The Wisdom of a REAL Expert

FORCE OF NATURE

THE WHOLE TRUTH FROM AN INDEPENDENT PERSPECTIVE from
National Organization Responding Against HUJE that seek to harm the Green Space Industry (NORAHG)

In the 9|11 Era of Anti-Pesticide Terrorism ...

There are NO TOXICOLOGICAL or HEALTH REASONS for Anti-Pesticide PROHIBITION

- NOT EVERY pest control product is highly toxic.
- NOT EVERY pest control products is highly dangerous.
- Pest Management Regulatory Agency uses the PRECAUTIONARY APPROACH to set guidelines for exposures for humans.
- At least in home and garden use, most pest control products are actually VERY NON–PERSISTENT.
- There is really A LACK OF EVIDENCE linking pest control product exposure to human risks of cancer.
- There is NO EVIDENCE of ANY causal link between pesticide use and cancer.
- Pest control products are LESS TOXIC THAN TABLE SALT.
- EPIDEMIOLOGY STUDIES are really based only on CORRELATION and SUGGESTED LINKS, and they CANNOT ESTABLISH CAUSALITY ON THEIR OWN.

William H. Gathercole & NORAHG | force.of.de.nature@gmail.com | Force Of Nature

The Wisdom of Keith R. Solomon

Presentation on the Safety of Pest Control Products

November 8th, 2011

Keith R. Solomon

Presentation to Special Committee on Cosmetic Pesticides, British Columbia

Selected and adapted excerpts

Doctor Keith R. Solomon, Ph.D., is a Professor in the Department of Environmental Biology at the University of Guelph. Solomon is also Director of the Centre for Toxicology.

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Effectiveness of Pest Control Products

Pests can do very significant damage to our aesthetic spaces, our own gardens and public spaces.

You can see damage to lawns [and ornamentals].

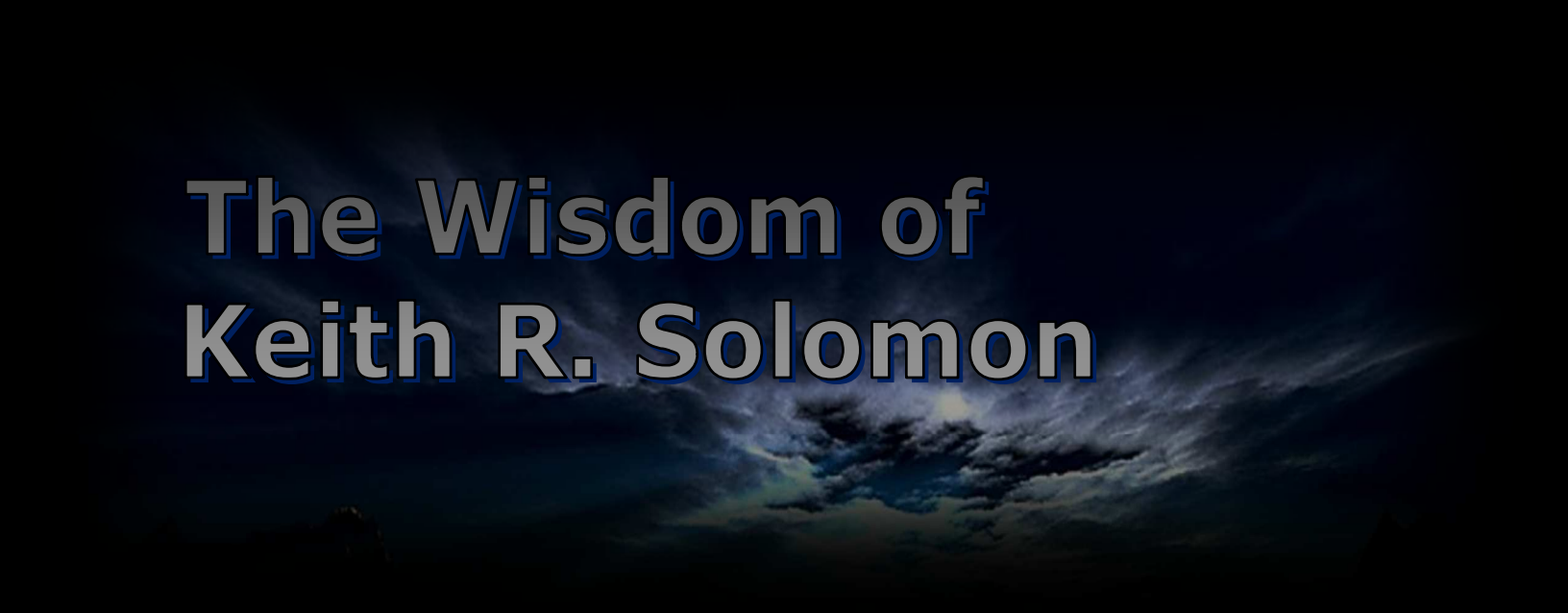
There is some Birch Leaf Miner, which will do damage to birch trees, and fungus, skunk damage, and Chinch Bug.

