

**Subject: Re: FW: What's causing cancer? Don't accept the pesticide brush-off...**

**Date:** Sat, 10 Sep 2005 17:30:33 -0700

**From:** Corrie Kost <corrie@kost.ca>

**To:** Ernie Crist <ernie\_crist@dnv.org>

**CC:** Mayor and Council - DNV <Council@dnv.org>, Senior Management Committee <managecomm@dnv.org>, Richard Boase <Richard\_Boase@dnv.org>, Ken Bennett <Ken\_Bennett@dnv.org>, James Ridge <James\_Ridge@dnv.org>, fonvca@fonvca.org

Dear Councillor Crist,

Thank you for that message. It gave me a another opportunity to show how it supports the case against a pesticides bylaw. In general, as you will see by the section-by-section reply - it indicates that any potential harm - albeit still rather insignificant, lies not with outdoor use of pesticides but the use indoors - which is not being regulated by the proposed bylaw.

Yours truly,

Corrie Kost

Ernie Crist wrote:

> A MESSAGE FROM ERNIE CRIST - Pesticides are harmless - I know because  
> the Pesticide companies told me so.

No, I believe it's because the Federal regulating agencies has told us so.

>

>

> The stories below are passed on to you courtesy Ernie Crist.

>

> -----Original Message-----

> From: Mike Christie [<mailto:mikechristie@rogers.com>]

> Sent: Friday, September 09, 2005 3:27 AM

> To: Recipient List Suppressed

> Subject: What's causing cancer? Don't accept the pesticide brush-off....

>

> Jun. 13, 2005.

>

> Toronto Star

>

> What's causing cancer? Chemicals fingered as rates reach epidemic

> proportions,

>

> by Mitchell Anderson

>

> Cancer in Canada is now projected to afflict one in every 2.2 men and

> one in every 2.6 women in their lifetime. In the 1930s, those numbers

> were less than one in 10. What's happening? Why are we now seeing what

> many are calling a "cancer epidemic"?

>

There is no cancer epidemic. Despite the continued rhetoric by some environmentalist the "Environment" contributes little (< 1 %) to cancer - see for example <http://www.cato.org/testimony/ct-mq030697.html>

On the other hand - eating lots of fruits and vegetables can reduce your risk of cancer some 30%. So what does that say about the priorities and where to spend your money?

>

> Some would suggest we are simply an aging population and cancer is a

> disease of the old. Not true. Recent statistics show that the net

> incidence rate of cancer has increased 25 per cent for males and 20 per  
> cent for females from 1974 to 2005 - after correcting for the effects of  
> aging.

There are other factors - such as better diagnostic tools and better reporting  
and information gathering - not increased cancer rates which provides the  
real explanation!

>  
>  
> Children are increasingly the victims. Researchers in Britain have shown  
> that certain childhood cancers such as leukemia and brain cancer have  
> increased by more than a third since the 1950s.

>  
> In Canada, hundreds of millions of dollars are raised and spent for  
> cancer research and treatment. The elephant in the room, however, is the  
> contribution of environmental toxins and whether many of the cancers  
> striking Canadians can be avoided rather than simply managed.

The chemicals in the environment are not the Cancer problem - radon, smoking, etc - they  
are the significant factors. Chemicals are maybe mosquitos - certainly not the elephant  
in the room.

>  
>  
> The World Health Organization estimates that fully 25 per cent of  
> cancers worldwide are caused by occupational and environmental factors  
> other than smoking. You don't have to look far for some potential  
> chemical culprits.

>  
> There are more than 85,000 chemicals that are currently licensed for use  
> in North America. Less than half have ever been tested for human health

To take the response by the Federal Canadian Health Department

<http://www.pmra-arla.gc.ca/english/aboutpmra/faq-e.html#13>

Only pesticides which do not pose an unacceptable risk of cancer in humans are  
registered for use in Canada. Detailed risk assessments and very large margins

of

safety are built into the human health evaluations that the PMRA carries out on  
proposed pesticides so that Canadians will be protected from risks such as

cancer.

studies to

The first step in a human health evaluation is an examination of scientific  
determine if the pesticide causes adverse effects in laboratory animals. One of  
effects that is looked for is whether the pesticide causes cancer in animals.

The

majority of pesticides registered for use in Canada do not cause cancer in

laboratory

animals. If there is evidence that a proposed pesticide causes cancer in

laboratory

animals, a special type of assessment called a quantitative risk assessment is  
conducted to determine if the use of the pesticide would cause an unacceptable

risk

of cancer in humans. PMRA's risk assessments consider how the cancer is caused

in

laboratory animals and all potential exposures, e.g, food, water, workplace,

that may

occur over a lifetime. Only pesticides that are proven not to pose unacceptable

risk

of cancer in humans are registered.

>

> risk and even fewer for potential environmental impacts.

>

> The U.S. Centers For Disease Control recently turned their attention

> toward pollution detection - not in the environment, but within the  
> human body. Their study in 2002 found the presence of 81 different toxic  
> chemicals, including PCBs, benzene and other carcinogens in their  
> sampling of 2,500 people tested.

Please read section 27 of my attached report. Synthetic pesticide exposures  
are 1000 times less than for natural carcinogenic pesticides.

>  
>  
> It is somewhat of a no-brainer that reducing exposure to known  
> carcinogens will reduce the risk of developing cancer. Surprisingly,  
> this simple logic seems to have been lost on our federal government.

Again - the Federal government suggests we reduce exposure to all  
toxins. It does not make sense to stop the safe use of pesticides  
(with negligible absorption by the body) when we continue to (literally) consume them  
in quantities which are thousands or even millions of times greater - even if they were "organic".  
It's like saying - don't put your finger in a glass of polluted water which you  
regularly drink because toxins will leach through your skin.

>  
> Many chemicals that are scientifically demonstrated carcinogens or  
> otherwise toxic are freely used here without any legal obligation to  
> identify them on the label. Some of these same chemicals are entirely  
> banned elsewhere. A trip to your local supermarket reveals a small  
> sample of these hidden poisons:  
>  
> Mothballs contain either naphthalene or paradichlorobenzene, both of  
> which are carcinogenic. A recent U.S. study linked mothball use to an  
> increased incidence of non-Hodgkin's lymphoma. Polycarbonate plastics  
> used in food-grade plastic containers such as water bottles can leach  
> Bisphenol A, an estrogen-mimicking chemical linked to a variety of  
> disorders, including hormone-related birth defects, learning  
> disabilities, prostate cancer and neuro-degenerative diseases such as  
> Alzheimer's disease.

The above have little to do with banning the outdoor use of pesticides.  
My attached document agrees (see section 31) that indoor environments  
are far worse than outdoor ones - but - nevertheless do not significantly contribute  
to the risk of cancer.

>  
>  
> Several leading perfumes, nail polishes and other cosmetic products sold  
> in Canada contain the endocrine-disrupting phthalates DBP and DEHP -  
> both banned for use in cosmetic products in European Union countries.  
>  
> Polybrominated diphenyl ethers or PBDEs are common chemical fire  
> retardants found in everything from foam mattresses to computer parts.  
> They have similar properties to the now outlawed PCBs and are known  
> neurotoxins and hormone disrupters. The most dangerous forms are now  
> banned in the EU, though they remain legal here in Canada.  
>  
> Many leading brands of household laundry detergent contain trisodium  
> nitrilotriacetate, another suspected carcinogen as well as an  
> environmental pollutant.

It's good practice to keep all these chemicals out of reach of children.  
For the paranoid - go for an extra rinse cycle.

>  
>  
> Chemicals that endanger human life also go down the drain and impact the  
> environment. A gruesome example involved a dead orca that washed up  
> south of Vancouver in 2000 that was so contaminated with persistent

> chemicals that Ottawa considered shipping the carcass to the Swan Hills  
> toxic waste facility for incineration.

