rachel Carson, The Queen of Junk Science
- The 9/11 Era of the Green Space Industry
- The Failure of Integrated Pest Management
- The Industry Strikes Back
- The Looming Golf Industry Shipwreck
- The Misconceptions About Cancer
- The National Annihilation of the Modern Green Space Industry
- Turfgrass Pests
- Update
- Warning

G

The Whole Truth from an Independent Perspective



***Terrkrists OF ALL KINDS
are NEVER APPEASED***