All of these cause damage that is difficult to prevent other than with the use of pest control products.

You can replace the grass, or you can use some other techniques, but pest control products are often MORE EFFECTIVE.

Definition of Pest Control Products

By law, anything that controls a pest is defined as a pest control product, but within the class of chemical pest control products, there is a vast range of substances which have very, very different biological and physical properties.



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Definition of Pest Control Products (continued)

You probably have not thought about it, but the DISINFECTANT that you use in your toilet bowl is in fact a pest control product that kills bacteria and is actually registered as a pest control product.

So we still use these routinely in our houses, even in places that have enacted bans.

They obviously cause effects in the target organism.

Otherwise, you would not use them.

It would be a waste of money.

Toxicity of Pest Control Products

Some are fairly toxic to non–target organisms, and some are basically, essentially, innocuous, so there is a range here, and that's the important point.

NOT EVERY PEST CONTROL PRODUCT IS HIGHLY TOXIC.

NOT EVERY PEST CONTROL PRODUCTS IS HIGHLY DANGEROUS.

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Registration of Pest Control Products

To be used in Canada, pest control products must be REGISTERED.

In order to register a pest control product in Canada, you have to take to the Pest Management Regulatory Agency in Ottawa a large amount of data that shows that the product, if used as written on the label, WILL NOT CAUSE ANY ADVERSE EFFECTS OR RISKS TO EITHER THE ENVIRONMENT OR TO HUMANS.

This is basically the same process that is used in other countries, such as the United States, the European Union member countries, and then also in many other international jurisdictions who often use the auspices of the World Health Organization for their risk assessments.

This data is reviewed and is current, including historical data, and it is regularly updated.

The review of 2,4–D Herbicide, just as an example, was recently completed, in 2007, which was a re–review of a product that had been looked at for many years over and over again.

2,4–D Herbicide is still registered here in Canada.

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Assessment of Pest Control Products

An important point about these studies is that all of them must be done now under what is called GOOD LABORATORY PRACTICE guidelines, which means, basically, that they are done according to standard protocols and that there is a quality assurance and auditing process in place that actually ensures that what people say was done in these studies was, in fact, done.

Just to remind you, Health Canada, which is the mother agency for the Pest Management Regulatory Agency, is also the agency that approves the use of pharmaceuticals in Canada.

Rats are often used as surrogates for mammals, and for environment, they might use birds, such as the Bob White Quail.

There are many, many studies that are done with these, and this data is then used in assessing the risk of the pest control product.

Fish are also used in toxicity testing for chemicals.

This kind of data is used, then, to assess impacts or potential impacts on organisms in the environment.

The focus at Pest Management Regulatory Agency in Ottawa is both environmental and human health, to make sure there is protection in both of these areas. the testing data is reviewed by the regulators.

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Uncertainty Factors

Pest Management Regulatory Agency, and other agencies in other parts of the world, use what I call the PRECAUTIONARY APPROACH to set guidelines for exposures for humans.

They use safety or what we like to, in the sciences, call UNCERTAINTY FACTORS.