That's why I have been adamant about treating our sewage before we dump it into Burrard inlet. Pity that the majority of a previous council did not see it that way. Tax dollars spent on keeping our receiving waters free of raw sewage is a far better way to improve our health than spending tax dollars on banning the use of government tested pesticides.

>  
>  
> Like orcas, we are perched at the top of the food chain and are becoming  
> the unwitting receptacles of many of the chemicals designed to make our  
> lives more convenient.  
>  
> Ballooning cancer rates are simply not worth whiter clothes or fewer  
> moths.  
>  
> Cancer must be fought on many fronts. Research and treatment are  
> undeniably important but so is environmental cancer prevention. It is  
> therefore shocking that our government is not moving faster to ban known  
> and suspected carcinogens, and requiring mandatory "right to know"  
> labelling so that Canadians can better protect themselves and their  
> families.  
>  
> Anything less is quite simply putting the interests of the chemical  
> industry ahead of human life.

If it were not for the chemical industry our living standards would be far poorer and shorter. Our average life span has increased some 20 years in the last 60 years. However that does not mean we can't do better - we can - and guess what? The new improved chemicals will still be manufactured by the same chemical industry.

>  
>  
> Mitchell Anderson is a board member of the Labour Environmental Alliance  
> Society, a Vancouver-based charity that educates the public on cancer  
> prevention.  
>  
> [http://www.thestar.com/NASApp/cs/ContentServer?pagename=thestar/Layout/Article\\_PrintFriendly&c=Article&cid=1118615410660&call\\_pageid=96825629020](http://www.thestar.com/NASApp/cs/ContentServer?pagename=thestar/Layout/Article_PrintFriendly&c=Article&cid=1118615410660&call_pageid=96825629020)  
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> =====

> Labour Environmental Alliance Society

> Don't accept the pesticide brush-off

> by Sean Griffin

>  
> It's already more than 10 years ago since researchers in Missouri  
> conducting a study on children with brain tumours found a strong  
> association between those deadly cancers and the use of pesticide  
> products such as pest strips and insect sprays in the home.

>  
> Two years later, a study in the Denver area showed an increase in the  
> incidence of leukemia among people living in households where home and  
> garden pesticides were used regularly.

>  
> Those are only two of several disturbing studies that link ordinary  
> household pesticide use with an increased risk of childhood and adult  
> cancers cited in the recent Pesticides Literature Review (entire  
> review) released April 23 by the Ontario College of Family Physicians  
> (press release). So why isn't everybody talking about them?

> Well, actually a lot of people are - the momentum to enact municipal  
> bylaws against the use of cosmetic pesticides is growing across the  
> country, with some 64 municipal councils signed up and more putting it  
> in the agenda. The Ontario study has helped spur that campaign.  
>  
> But part of the problem is the pooh-poohing from the media, which  
> regularly fill the broadcast air with stories about a confined risk such  
> as avian flu, but dismiss the more pervasive risk of everyday toxic  
> exposure.  
>  
> One example was Barbara McClintock, a contributing editor to the online  
> journal TheTyee.ca who wrote a piece last month that dismissed the  
> Ontario study and even suggested that worrying about pesticides might  
> discourage people from eating fruits and vegetables. TheTyee headlined  
> it "Beware the Pesticide Scare."  
>  
> "Almost none of the studies used involve ordinary families who put a  
> flea collar on the dog, or eat non-organic produce or even use  
> pesticides once or twice a year to get rid of the tent caterpillars on  
> the trees or the weeds in the lawn," McClintock said.  
>  
> It's true there aren't a lot of studies anywhere that follow ordinary  
> families on any health issue - and that lack of data is part of the  
> problem. But the studies that have been done on ordinary people from  
> ordinary households - as charted in the Pesticides Literature Review  
> - show an alarming trend. They show that pesticide use, even when it's  
> only household pesticides, signals a higher incidence of brain and  
> kidney cancer, leukemia and non-Hodgkin's lymphoma, as well as other  
> ailments, including birth defects.  
>  
> That growing body of evidence is what has prompted various groups to  
> urge both public and individual action to curb pesticide use. Last year,  
> the Canadian Cancer Society published a brochure urging consumers to  
> look for alternatives to pesticides and encouraging public support for  
> municipal bylaws restricting pesticide use.  
>  
> It's what prompted us at the Labour Environmental Alliance to publish  
> the CancerSmart Consumer Guide. The 24-page guide tracks carcinogenic  
> (cancer-causing) chemicals and reproductive toxicants in dozens of  
> household pesticides as well as cleaning and home maintenance products.  
> More important, it offers practical alternatives and substitute  
> products.  
>  
> The materials for that guide weren't just pulled off a brochure sitting  
> at the back of the health food store - the research data is drawn from  
> authoritative sources such as the UN International Agency for Research  
> on Cancer and the U.S. National Toxicology Program.  
> There's a lot of well-documented data on the ingredients in pesticides,  
> even household pesticides - and it is scary.  
>  
> Unfortunately, Barbara McClintock's assurance that it's nothing but a  
> "pesticide scare" sound disturbingly like the assurances from the Urban  
> Pest Management Council, the group representing manufacturers such as  
> Dupont and Monsanto. "Certain doses of pesticides can have serious  
> health effects," acknowledged UPMC spokesperson Wendy Rose.  
> "But if they are properly used, pesticides leave only traces behind."  
> Even if you accept that, how big are the traces? What is their effect?  
>  
> Rose also insists that the industry is the "most regulated in Canada"  
> - while arguing that that there's no need to review pesticides  
> registered before 1995. What about the new research on health effects  
> that's been done in the last 10 years?  
>  
> In fact, numerous products registered for use in Canada and sold  
> regularly in garden and home improvement stores across the province

> contain known carcinogens listed by IARC and the NTP and known  
> reproductive toxicants listed by California's Office of Environmental  
> Health Hazard Assessment.  
>  
> Chlorophenoxy herbicides, such as 2-4-D, used in products such as  
> Killex, are sold across the country as weed killers. Chlorophenoxy  
> herbicides are carcinogenic and have been linked in studies to a higher  
> incidence of leukemia. Captan, widely used as a bulb dust in such  
> products as Sevin, is likewise carcinogenic.

2-4-D is not a carcinogen. Read the government reports - be they US, EU, or  
Canadian. See for example [http://envirocancer.cornell.edu/FactSheet/Pesticide/fs14.2\\_4-D.cfm](http://envirocancer.cornell.edu/FactSheet/Pesticide/fs14.2_4-D.cfm)

>  
>  
> According to the list in the CancerSmart Consumer Guide, there are 12  
> carcinogens in regular use in household pesticide products, and another  
> four reproductive toxicants.  
>  
> Should we be concerned about using those products even a few times?  
> You bet. There is no science anywhere that guarantees a safe level of  
> exposure to carcinogens.

Nothing on this planet can be declared absolutely safe. There can never be  
a scientific test that declares any substance to be safe. To ask science to  
guarantee an absolutely safe level of exposure to anything is an impossible  
request - like proving there are no aliens in our midst.

> And when there are readily available  
> alternatives - whether they're safer products or safer methods - it only  
> makes sense that we would use those instead.

Agreed!

>  
>  
> Then there's the question of pesticides and food? Barbara McClintock  
> argues that raising an alarm about pesticides residues on produce is  
> counter-productive because it will discourage us from eating fruits and  
> vegetables, and we need them for health and cancer prevention.  
> The curious thing is that the Ontario Physicians report never raised the  
> issue of pesticides on food and didn't make any recommendations about  
> fruit and vegetable consumption.

>  
> Still, while we're on the subject, it's worth noting that Canadian Food  
> Inspection Agency has itself reported that the number of pesticides now  
> being used in this country that were never before used in Canada has  
> gone up significantly as a result of trade harmonization. And last year,  
> the federal Commissioner of the Environment and Sustainable Development  
> warned that there were 190 additional pesticides used in Canada for  
> which CFIA has no practical detection method.

>  
> It's true, eating organic isn't cheap. But going organic in some cases  
> and eating conventional produce when you can seems like a good approach  
> as long as you have the necessary information. The CancerSmart Guide  
> includes a "most contaminated" and "least contaminated" list - based on  
> CFIA testing data - to help consumers decide when they can stick with  
> conventional produce and when it's a good time to head to the organic  
> aisle.

There is no scientific basis for saying that organic foods are safer. Organic  
foods are still laces with natural pesticides - many known to be carcinogenic.  
See point 9 of my attached document.

>  
>

> In the end, it isn't about a "pesticide scare" or any other kind of  
> consumer scare. It's about providing consumers with the sound  
> information they need to make good decisions for their own health and  
> their kids' health. By that measure, stories such as McClintock's piece  
> didn't cut it. Readers should go and read the Ontario Family Physicians  
> study for themselves.  
>  
> Don't accept the pesticide brush-off.

Don't accept the alarmism of this article - which largely lacks any citations  
to confirm the author's claims. Read the peer-reviewed  
scientific articles published not by the pesticide or chemical industry -  
but by University and Government scientist. Do not let emotions and  
unreasonable fears guide decisions on this matter.

>  
>  
> <http://www.leas.ca/News/PesticideBrushOff.htm>


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> The Laws of Ecology: "All things are interconnected. Everything goes  
> somewhere. There's no such thing as a free lunch. Nature bats last."  
>  
> by Ernest Callenbach

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## Open Letter to Mayor & Members of Council, District of North Vancouver

August 17/2005 (Version 5g – changes in blue)

From: Corrie Kost, 2851 Colwood Dr. North Vancouver, BC V7R2R3

Re: Bylaw 7559 – Pesticide Use Control Bylaw

### POSITION:

- **I am for a sustainable safe environment.**
- **I am opposed to the unwarranted restrictions of anything.**
- **I have no vested interests in promoting use of pesticides.**

This letter goes into more details than my initial letter on Bylaw 7559 dated July 10/2005

[http://www.fonvca.org/letters/2005/13jun-to/Corrie\\_Kost\\_10jul2005.pdf](http://www.fonvca.org/letters/2005/13jun-to/Corrie_Kost_10jul2005.pdf) Many additional questions have surfaced as this debate matured. I have tried to address as many aspects as possible in the hope that all the most important issues can be addressed in one area. This document will likely evolve over time and updated versions will be posted to the FONVCA web site ([www.fonvca.org](http://www.fonvca.org)).

Keep in mind that although I am a scientist this does not make me an expert in this field. My goal is to inform and educate and to promote good policies based on sound science and sound economics. In what follows there is bound to be some duplication but I believe this will aid in the better understanding of the issues.

To set a proper stage for this discussion one should be aware that Canada wide the sale of weed killers (herbicides), for example Weed&Feed, forms about 85% of the sales in “Pesticides”, while insecticides forms only about 4% (the rest being Fungicides – 7%, and Specialty products 4%). In the GVRD the use is dominantly herbicides, only 15% being insecticides (ref. 35). The **broadcast spraying of pesticides is the primary perceived problem.** For the average homeowner **the issue is largely about banning Weed and Feed** which, as shown in this article, is one of the most tested products in the world.

### 1. Is use of pesticides like second-hand smoke?

According to Health Canada, pesticides, if used as directed (ref.a) are safe. The contrary statement is made by Health Canada about the safety of second-hand smoke (ref.b). Unlike “natural products” (eg. tobacco), which can be even more harmful than other controlled substances if not used properly, all government controlled pesticides have to meet stringent safety standards to protect both the user and society as a whole – particularly the more vulnerable segment - our children. Health Canada’s studies have shown that pesticide drift, for example in the application of the herbicide 2,4-D, poses a negligible risk to others (c). The use of a barbecue or a gas powered lawn mower have far greater down-wind impacts.

### 2. Do the benefits of using pesticides outweigh the risks?

In the larger arena, the banning the use of pesticides would cost each family about \$200-300/year

[http://www.michigan.gov/mda/0,1607,7-125-2961\\_2971\\_2972-68913--,00.html](http://www.michigan.gov/mda/0,1607,7-125-2961_2971_2972-68913--,00.html) and banning non-organic fertilizers would up this to \$400-500/yr. Increased costs would mean doing with less or without – reducing our overall health. The average life expectancy has increased some 9 years in the 40 years that pesticides have been used. An average pesticide is researched and tested for safety for nine years at a cost of \$35 million before it can be marketed.

We take pride in our neighbourhoods – their lush lawns and abundance of flowers. We even give awards to neighbourhoods that are stand-outs in this regard. Some no doubt, through hard work and time, have attained this largely without man-made pesticides or fertilizers, and that is laudable. However, not all of us can spend the time and have instead used products which the government has declared safe to use to attain these goals. Should we deny them the same pride and pleasures? Considering the risks, and who is taking the risk, I believe the answer is no.

So the answer to the original question is yes – if the pesticides are used as directed.

### **3. Anything which kill insects and/or bugs also kills people.**

This is untrue. Take for example caffeine – a 1% solution (or even coffee grounds) can be used to kill/repel slugs. Many natural and man-made pesticides are harmful to only specific plants or animals. Of course any substance – including water – is harmful to humans in large enough dosages.

### **4. Don't these products accumulate in the environments?**

Domestic pesticides (those for use by the general public) are designed to break down in the environment. This is not necessarily the case for “home brewed” solutions.

### **5. Should not pesticides, found in all parts of the world, including the Arctic be banned?**

Although banning of “persistent” pesticides has scientific support, the presence of toxins in trace amounts – well below regulatory safety levels – and breaking down as they arrive – does not warrant them to be classified as “persistent” (ref 30).

### **6. Can one prove anything is absolutely safe?**

No. Of course this applies equally well to chemicals/foods found in nature as it does to man-made chemicals and genetically modified foods. This is like trying to prove that there are no Aliens in our midst. To also place such a requirement on man-made products but not on “natural” products is not logical.

A June 2005 report - prepared by the Classification Implementation Working Group - Federal/ Provincial /Territorial Committee on Pest Management and Pesticides

<http://www.pmr-arla.gc.ca/english/pdf/fpt/ciwg/summary20050624-e.pdf>

had comments from some stakeholders recommending moving to a Precautionary Principle approach (refs.22) instead of the current risk-based one. See also “What is the meaning of Risk” below. The closest we can come to proving something is safe is to try to think of countless ways to show something is unsafe – and fail to do so every time. This is an insurmountable scientific obstacle.

### **7. Governments keep finding products that were safe are now unsafe. Should we thus ban all of them?**

This applied equally to all substances – milk, eggs, soy products, peanuts, etc. The issue is one of risk vs. benefits. We should not ban a product because for example, it may impact a person with a particular weakness in their immune system if to do so results in more harm to others. Governments cannot set safety standards based on the rare exceptions. For example, roads cannot be designed to be safe for those who suffer epileptic seizures when they see a flashing red light.

### **8. Is there overwhelming evidence that pesticides are harmful to human health?**

No. Even the most recent study by the Ontario College of Family Physicians (ref.1) has been discounted by Health Canada (ref.2). On the contrary, the banning of certain pesticides may have resulted in even more human deaths. Take for example the banning of DDT (for whatever reasons), may have subsequently contributed to the death of millions of children world-wide by malaria. There are of course two sides to that theory – (refs.12,13) Nonetheless, the message is clear - ignorance drives fear, and fear can lead to great harm to society – especially the weak.