If you find that a chemical has no effect at a certain concentration in a RAT, then you would say, « *for humans, we will only allow an exposure to one-tenth that concentration* », because, obviously, humans are not rats.

We will add another UNCERTAINTY FACTOR or SAFETY FACTOR of TEN TIMES because we know that some humans are different from other humans.

So, the sort of basic SAFETY FACTOR that you see for exposure to pest control product is 100–FOLD FROM THE MOST SENSITIVE ANIMAL TESTED, the most sensitive end point.

Then, in addition to that, there may be additional factors added, up to ten, so you multiply these together, and it's a 1,000–FOLD SAFETY FACTOR.

This would be in relation to exposure, say, for CHILDREN, who might be deemed to be more sensitive.

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Uncertainty Factors (continued)

From all of this and an application of these UNCERTAINTY FACTORS, the ACCEPTABLE DAILY INTAKES are calculated here in Canada.

In the United States, they use a different term for that, which is REFERENCE DOSE.

In the United States, they also develop environmental exposure guidelines.

Persistence of Pest Control Products

At least in home and garden use, most pest control products are actually VERY NON–PERSISTENT.

They only have SHORT–TERM EFFECTS ON TARGET ORGANISMS.

That's the reason why they often have to be used more than once in a season, and why you get rapid re–invasion by weeds and insects.

Certainly, for herbicides, these generally have very low toxicity to non–target animals, because they are basically designed to control plants.

Of course, they will damage plants if they are deliberately spread on them, but that's the reason why you might use a herbicide.

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Hazards of Pest Control Products

When we look at HAZARDS from chemicals, we're really looking at two issues — one is TOXICITY, and the other one is exposure.

The larger the exposure, the larger the hazard.

The larger the toxicity, the larger the hazard.

We use toxicity data and we use exposure data to assess risks from pest control products.

The toxicity of 2,4–D is not very high when compared to something, perhaps, that you're all familiar with — table salt.

Table salt would be lethal at 300 milligrams per kilogram.

Pest control products are LESS TOXIC THAN TABLE SALT.

I'm not suggesting you use them on your fish and chips, but just to put it into some sort of perspective.

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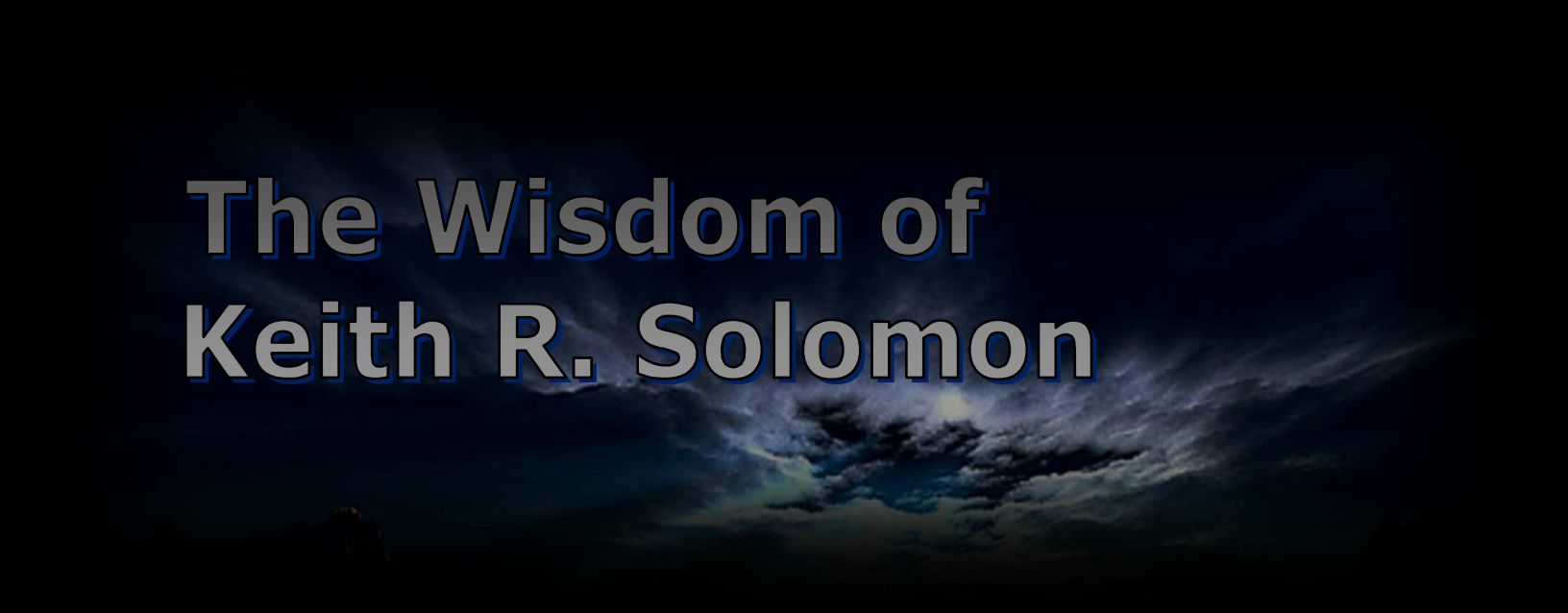