### **9. We should use more organically grown foods as they are free of pesticides.**

All foods, organically grown or not, contain traces of all substances – even pesticides. Just because it is certified “organic” does not mean it is always safer than one this is not so certified. Many “natural” foods are laced with “natural” pesticides – many of which are carcinogenic (ref. 20). However some say that we have evolved defense systems that can cope with natural pesticides and toxins in foods that have been around for thousands of years and that we have not had time to develop defense systems to deal with synthetic substances. The rebuttal to that assertion is that since our defense systems are non-specific – having evolved to cope with new and old chemicals – natural or man-made (ref. 23 page 27). Then there is the point that we are adding to the toxic burden - and the counterpoint that it's a matter of scale – that the vast majority of toxins come from natural environment. For more -- see “Do the benefits...” above. Finally, note that organic fruits and vegetables cost substantially more. Low intake of fruits and vegetables is a significant factor contributing to increased cancer incidence. (ref.23 – page 11)

## 10. Myths abound in society

Myth: Cell phones can trigger explosion of gasoline fumes.

Fact: Despite all attempts this phenomena has not been experimentally reproduced (ref. 26). If this were the case all sorts of other hand held electronic devices would have a similar hazard.

Myth: Cell phones can cause brain tumors

Fact: No scientific study has confirmed this. None of the additional recommended precautions were based on any scientific evidence of any risk. (ref 27)

Myth: That Poinsettia leaves are poisonous.

Fact: It would take hundreds of leaves to have any bad effects (ref. 25).

Myth: That pesticide certification has not made special allowance for children's unique susceptibility.

Fact: Certification takes account of children's unique susceptibility by building in extra safety factors (ref.16).

Myth: Most man-made chemicals are carcinogenic, while natural food/chemicals are not.

Fact: Fully half of the chemicals that occur in nature are carcinogenic – the same as for man-made chemicals (ref. 23, page 3)

Myth: DDT is a carcinogen in humans. Very high exposure to herbicide dioxin (banned in 1983 in US) caused cancer. PCB's caused breast cancer.

Fact: The associations were weak if they existed at all. (ref.24)

Myth: 2,4-D is "commonly contaminated with dioxin, a known carcinogen"

Fact: 2,4,-D manufacture was changed in 1983 to remove all but minute traces (parts per billion) (ref. 9). See also previous myth.

Other Facts (From a survey in Waterloo, Ont. -ref. 35):

-The majority of people consider pesticides as bug killers

-The majority of people feel that use of pesticides on lawns is necessary or somewhat necessary.

-The majority felt somewhat or very concerned over the use of pesticides

## 11. Can we trust the "experts" and "professional" when it comes to telling us what's safe?

I would rather trust the experts than the ignorant amateur. Although Doctors have accidentally killed a good many of their patients I would still put much more faith in them than some quack.

The most dangerous element to our environment appear to be ignorant politicians who listen only to fringe fanatical elements of society and refuse to have an open mind on the subject. We should "weed-out" the one in about ten politicians who are bad for our environment (by their undermining a sustainable environmental movement).

## 12. Banning use of legal substances is a good way to discourage its use.

Banning is often the worst way to motivate change. It is often used as an easy way out for politicians. However it compromises people taking personal responsibility for their actions and makes the general population pay (and lose their freedoms) because of the stupidity of a few. Take for example the banning of soft drinks in schools. Certainly education institutions should be in the best position to educate their youth about healthy eating/drinking habits. The 2004 Health Canada survey on Healthy Lawns

<http://www.healthylawns.net/english/pdf/HLHomeownerSurveyReport2004-e.pdf> shows that education is a key component leading to reduced pesticide use. We need to stop being so cynical and put more faith in our residents.

## 13. Should Safety always trump democracy?

Democracy should always be kept in mind if there are less draconian alternatives. Do we ban all cars, and close all bars because of a few irresponsible drivers? As for the pesticide ban –it could rightfully be imposed for public property, but to extend this ban to private properties has no scientific justification as any risk/benefit analysis would

show. If small but vocal minorities continue to trump democracy by way of microscopic improvements in safety what will we have left? A police state.

#### **14. Are we not just banning “Cosmetic use” of pesticides?**

I find it contradictory that the bylaw proposes to exempt Golf Courses because their appearance impact their playability while no value is put on maintaining the appearance of our lawns and gardens. Seems like principles giving way to money. I will even concede that some minimal risk is imposed on the pesticide user for their own “cosmetic” gratification – but then people do much more than this in many endeavors of life – from drinking alcohol – to getting a “cosmetic” high by injecting themselves with toxins for a “cosmetic” face lift. “Cosmetic” use implies that it has no commercial or value other than appearance. This is false, as the use of pesticides, both natural or otherwise can significantly add to the enjoyment of one’s [property, add to its resale value, and help preserve the assets of our lawns and gardens. The classification of an activity or product as either essential or non-essential is a value judgment that is difficult to make. Certainly it is far easier to determine if something is essential. To unilaterally declare the use of pesticides on residential properties as non-essential unfairly biases the debate of the issues.](#) Since there is no evidence that pesticides, used as directed, impact neighbours, society, or the environment, there is no justification to ban their use on private property.

#### **15. Is it not the role of government to protect the community?**

Few object to the mandatory wearing of seatbelts – which are already installed in all automobiles and greatly improve safety with little loss of freedom. However the banning of pesticides, declared safe by a government with much more expertise than the local government, is unreasonable. Federal governments in Canada, the US, and Europe, all agree that 2,4D (used in weed-and-feed) is safe to use as directed, safe for the environment, and has negligible impacts on neighbours compared to the benefits. Use of arguments comparing pesticide use to second-hand smoke, long declared safe by manufacturers, but declared unsafe by Federal governments are thus specious. Local governments have a duty to protect the health of their community – but their actions must be reasonable, based on the risks (provided not by corporations with vested interests but by independent government studies), and the benefits provided by the use of these products. Having objectively examined the risks and benefits – especially in comparison to other risks (ref.3) NOT banned (but within the authority of local governments to do so) I cannot support such a broad spectrum ban on the private use of pesticides. However, banning their use on public property, as an encouragement to use alternative methods of pest control is reasonable.

#### **16. What are the further implications of the proposed pesticide ban?**

The courts have left no doubt that local governments can have the authority (refs.7, 8) to ban the sale and use of any product it truly believes is harmful to its residents. This could mean banning the transport, sale, or use of

- All genetically modified food, despite them being declared safe by the Federal Government.
- [All foods containing traces of synthetic pesticides](#)
- Gasoline lawn mowers or any type of leaf blowers
- [Use of certain exterior paints and driveway sealers](#)
- Transport of dangerous good (eg. chlorine) within a municipality.

Appendix 1 below discusses whether, and to what extent, the municipality can regulate the use of pesticides on residential properties.

#### **17. What is the meaning of “Risk”?**

It may come as a surprise to some that “risk” has many meanings (ref.4). Some of the meanings are:

- an unwanted event which may or may not occur
- the cause of an unwanted event which may or may not occur
- the probability of an unwanted event which may or may not occur
- the **statistical expectation value** of unwanted events which may or may not occur
- the fact that a decision is made under conditions of known probabilities

In most cases we use the “statistical expectation value” – obtained by multiplying the probability of an unwanted event with a measure of the consequences.

However life is not that simple. It matters a great deal who is taking on the risk – the risk taker or somebody else. Simply making decisions based on total risks vs. total benefits disregards who is affected by the risks and benefits.

Note that unlike an industry which imposes risk by polluting its immediate neighbours – and thus a small number bear most of the “risk” while society as a whole may reap the benefits, the risk of using pesticides is almost exclusively born by the user (which happens also to be the major, albeit not the only, benefactor) with virtually no risk to others. It is worth repeating – the risk of using pesticides is almost exclusively born by the user. Government scientists have declared that risk acceptable, in line with Precautionary Principles (ref.22) and the impact on the environment, and others, (unlike second-hand smoke) as negligible or non-existent.

### **18. Should risk assessments be based only on scientific facts?**

No. However, when municipalities impose additional precautions which disregard science it means that they will be acting without the right priorities. This does not mean policy makers are acting irrationally – they may simply be giving more weight to the fact that experts, from time to time, have been known to be wrong. Nevertheless, for the integrity of science the burden of proof must fall on those who claim the existence of some yet unproven phenomenon. However, to adjust policies which “err on the side of safety” - based on relevant, but possibly not yet scientifically verified, evidence is not unreasonable – provided such policies are guided by scientific judgment. It goes without saying that this requires an open mind. Those who declare their minds made up – and nothing will change it - do not have an open mind.

### **19. Are “natural” products safer than “man-made” products?**

No. It may come as a shock to know that fully 50% of chemicals that occur in nature are carcinogenic – the same % as in man-made chemicals (refs.20,21) – and natural chemicals vastly outnumber man-made ones. The most deadly substance known to man is the “natural” product botulin.

### **20. Is this just another “yell of the day”?**

Regrettably, this seems to be the case.

### **21. Enforcement**

As indicated in Appendix 1 the Province only authorized municipalities to ban certain pesticides on residential properties but not for commercial and industrial properties. Thus private golf courses and other businesses can continue to use pesticides as they see fit. Areas used to grow fruit and vegetables are also exempt. Basically we are left with banning weed-and-feed type of products for use on lawns. For all practical purposes this means banning the least toxic pesticides – the herbicides. These products will continue to be readily available for sale both inside and outside the municipality. Once put in a spreader they are difficult to distinguish from plain fertilizers. Only a chemical test can determine if a banned product has been used on a residential lawn. Enforcement is likely to be problematic. Many people will continue to assume that weed-and-feed is not a pesticide.

### **22. Which Pesticide Products are exempt?**

The DNV report has a list of exempted “pesticides”. Unfortunately this list is woefully inadequate as a huge list of readily available substances, not on this list, but say declared as safe by the US EPA [http://www.epa.gov/PR\\_Notices/pr2000-6.pdf](http://www.epa.gov/PR_Notices/pr2000-6.pdf) like salt, citric acid (lemon juice), mint oil, pepper, cloves, beer, etc would technically not be exempt in the proposed bylaw. This also adds to the enforcement problem. It is rather unusual to have a bylaw which bans everything by default and then permits a limited (but woefully incomplete) set of exception. It would have been more appropriate to list those pesticides that are banned. It would then become apparent that the intention is to ban the most popular (and one of the safest) pesticide – the herbicide 2,4-D in Weed-and-Feed.

### 23. Are the “Exempted Pesticides” safer?

Not necessarily. For example, the “natural” pesticide Rotenone – derived from Derris Root, is highly toxic to fish (ref. 34) – up to 2000 times more so than 2,4-D (Weed & Feed)

#### Comparing 2,4-D to some popular “natural” pesticide.

What	2,4-D	Rotenone
Proposed Bylaw Status	Banned	Not Banned
Origin	Synthetic Growth Hormone Herbicide	Natural (Derris Root) Insecticide
Oral LD50 rat	375 to 666 mg/kg	40 to 100 mg/kg
LEL rats	5 mg/kg/day	2 mg/kg/day
LD50 mallards	> 1000 mg/kg	> 2000 mg/kg
LC50 trout	1-100 ppm depend on formulation	22 ppb (0.022 ppm)

Sources: <http://pmep.cce.cornell.edu/profiles/insect-mite/propetamphos-zetacyperm/rotenone/insect-prof-rotenone.html>  
<http://pmep.cce.cornell.edu/profiles/extoxnet/24d-captan/24d-ext.html>

### 24. Are Weed-and-Feed products Safe?

The active ingredient in this product – 2,4-D has recently undergone a thorough re-registration process and thus has a minimal time lag for any recent changes in knowledge. Contrary to reports by others, these tests do take account for the “greater sensitivities of fetuses and children”. The government approval process also assures that other “inert” products also do not compromise safety of the product. All government registered pesticides are safe if used as directed. Recent re-certifications (ref.10) have been done on 2,4-D – the active ingredient in Weed-and-Feed – in both Canada and Europe. Their safety margins have been set to ensure the health of all (particularly children) who may come in accidental contact with this ingredient (ref.5). It is somewhat ironic that there are no regulations preventing children from coming into contact with this substance in stores where this is sold – often with broken bags leaking their contents. Either this material is so safe it is of no concern to regulators or this is an oversight. In any case it seems prudent to ensure children do not make accidental contact with Weed-and-Feed at the stores and a bylaw to this effect may be warranted.

Note that according to Health Canada (ref.18) “No regulatory authority considers 2,4-D to be a human carcinogen.”

For those wanting more information about 2,4-D I refer the readers to the excellent article (ref.9) by the Health Canada Pest Management Regulatory Agency (PMRA) where they answers the following questions:

- How did PMRA conclude that 2,4-D can be used safely when label directions are followed?
- What additional measure is required by the PMRA as a result of the re-evaluation?
- Why did PMRA re-evaluate 2,4-D? specifically?
- How can 2,4-D be safe to use if the dioxins and furans contaminants in 2,4-D cause cancer?
- What is the review status of the other commonly used lawn-care pesticides?
- Physicians groups say it can cause cancer in children. How can you say it’s safe for use?
- A recent study in Québec found traces of pesticides in urine of children. Was there 2,4-D one of them?
- Does 2,4-D cause cancer and other serious illnesses?
- Does 2,4-D cause cancer in dogs if they walk on treated lawns?
- Should I be concerned about exposure to 2,4-D from track in of residues into my home?
- Should I be concerned about exposure to 2,4-D from spray drift?
- How long does 2,4-D stay present in the environment?

### 25. So what are the assessed risks of using 2,4-D?

The following is based on the 58 page 21-February-2005 report on the re-evaluation of the Lawn and Turf uses of 2,4-D <http://www.pmr-arla.gc.ca/english/pdf/highlights/InfoNote-2,4-D-e.pdf>

- The 1991 National Cancer Institute study indicating an association between dogs with canine malignant lymphoma (CML) and dog-owners who applied 2,4-D to their lawn was found to be flawed and is now discounted (pages 8,9)
- 2,4-D has low toxicity to honey bees and to earthworms (page 26). Toxicity to fish varies from practically non-toxic to slightly toxic and to aquatic invertebrates, from practically non-toxic to moderately toxic depending upon the species.

- The risk to terrestrial invertebrates was determined to be low, as indicated by the low acute toxicity in the honey bee and earthworms.
- The risk to birds is also low, with no significant risk to small mammals (page 27)
- All known reviews of regulatory agencies (worldwide) have concluded that 2,4-D is not carcinogenic (pages 10,11)

Downwind sampling during application indicated either no or negligible concentrations in air samples – and none was associated with detectable bystander exposure (page 17). Even oral ingestion of granules by a toddler, considered an acute, rare event, rather than a typical exposure, was below the level of concern (Table 2 and pages 43-50).

Assuming broadcast application over 2000 sq-metres (far larger than average lawn in DNV), the margin of exposure (MOE) target value of 1000 for those wearing short-sleeved shirt, short pants, and no gloves exceeded 40,000 (page 43 -Appendix II).

The margin of exposure for youths experiencing a four hour post application exposure on treated golf courses were typically 30,000 (the acceptable target being 300).

As for the **environmental fate...**

2,4-D is classified as non-persistent to slightly persistent in soils and natural water, with half-lives of 1.7 to 31 days in soil and 4.5 to 29 days in water (p 26). If deprived of air (oxygen) the amine form of 2,4-D can persist in soil with a half-life exceeding one year.