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Natural Pest Control Products

Natural does not necessarily mean it's safe.

If you look at the natural product, which is INDOLE BUTYRIC ACID, which is the hormone that some herbicides mimic.

INDOLE BUTYRIC ACID is found naturally in plants.

We are exposed to it when we eat plants.

INDOLE BUTYRIC ACID is actually SEVERAL TIMES MORE TOXIC.

We need less to achieve an LD_{50} for this product than we would for the synthetic products.

Then, this is across the board.

Some of the fatty acid products that are now recommended as substitutes for herbicides are in fact much more toxic to frogs than the herbicides that they're replacing.

We don't necessarily always move in the correct direction.

There have been a number of exposure studies done.

They are required for registration in applicators such as farmers or professional applicators.

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Exposure to Pest Control Products

There's a requirement for food monitoring and a requirement for water monitoring in Canada for pest control product residues.

We've done some work in our own labs here where we've looked at exposures to herbicides sprayed on turf.

The people involved in exposing themselves to this treated turf after it has been sprayed to measure the amounts that get into the body in that process.

These are the conclusions.

In none of these cases did we see any numbers that would be of concern.

In addition, the re–entry periods of 24 to 48 hours basically reduced exposure to negligible amounts.

These were re–entry periods that were in use in Ontario at the time this research was done.

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Ontario College of Family Physicians

A report by the Ontario College of Physicians made some conclusions about linkages between pest control product exposure and diseases in humans.

There are some issues with this report, which WAS NOT VERY WELL DONE.

First of all, it is BASED ONLY ON EPIDEMIOLOGY.

Many studies WERE OMITTED FROM THEIR REPORT.

It DID NOT CONSIDER THE TOXICITY DATA that Health Canada and other agencies use.

It DID NOT CONSIDER THE EXPOSURES, and it did not consider the published regulatory reviews from Health Canada and the U.S. Environmental Protection Agency and other agencies.

Epidemiology is the study of diseases in humans.

Humans are good organisms to study, but humans are extremely difficult to work with because we don't always say what we do.

EPIDEMIOLOGY STUDIES are really based only on CORRELATION and SUGGESTED LINKS, and they CANNOT ESTABLISH CAUSALITY ON THEIR OWN.

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Ontario College of Family Physicians (continued)

I've told you that the Ontario College of Family Physicians report WAS NOT VERY WELL DONE.

Others have said the same thing.

These people are not even from Canada.

So I don't think there's any axe to grind here at all.

But the United Kingdom Advisory Committee on Pesticides basically said that this report DID NOT RAISE ANY NEW CONCERNS,

The Advisory Committee on Pesticides also said there was NO REASON FOR ADDITIONAL REGULATORY ACTION in the United Kingdom.

There was another opinion on this report from the Royal Commission on Environmental Pollution.

According to the Royal Commission on Environmental Pollution, strong conclusions were being drawn from evidence that was of VERY WEAK QUALITY.