“Over the past 40 years, 2,4-D has played an important role in the maintenance of turf. Without it, the number of broadleaf weed control products presently available to homeowners would be severely limited.” (page 30). As well, there are no alternative herbicides for certain problematic broadleaf weeds. (page 21). To quote the PMRA report “Considering that weed control on turf is important, it is concluded that 2,4-D on turf has value”

## **26. What are other frequently asked question about Pesticides?**

They can be found at the Pest Management Regulatory Agency (PMRA) web sit at

<http://www.pmr-arla.gc.ca/english/aboutpmra/faq-e.html>

They are listed here for convenience...

1. Where can I find information on the most commonly used terms on the PMRA web site?
2. How can I check to see if a pesticide is registered for use in Canada?
3. If a product is registered in the United States, does that mean it's okay to use it in Canada?
4. How does a product become registered for use in Canada?
5. Does PMRA regulate pool products as well?
6. Is it safe to use pesticides?
7. How can I identify what kind of pest is in my home or garden?
8. Is it true that some of the pesticides I use around my home are not going to be available in the future?
9. How can I dispose of pesticides?
10. What should I do if I see pesticides being misused?
11. What about the other ingredients in pesticides - does the PMRA evaluate these as well as the active ingredient in the pesticide?
12. How can people reduce the need to use pesticides around the home?
13. Can exposure to pesticides cause cancer?
14. Can exposure to pesticides cause asthma?
15. Are children's special characteristics taken into account when pesticides are evaluated for their risk to health?

## **27. What are some basic misconceptions about Cancer and Pesticides?**

Contrary to common perception, 99.9% of the chemicals that humans ingest are natural chemicals (ref.23 [page 3](#)). Also contrary to common perception, natural pesticides have about the same fraction (50%) that are carcinogenic as synthetic pesticides. Exposure to natural CARCINOGENIC pesticides outweigh our exposure to synthetic pesticides by a factor of 1000. “In a single cup of coffee, the natural chemicals that are rodent carcinogens are about equal in weight to an entire year’s worth of synthetic pesticide residues that are rodent carcinogens, even though only 3% of the natural chemicals in roasted coffee has been adequately tested for carcinogenicity. Another misconception is that the body can more readily deal with natural pesticides than synthetic pesticides. Our body defense mechanisms are non-specific and do not distinguish between natural or synthetic pesticides (ref.21).

## 28. Pesticides – are they unsafe at any dosage?

Many “natural” foods contain poisons that help them fight off insects or as a defense against being eaten. Some raw beans can be very toxic. Our bodies are always working to get rid of toxins – be it alcohol, the fat soluble neurotoxin solanines present in potatoes etc. Although the body can deal with some  $10^{-2}$  grams of solanine only  $10^{-8}$  grams of botulin (the most deadly substance known) will kill us – that is less than 1/100th the weight of a grain of sand. Regulations governing residual pesticides on foods are often set by ensuring that their effective toxin load is negligible compared with the “natural” toxin load present in the food. Most toxins do not accumulate in the body. It is an abuse of science to say that if a certain dosage can kill you then 1/100 of that dosage will kill 1 out of every 100 people taking that lower dose. About 1 litre of pure alcohol will kill you but no one will die if the same volume of toxin (in this case alcohol) is spread over 1000 people. [The concept of unsafe at any dosage ignores the scientific axiom "only the dose makes the poison."](#) [The iron in a tablet that many adults take regularly has killed babies.](#) [Eating a lot of salt-cured meat can increase the risk of stomach cancer, but people must have some salt to survive.](#)(ref. 20). The “unsafe at any dosage” dogma with reference to domestic pesticides approved in Canada is just plain false.

## 29. What about the long term (and accumulative) risk of exposure to pesticides?

Pesticides (tested on animals with large dosages) that cause mutations leading to cancer are not allowed to be used by the “domestic” consumer. Both low-level exposure to “natural” and “man-made” pesticides (and other toxins) are readily flushed by the normal operation of the liver and kidneys. However, most of the test results do not come from testing on humans as this is viewed by many as unethical. A good review on this aspect, in relation to pesticides, was published by the US Environmental Health Perspectives (EHP) at <http://ehp.niehs.nih.gov/members/2005/7720/7720.html>. [Banning the use of pesticides whose use has been certified as safe when applied as directed will result in increased resistance of pests as fewer pesticides would be available to combat them. The more tools there are available, the more effective the long term results.](#)

## 30. Why not just leave pesticide application to professionals?

About 1/3 of pesticides are applied by landscape maintenance companies (ref. 35). The majority of epidemiology studies show some risk to occupational groups, usually adult males, who are subject to high multiple exposures to pesticides. It thus seems prudent to spread the risk among the actual users rather than concentrate them to a narrow group. This is despite the fact that professionals can, in principle, take more care in the proper application of pesticides (ref 35). However, they also have access to pesticides with much higher potency – thus exacerbating the concentration of risk. A way to look at it is that it’s better to have 1000 people each drink a cup of coffee, rather than have a single person drink a 1000 cups. Another way to look at it is to realize that if one dropped a two ton weight on one person the risk is great, while if one spreads that same two tons among a thousand people the overall risk is greatly reduced. It’s all a matter of scale.

Another aspect to consider is that companies are in the business of making money. Safety is a secondary concern (and externally imposed). Weather conditions are often not optimal for the use of pesticides – while employees still need to be paid. On the other hand the resident applicant can usually afford to wait until conditions are optimal for the safe use of the pesticide.

## 31. What about use of pesticides indoors?

Ironically the bylaw does not regulate the sale or use of pesticides indoors – even those meant to be used outdoors only. Many studies have shown that indoor air contains at least five (typically 10) times higher concentration of pesticides than outside air. Pesticides that break down within days outdoors can persist for years in carpets. This largely accounts for DDT being found in carpets some twenty years after it was outlawed. Of course toxins in carpets are not just restricted to pesticides [\(the most common found being permethrin, an active ingredient in many insecticide sprays – ref 33\)](#). Levels of volatile organics proved much higher indoors than out. The chief sources were ordinary consumer products such as air fresheners, cleaning compounds, moth-repellent crystals (or balls), toilet disinfectants –you name it. All this is particularly menacing to small children, who play on the floors, crawl on carpets and regularly place their hands in their mouths (ref.32). [Nevertheless, even this higher risk is not a significant contributor to the risk of cancer \(ref. 28\).](#)



Although a little dated the 1998 Scientific American article “Everyday Exposure to Toxic Pollutants” (ref.15) is worth a read. My favourite quote from that article is: “If truckloads of dust with the same concentration of toxic chemicals as is found in most carpets were deposited outside, these locations would be considered hazardous-waste dumps”. [Am I ever glad I went back to hardwood floors!]

So why do local governments not act to protect us in these cases. Because enforcement is nearly impossible – as is banning the use of government approved pesticides in our gardens. So what is the answer? Education, education, education. Give individuals the information to make appropriate decisions and the vast majority will do so.

### **32. What about pesticides we put on our children?**

DEET is one of the preferred products we regularly smear on our children – likely second only to sunscreen products. None of these products have an absolute, unconditional, guarantee to be harmless. As with any product, there are risks involved. Lice infestations, not uncommon in situations where children regularly come in contact with each other – is often treated with – you guessed it – insecticidal soap.

### **33. Is banning low risk pesticides cost-effective?**

“Since there is no risk-free world and resources are limited, society must set priorities in order to save the greatest number of lives” (ref. 23 page 89). To put things in perspective it may be useful to examine the carcinogenic hazard (so called HERP – the Human Exposure / Rodent Potency index) of some common foods and well known (and now banned) synthetic chemicals. In general, the lower the number the less the risk.

Beer	1.8
Wine	0.6
Coffee	0.1
Apples	0.02
Celery	0.007
Carrots	0.005
DDT (before 1972 ban)	0.002
Average Tap Water	0.0008
PCB’s (1984-86)	0.00008

However just because a rating is high does not mean it will cause cancer. It just illustrates the disparity in regulations. For example – apple juice contains some 353 natural chemicals of which only 12 have been tested and 9 of those were found to be carcinogenic. (ref23 – page 57)

Some rules on air and water pollution controls have indeed been cost-effective – such as the phase-out of lead in gasoline. However in general, every dollar that has been spent on direct medical intervention is 146 times more cost-effective (per life-year saved) than if it were spent on toxin control programs (ref.23 -page 87).

To put it more directly (ref 29):

[In order to extend the life of a single person by one year one can:](#)

Spend \$2,700 of our taxes on recreational/fitness subsidies or

Spend \$19,000 of our taxes on medical interventions or

Spend \$2,800,000 of our taxes on toxin avoidance measures such as the Pesticide Control Bylaw

The choice seems clear – spend taxes on recreational/fitness subsidies – which are over 1000 times more cost-effective than toxin avoidance measures.

The diversion of funds (resources) to reduce very low risks is not only bad policy, it is bad economics, and – in the final analysis – bad for our health.

### **34. How does this bylaw fit into the District’s “Natural Steps” vision.**

A vision based on “eliminating our community’s contribution to dependence upon persistent chemicals and wasteful use of synthetic substances” is both flawed and biased because it limits its focus on only “synthetic” substances. The most popular herbicide in use in the district, 2,4-D is not a persistent chemical and its use is thus compatible

with a proper “Natural Steps” vision. It should be noted that the “natural” pesticide Rotenone, which is not proposed to be banned, is up to 2000 times more toxic to fish than 2,4-D.

### **35. Is education with a bylaw the most effective way to improve our health?**

Not if the cost-benefits are way out of proportion to what our tax dollars could accomplish by other means (see 33.). The risks and benefits have not been appropriately dealt with. We will never know the “full, long-term health implications” of the use of anything. To unreasonably err on the extreme side of caution (by banning) – and thus use untested “natural” substances that we later find are even more harmful, may well lead us into the opposite direction we wanted to go. Science, not alarmism or fear should be the basis for sound decision making.

### **36. Will the bylaw lead to a safer environment?**

Bylaws, despite their good intentions, will set changes into motion which are often partially and sometimes fully counter-productive. A bylaw based on junk science and fear-mongering will not be accepted by the general population. Some obvious unintended consequences could be:

- a) experimentation taking place with much more dangerous “natural” products
- b) spread of noxious weeds and insects bad for our health
- c) that as sales of these products are still legal, and use enforcement impractical, what little gain could be accomplished will also be largely negated.
- d) due to limited resources we will ignore far more urgent health hazards as well as more cost effective health improvement measures.

### **37. With so many sources impacting our health we have to start somewhere!**

The argument is made that there are many potential minor sources which negatively impact our health. Since we have to start somewhere why not with banning pesticides? Well, by now you know that the health impact of the pesticide use which is being banned has an extremely low rate of return – about 1000 times less that putting our tax dollars into improving recreational services. We are also wasting valuable enforcement and educational resources, which if directed at issues such as wood burning fireplaces, or keeping our streets clean of toxin laden debris, would yield far greater health benefits. It may be worth noting that automobile wastes, pet wastes, road salts, construction debris, etc., constitutes a waste stream on par with the pollution load of our sewage system – almost all ending up in our local receiving waters. Bikers often take the brunt of the lack of basic road maintenance – being exposed not only to toxic dusts swirled up by passing vehicles, but also having to ride on road debris which tend to concentrate near the curbs. Skewed priorities can often decrease our health instead of improving it.

## Conclusions / Recommendations:

- The bylaw would be far simpler if it just banned what is primarily perceived as the problem, the **broadcast spraying** of pesticides on residential lawns and gardens.
- The concerns that those using pesticides impact their neighbours or the environment are unfounded.
- Overall, synthetic pesticides contribute an insignificant amount to the rate of cancer. Natural pesticides contributes about a 1000 times more – but likely still **insignificantly so to the rate of cancer**.
- Canadians can and should minimize their exposure to, and their reliance on, pesticides. Education is the best approach to promote that goal.
- Integrated Pest Management (IPM) should be better publicized.
- Bylaws should ensure that products containing pesticides are kept out of the reach of children.
- Health priorities and respect for bylaws are debased if science is ignored. Bylaws should be reasonable and have the support of the community at large.
- Current risk assessments for the most popular “domestic” insecticides are more than adequate and do not justify being banned.
- If policies override science then they should apply first to public lands and last to private lands – not visa-versa.
- If use on private property by the resident is deemed politically (not scientifically) unsafe then the use by professional applicators, being 100 times more risky to them, should first (or also) be banned.
- There are much more pressing health issue relating to indoor toxins than outdoor ones. Simply removing one’s shoes before entering the house would improve our health more than a hundred such bylaws.

Any regulation or ban should be tailored to avoid or control a specifically identified harm. A blanket ban, without even identifying which harm from which product is being targeted, is thus an unjustified overreaction. It smacks of alarmism and puts the mainstream environmental movement into disrepute.

The passage of the Pesticide Control Bylaw is also not in keeping with the principle that exposure to all forms of pesticides, whether natural or synthetic, should be kept as low as reasonably achievable, having taken account the scientific risks, environmental impacts, as well as economic, and social factors.

## APPENDIX 1

### Municipal Authority to regulate pesticides:

There is the question as to whether the Community Charter specifically allows the banning of pesticides on the basis of health. The Community Charter, as one of the Fundamental powers expressed in section 8(3) “A council may, by bylaw, regulate, prohibit and impose requirements in relation to the following” (g) the health, safety or protection of persons or property in relation to matters referred to in section 63 [protection of persons and property]. However this general power 8(3)(g) may not be exercised for other than the 6 listed in section 63. The regulation of pesticides is not one of them and thus section 8(3)(g) cannot be invoked.

The June 1/2005 report to council by Mr. Bennett – Manager of Environmental Services states on page 3 “Legislation in BC has been streamlined to allow local governments to regulate pesticide use on **public land** [my emphasis]”. No mention is made of private land. However, the report then mentions Section 2 of “Spheres of Concurrent Jurisdiction – Environment and Wildlife Regulation”. The details are given under an Order in Council B.C. Reg. 144/2004 [http://www.qp.gov.bc.ca/statreg/reg/C/CommuCharter/144\\_2004.htm](http://www.qp.gov.bc.ca/statreg/reg/C/CommuCharter/144_2004.htm)

- (1) ... a municipality may,
  - (b) regulate, prohibit, and impose requirements in relation to,
    - (ii) subject to subsection (2), under section 8 (3) (j) of the Act, the application of pesticides, except exempted pesticides, for the purposes of maintaining outdoor trees, shrubs, flowers, other ornamental plants and turf for residential purposes, or on land vested in the municipality
- (2) For the purposes of section 9 (4) (b) of the Act, a municipality may **not** exercise the authority under subsection (1) (b) (ii) of this regulation in relation to the application of pesticides
  - (a) for the management of pests that transmit human diseases or impact agriculture or forestry,
  - (b) on the residential areas of farms,
  - (c) to buildings or inside buildings, or
  - (d) on land used for agriculture, forestry, transportation, public utilities or pipelines unless the public utility or pipeline is vested in the municipality.

This clearly allows the municipality some say on controlling pesticide use on private properties. **However it does not allow the municipality to exercise any control of pesticides on private gardens used to grow food.** The legislation – by being so specific thus created a number of loopholes. **Note that the authority to regulate does not extend to commercial or industrial properties.**

The **sale of pesticides** is regulated by both the federal and provincial governments, and **lies beyond the scope of regulatory powers allotted to municipal government** as stated by the Supreme Court in the Hudson case (ref 35.).