The Wisdom of Keith R. Solomon

Cancer and Pest Control Products

There are other opinions on pest control products and cancer from the International Agency for Research on Cancer.

There is really A LACK OF EVIDENCE linking pest control product exposure to human risks of cancer.

In Canada, age–adjusted cancer incidence rates have REMAINED CONSTANT or decreased for most forms of cancer.

Breast and prostate cancer have increased ...

... some of this is because of lifestyle issues,

... the other part is better diagnosis.

There is NO EVIDENCE of ANY causal link between pesticide use and cancer.

Childhood cancers have NOT INCREASED in Canada over the last 20 or 30 years.

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Reasons for Prohibition

Should domestic and landscape use of pest control products be banned ?

As a scientist and speaking as a toxicologist, there are NO TOXICOLOGICAL OR HEALTH REASONS for this.

If you want to do it for political reasons, that's fine.

That's within your mandate.

But if you do that, you should be honest enough to admit that you're actually doing that.

Consider the countervailing risks.

There are certainly INCREASED COSTS related to either the actual cost of the alternatives, or the lack of efficacy of many of these, which means they have to be applied MORE OFTEN, and this INCREASES COSTS as well.

The alternatives are not all themselves without risk.

I have mentioned the issues with fatty acids and being lethal to frogs.

Obviously, if we use pest control products, we should use them properly.

The best way to do that, I think, is something that British Columbia pioneered over the years, which was to ensure that Integrated Pest Management was used to make sure that all the options that are available are used.

Keith R. Solomon

Doctor Keith R. Solomon, Ph.D., is a Professor in the Department of Environmental Biology at the University of Guelph.

Solomon is also Director of the Centre for Toxicology.

He conducts research into the fate and effects of pest control products and other substances in the environment, exposure of humans to pest control products and industrial chemicals, and risk assessment.

Solomon also teaches courses in toxicology and pesticides.

Professor Solomon is a Graduate of Rhodes University in Chemistry and Zoology.

He holds M.Sc. degrees from Rhodes University and the University of Illinois, as well as a Ph.D. from Illinois.

Solomon has more than thirty years of experience in research and teaching in pesticide science and environmental toxicology.

He has contributed to more than one–hundred–and–fifty scientific publications and reports in the fields of pesticides, environmental toxicology, and risk assessment.

He is a Fellow of the Academy of Toxicological Sciences and received the 2002 American Chemical Society International Award for Research in Agrochemicals.

In 2006, Solomon was awarded the SETAC Europe Environmental Education Award and the Society for Environmental Toxicology and Chemistry Founders Award.

His wife, Sandra, has been an out–spoken critic against Anti–Pesticide Prohibition.

NORAHG

In the 9|11 Era of Environmental Terrorism, at least ONE SUBVERSIVE ACT OF TERROR is Perpetrated EVERY SINGLE DAY by enviro lunatics.

We are living in the DARK AGE OF ANTI PESTICIDE TERRORISM where sound science is trumped by JUNK SCIENCE and UNVERIFIABLE SECRET EVIDENCE through FABRICATION, INNUENDO, and INTERNET RUMOUR — scientific research PROVES that pest control products CAUSE NO HARM and can be USED SAFELY.

NORAHG is National Organization Responding Against HUJE that seek to harm the Green Space Industry.

NORAHG represents the VAST SILENT MAJORITY of people in the Green Space Industry who are OPPOSED to PROHIBITION.

NORAHG is a NATIONAL NON PROFIT NON PARTISAN organization dedicated to reporting the work of RESPECTED and HIGHLY RATED EXPERTS who promote PESTICIDE REALISM and PESTICIDE TRUTHS.

HUJE are enviro lunatics, anti pesticide activists, and lawn haters, who particularly DESPISE the golf industry — they are Hateful Underhanded Jokes as Environmentalists who have been WRONG FOR OVER 50 YEARS.

There is NO RECOURSE but LITIGATION against these HUJE, as well as CANCELLATION of GOVERNMENT GRANTS and REVOCATION of the TAX–EXEMPT STATUS of their organizations. HUJE should Get OFF Our grASS, and they should Roast In Hell.

NORAHG manages the Library Computer Access and Retrieval System for all anti pesticide terrorist acts of subversion.

The NORAHG Library Computer Access and Retrieval System is a VAST ARCHIVE of DOCUMENTS, AUDIO CLIPS, and VIDEOS on ALL anti pesticide activities — it has been made AVAILABLE to anyone interested in litigation.

These ARCHIVES contain names, statements, activities, and affiliations of ALL anti pesticide vermin, including government officials, as well as charitable prohibition terrorist organizations that DO NOT DESERVE ANY tax exempt status.

Interested parties need only to send NORAHG their REQUESTS for ANY INFORMATION needed in the War Against Lunatic Terrorist PROHIBITION.

NORAHG also produces FORCE OF NATURE, reports that present THE WHOLE TRUTH FROM AN INDEPENDENT PERSPECTIVE about environmental issues, including anti pesticide terrorism.

FORCE OF NATURE is a series of reports destined for the green space industry, the environmental terrorist movement, governments, and the media, nationwide across Canada, the United States, and overseas.

FORCE OF NATURE is committed to SOUND SCIENCE, as well as ground breaking original reporting that informs, entertains, and creates real change.

The Force Of Nature Series of Reports — Agriculture • ALBERTA Conspiracy • Bee Colony Collapse Disorder • Bee Colony Collapse Disorder • Benefits of the Turfgrass Industry • Beyond Pesticides • Books That Screwed Up the World • BRITISH COLUMBIA Conspiracy • Canadian Cancer Society • Canadian Association of Physicians for the Environment • CARNAGE and Consequences of Lunatic Terrorist Prohibition • Controversial Prohibitions • Culprits of the Prohibition Conspiracy • Daffodils, Toxic Pesticide Treated Flowers Soaked Formaldehyde • Dating Services for Enviro Maniacs • David Suzuki Foundation • DDT and Our World of Politicized Science • Death and Illness (Alleged) • Departure Letters • Ecojustice Canada • Energy Sector • Environmental Terrorists UNMASKED • Environmental Terrorist Organizations • Enviro PROFIT • Environmental Defence • FAILURE of IPM, Pesticide Manufacturers, Prohibition, Trade Associations • Famous Quotations About Enviro Lunatics • Fertilizer TERROR • Food and Farming • Get Off Our grASS • Global Warming, The Scam of Our Lifetime • Golf Industry • Green Alternatives • Green Party • Halloween Terror • Happy Holidays • Health Canada • Health Concerns with Pest Control Products • Heroes Speaking Out Against Environmental Terror • History of Environmental Terror in Canada • History of the Turfgrass Industry • Letters to the Editor • LIARS and Lying Sacks of (Enviro Maniac) Cwap • Mock Advertisements • Mock Speeches • Myth BUSTING • NATIONAL Prohibition • NEW BRUNSWICK Conspiracy • NO Prohibition Exception for AGRICULTURE Industry • NO Prohibition Exception for GOLF Industry • NOVA SCOTIA Conspiracy • North America Free Trade Agreement (NAFTA) • ONTARIO Conspiracy, Haven For Environmental Terrorists • Ontario College of Family Physicians • Organic Golf Courses • Organic Maintenance • Organizations of the Prohibition Conspiracy • Pesticide Q & A (Questions and Answers) • Positive Waves (Interesting and Innovative Thinking) • PRINCE EDWARD ISLAND (PEI) Conspiracy • QUEBEC Prohibition • Quotations About Enviro Lunatics & Maniacs • Rachel Carson, The Queen of Junk Science • SASKATCHEWAN Conspiracy • Satire, Laughs & Insanity • Terror That NEVER Ends • TERROR Talk and Weasel Words • THE AVENGERS • The Environmental Factor • The FAILURES of Green

Alternatives, Organic Golf Courses, BROWN Golf Courses, Integrated Pest Management, Pesticide Free Parks. and Pesticide Manufacturers • The Ontario Trillium Foundation • The Industry STRIKES Back • The Wilhelm Scream • The Wisdom of REAL Experts • Tukey TERRORISM • TWISTED Precautionary Principle • United States Enviro TERRORISM • UPDATES • VICTORIES Against Terrorists • Video, Audio, and Slide Shows • VIOLATING Federal Law • VIOLATING Prohibition • WARNINGS • Weapons of Ultimate Environmental Terror • Wind Power (Bogus) • 2,4–D

The information presented in FORCE OF NATURE has been developed for the education and entertainment of the reader by providing a sequence of events WITH COMMENTARY, striving for accuracy in history, politics, and science.