## References

- (a) Health Canada –PMRA – Responsible Pesticide Use - In and around the home. <http://www.pmra-arla.gc.ca/english/consum/pesticidehome-e.html>
- (b) Health Canada – Second-Hand Smoke - [http://www.hc-sc.gc.ca/hl-vs/tobac-tabac/second/index\\_e.html](http://www.hc-sc.gc.ca/hl-vs/tobac-tabac/second/index_e.html)
- (c) See page 17 of 21-February-2005 report on the re-evaluation of the Lawn and Turf uses of 2,4-D <http://www.pmra-arla.gc.ca/english/pdf/highlights/InfoNote-2,4-D-e.pdf>
- (1) Report by Ontario College of Family Physicians  
<http://www.ocfp.on.ca/local/files/Communications/Current%20Issues/Pesticides/Final%20Paper%2023APR2004.pdf>  
f 185 Pages
- (2) Health Canada PMRA response to report by Ontario College of Family Physicians -  
<http://www.pmra-arla.gc.ca/english/highlights/in20040804-e.html> 3 pages
- (3) For example, the “cosmetic” use of wood burning fireplaces or outdoor smoking in close proximity to children, doorways, windows, sidewalks, seating in parks, etc.
- (4) Seven Myths of Risk - <http://www.infra.kth.se/~soh/SevenMythsTalk.pdf>
- (5) The safety factors for normal and abnormal situations is well described in the 21-February-2005 report on the re-evaluation of the Lawn and Turf uses of 2,4-D <http://www.pmra-arla.gc.ca/english/pdf/highlights/InfoNote-2,4-D-e.pdf> See especially pages 43-50 of Appendix II.
- (7) Hudson Quebec – Supreme Court ruling - [http://www.lexum.umontreal.ca/csc-ssc/en/pub/2001/vol2/html/2001scr2\\_0241.html](http://www.lexum.umontreal.ca/csc-ssc/en/pub/2001/vol2/html/2001scr2_0241.html)
- (8) Overview by Sierra Club of Hudson decision - [http://www.sierralegal.org/issue/hudson\\_presentation.html](http://www.sierralegal.org/issue/hudson_presentation.html)
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- (10) <http://www.pmra-arla.gc.ca/english/highlights/in20050221-e.html>
- (12) The DDT Ban Myth - <http://info-pollution.com/ddtban.htm>
- (13) Silent Spring II - <http://www.themediadesk.com/files7/silentspring2.htm>
- (14) Eggshell thinning – and 100 things you should know about DDT <http://www.junkscience.com/ddtfaq.htm#ref6>
- (15) Everyday Exposure to Toxic Pollutants – Scientific American Feb 1998  
<http://www.sciam.com/1998/0298/issue/0298ott.html>
- (16) Children’s Health Priorities Within the PMRA – Health Canada PMRA <http://www.pmra-arla.gc.ca/english/pdf/spn/spn2002-01-e.pdf>
- (18) <http://www.pmra-arla.gc.ca/english/consum/2,4-DFAQ-e.html#6>
- (20) Mother Nature's Pesticide Factory - The New York Times, June 9, 1993 - <http://www.fumento.com/times.html>
- (21) Misconception – Synthetic Chemicals pose greater carcinogenic hazards than natural chemicals – Fraser Institute <http://www.fraserinstitute.ca/admin/books/chapterfiles/Misconception%207-07MisconceptionsChap7.pdf>
- (22) The subject of Precautionary Principle, as a standard for Regulatory Policies, is thoroughly discussed by the United Kingdom Interdepartmental Liaison Group on Risk Assessment (UK-ILGRA) -  
<http://www.hse.gov.uk/aboutus/meetings/ilgra/pppa.htm> endorsed by Heads of European Government

at a General Affairs Council at Nice in December 2000. A more readable version of the Precautionary Principle can be found at <http://www.phthalates.org/didyouknow/principle.asp>

(23) Misconceptions About the Causes of Cancer – publication by Fraser Institute  
<http://www.fraserinstitute.org/shared/readmore.asp?sNav=pb&id=477>

(24) Breast Cancer Risk Factors - <http://www.breastcancer.realage.com/content.aspx/topic/21>

(25) No, Virginia, Poinsettias Are Not Poisonous - <http://aggie-horticulture.tamu.edu/extension/newsletters/hortupdate/nov03/No.html>

(26) Fuelish Pleasures - <http://www.snopes.com/autos/hazards/gasvapor.asp>

(27) Top 10 Cancer Myths – Discover Health Channel – Myth 8 -  
<http://health.discovery.com/centers/cancer/top10myths/myth8.html> see also  
American Cancer Society - [http://www.cancer.org/docroot/PED/content/PED\\_1\\_3X\\_Cellular\\_Phones.asp](http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phones.asp)

(28) Cancer Myth 4 – Does Household Bug Spray Cause Cancer?  
<http://health.discovery.com/centers/cancer/top10myths/myth4.html>

(29) From <http://www.smdm.org/Repository.html> "Overall, the median intervention costs \$42,000 per life-year saved. The median medical intervention cost \$19,000/life-year; injury reduction \$48,000/life-year; and toxin control \$2,800,000/life-year." Thus (toxin control)/ (medical intervention)

$2800000/19000 = 147$  - very close to 146 reported in (ref 23, page 89). It is also believed that for every dollar spent on recreational/fitness the health care system saves seven dollars – hence the number  $19000/7 = 2700$

(30) POP (Persistent Organic Pollutants) and PBT's (Persistent, Bioaccumulative, Toxic)  
<http://www.phthalates.org/didyouknow/pops.asp>

(31) Mercury in our environment –Health Canada - [http://www.hc-sc.gc.ca/ewh-semt/alt\\_formats/hecs-sesc/pdf/pubs/water-eau/doc-sup-appui/mercury-mercure/mercury-mercure\\_e.pdf](http://www.hc-sc.gc.ca/ewh-semt/alt_formats/hecs-sesc/pdf/pubs/water-eau/doc-sup-appui/mercury-mercure/mercury-mercure_e.pdf)

(32) Pollutants in house dust as indicators of indoor contamination. -  
[http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list\\_uids=12206053&query\\_hl=1](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12206053&query_hl=1)

(33) Beware the Air You Breathe at Home – CBS – Sep 16/2003  
<http://www.cbsnews.com/stories/2003/09/16/tech/main573504.shtml>

(34) Insecticides: Chemistries and Characteristics - section on Disruption of Energy Metabolism of  
<http://ipmworld.umn.edu/chapters/bloomq.htm>

(35) City of Vancouver – July 9/2002 report <http://www.city.vancouver.bc.ca/ctyclerk/cclerk/020723/A5.htm>

## Common Definitions

HERP - Human Exposure / Rodent Potency index

LOAEL - Lowest observed adverse effect level (eg. 75 mg/kg bw/day)

MOE - Margin of exposure (eg. 300 – 10x intraspecies, 10x interspecies, 3x youth sensitivity)

NOAEL – no observed adverse effect level, i.e. the maximum level of exposure to the chemical at which the subject has no observable adverse effects (eg. 25 mg/kg bw/day)

Misc Material:

## **With Every Breath You Take**

It may come as a surprise to many that virtually every breath you take is composed in part of almost every single chemical in existence on this planet. This is simply due to the overwhelming number of molecules in one gram-molecular mole of any substance - about  $6 \times 10^{23}$ . This means that literally millions – if not billions of mercury atoms are going to your lungs with every breath you take. Zero tolerance requirements for practically anything is an impossibility – we are living in a planetary soup.

Ref: Mercury in Air, Water and Biota in Kejimikujik National Park, Nova Scotia, Canada

[http://www.ns.ec.gc.ca/msc/as/mercury\\_keji.html](http://www.ns.ec.gc.ca/msc/as/mercury_keji.html) - mean levels in air of 1.52 ng/m<sup>3</sup> ~ 100,000,000 atoms of mercury in every breath of air.