FORCE OF NATURE is TOTALLY INDEPENDENT and provides NO guarantee regarding accuracy or completeness. In no event shall FORCE OF NATURE be liable for any incidental or consequential damages, lost profits, or any indirect damages.

NORAHG also produces A LOOK AT, a series of reports providing TECHNICAL INFORMATION on issues such as Career Management, Golf Course Maintenance, Green Alternatives, Summer Stress, Turfgrass Pests, and Turfgrass Species.

Finally, NORAHG frequently responds to anti pesticide activists in LETTERS TO THE EDITOR in newspapers across Canada and around the world.

All information, excerpts, and pictures contained in FORCE OF NATURE, A LOOK AT, and LETTERS TO THE EDITOR were retrieved from the Internet, and may be considered in the public domain.

FORCE OF NATURE, A LOOK AT, and their various incarnations, was the brainchild of William H. Gathercole (now retired) and his colleagues.

Here is a brief summary of Mr. Gathercole's career —

Fields of study — Horticulture/Agriculture, Mathematics, Physics

Alma mater — McGill University • University of Guelph • the first person ever to obtain university degrees and contribute to both the professional lawn care and golf maintenance industries

Expertise in — environmental issues and anti pesticide terrorism • turf and ornamental maintenance and troubleshooting • history of the industry • sales and distribution of seeds, chemicals, fertilizers, and equipment • fertilizer manufacturing and distribution

Notable activities — worked in virtually all aspects of the green space industry, including golf, professional lawn care, distribution, environmental compliance, government negotiations, public affairs, and workplace safety • supervisor, consultant, and, programmer for the successful execution of hundreds of thousands of management operations in the golf and urban landscape, as well as millions of pest control applications • advisor, instructor, and trainer for thousands of turf and ornamental managers and technicians • pesticide certification instructor for thousands of industry workers • founder of the modern professional lawn care industry • prolific writer for industry publications and e–newsletters • first to confirm the invasion of European Chafer insect in both the Montreal region and the Vancouver / Fraser Valley region • with Dr. Peter Dernoeden, confirmed the presence of Take All Patch as a disease of turf in Eastern Canada • with Dr. David Shetlar, confirmed the presence of Kentucky Bluegrass Scale as an insect pest in South Western Ontario, and later, in the Montreal and Vancouver regions

Special contributions — creator of the exception status that has allowed the golf industry to avoid being subjected to anti pesticide prohibition • creator of the signs that are now used for posting after application • co–founder of annual winter convention for Quebec golf course superintendents • the major influence in the decision by Canadian Cancer Society to stop selling for profit pesticide treated daffodils • the only true reliable witness of the events of anti pesticide prohibition in the town of Hudson, Quebec • retired founder of FORCE OF NATURE and A LOOK AT reports

Notable award — the very first man of the year for contributions leading to the successful founding of Quebec professional lawn care industry, which served as a beach–head against anti pesticide activists in the 1980s and 1990s

Legacy — Mr. Gathercole and his colleagues … designed and implemented strategies that reined anti pesticide activists to provide peace and prosperity for the entire modern green space industry across Canada • orchestrated legal action against anti pesticide activists in the town of Hudson, Quebec • launched the largest founding professional lawn care business in Canada • quadrupled the business revenues of one of the largest suppliers in Canada

Mr. Gathercole is now retired, although his name continues to appear as founder of FORCE OF NATURE and A LOOK AT reports.

There are NO reasons for Anti-Pesticide Prohibition

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