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14 July 2009

Ms. Kathryn Seely  
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Ms. Seely:

Thank you for replying to my letter to Ms. Kaminsky of two months ago. However, the form letter addresses neither the questions nor the issues I discussed in detail. As I mentioned in my email of May 25 (requesting a reply to the May 09 letter), I have had numerous responses from – among others – government officials at all levels and from many provinces thanking me for putting the information together. It would seem that the letter was forwarded to far more people than just those to whom I had originally sent it. Most of those contacting me also expressed interest in learning how the Canadian Cancer Society would respond. The general sentiment of almost all replies was that the CCS, because of its unscientific stance against pesticides, would no longer enjoy any of their financial support. The remainder of this communication is my response to the content of your letter.

It appears that you, and the CCS, have a great deal of faith in published studies that have been labelled as “peer-reviewed.” If you had read my letter, you would have been aware of my explanation why peer-reviewed does not mean much these days – at least, not in the way that seems to have been the norm for some time. To clarify this further, I will provide more detail on this subject for you.

A recent editorial on peer review in the *Journal of Physiotherapy* (pp 193-194, Vol.92, 2006), stated that “it is interesting to note that even in esteemed journals, the peer review process can fail to detect fundamental problems with manuscripts.” This is not a new phenomenon. In 1986, Dr. Drummond Rennie, who was an editor of *JAMA (Journal of the American Medical Association)*, made the following statement in opening the first International Congress on Peer Review in Biomedical Publication:

There seems to be no study too fragmented, no hypothesis too trivial, no literature citation too biased or too egotistical, no design too warped, no methodology too bungled, no presentation of results too inaccurate, too obscure, and too contradictory, no analysis too self-serving, no argument too circular, no conclusions too trifling or too unjustified, and no grammar and syntax too offensive for a paper to end up in print.

(Dr. Drummond Rennie, quoted by Valerie Bence and Charles Oppenheim in “The Influence of Peer Review on the Research Assessment Exercise,” *Journal of Information Science*, 2004, Vol. 30, No.4, p. 349)

A 1988 science column in the *New York Times* noted that “The number of scientific articles and journals being published around the world has grown so large that it is starting to confuse researchers, overwhelm the quality-control systems of science, encourage fraud and distort the dissemination of important findings” (W.J. Broad, “Science Can't Keep Up With Flood of New Journals,” *New York Times*, February 16, 1988). The writer also emphasized that “One of the most worrisome results of the literature growth is the apparent overloading of the quality-control systems of science, including the watchful eyes of co-authors and referee panels that scrutinize submissions to journals.”

Dr. Richard Horton, editor-in-chief of *The Lancet* (one of the world's most prestigious medical journals) has written:

Peer review to the public is portrayed as a quasi-sacred process that helps to make science our most objective truth teller, but we know that the system of peer review is biased, unjust, unaccountable, incomplete, easily fixed, often insulting, usually ignorant, occasionally foolish, and frequently wrong.

(Richard Horton, *The Lancet*, quoted by E.E. van der Wall in "Peer Review under Review: Room for Improvement?" *Netherlands Heart Journal*, Vol.17, No. 5, May, 2009)

Do those with decision-making authority in the CCS not really understand or appreciate what, in fact, the World Health Organization's International Agency for Research on Cancer (IARC) has actually published about pesticides? None of the 'cosmetic' pesticides registered in Canada are on the IARC's 'carcinogenic,' 'probable carcinogen,' or 'possible carcinogen' lists. Pesticides are not a group of chemicals with properties indistinguishable from each other and whose possible human and environmental effects are common. If there were a problem with one pesticide, this would *not* correlate to a problem with *all*, or possibly any, others. A real scientist would feel obligated to explain this to you. If there were a problem with aspirin, would you insist that the same problem must therefore be associated with every pharmaceutical product, and thus demand the banning all medicines? This is the same logic that the CCS appears to apply to pesticides.

Please inform me what it is you believe actually constitutes your "body of evidence." Dr. Frank Dost (a respected toxicologist) – as outlined in my May 09 letter – thoroughly reviewed and discounted all the studies (as they pertain to a basis for a pesticide ban) in the CCS's "The Link between Pesticide Exposure and Cancer: Key Resources." Your body of evidence apparently also includes "evaluations from organizations" such as the IARC and the U.S. Environmental Protection Agency (EPA). What evaluations are you referencing? Please avoid generalizations, and let me know what it is that concerns the CCS about particular 'cosmetic' pesticides registered in Canada today that can be found specifically in IARC and EPA "evaluations."

Since these evaluations are causing the CCS such concern, and form part of your "body of evidence," I must assume that you can quickly locate them. I would appreciate your forwarding links to these documents.

The CCS (as does your letter) also references the EPA as though it is in agreement with your stance on pesticides. Why is it then, that you do not take into account the EPA's re-evaluation of the common lawn care herbicide 2,4-D when it again reiterated (as did the recent re-evaluation by Health Canada's PMRA) that the product is safe to use according to label recommendations?

You wrote that we are "fortunate to have many safe and effective alternatives available which further underscore the opportunity to move away from potentially harmful pesticides." I fail to find the logic in that statement. As a class, 'organic' pesticides are neither safer nor less toxic than many conventional pesticides, and I am confident that the actual experts, such as those at the PMRA, would agree with this. For example, compare two products labelled for weed control: Roundup (conventional – no special protective equipment required), and the highly caustic commercial acetic acid ('organic' – personal protection required to prevent permanent eye and skin damage, and more toxic than Roundup). Many 'organics' are certainly not friendlier to either people or the environment. For example, copper – considered 'organic' – is non-degradable, corrosive, more toxic than its conventional counterparts, and can cause kidney and liver damage.

“In short,” you wrote, “we believe there is enough evidence to want to take precaution.” It is therefore clear from this statement that the CCS must consider itself more knowledgeable and informed than the 350 expert scientists at Health Canada’s PMRA. Please explain to me how it is that this could be so. Who are the CCS’s experts that can interpret science in a manner so contrary to the findings of the PMRA’s scientists? Health Canada is also the federal regulator of therapeutic products in Canada. Would you take any medicine *not* regulated by Health Canada, or are those at the CCS merely being selective on when to trust this federal agency? You also write that “the science is not definitive.” Perhaps that is only because you are not using actual science.

The precautionary principle which you have quoted is *not* the internationally accepted version (the Rio Declaration of 1992), but from the Wingspread Declaration – formulated by a small group of environmentalists who met in Wisconsin in 1998. It is clear that the CCS picks and chooses whatever concept and ‘information’ that best suits its goals (whatever they may be). If you read the whole Wingspread Declaration, you would find that it also states:

The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.

(“The Wingspread Statement on the Precautionary Principle,” January, 1998, available online)

Did the CCS “include potentially affected parties” such as tree and lawn care companies in any discussions it may have had concerning pesticides? Did you examine the option/alternative of Integrated Pest Management? What have you done to ensure that the process of applying the Precautionary Principle is democratic, as the Declaration insists it must be? How open and informed was your process, particularly considering your lack of scientific input from the PMRA, and your misunderstanding and/or misinterpretation of information from the EPA and the IARC? The CCS’s numerous attempts to convince – among others – the Province of British Columbia (most noticeably during the recent BC election campaign) to ban both the sale and use of pesticides did not include any input from the potentially affected parties.

According to your letter, the use of ‘cosmetic’ pesticides “provides no health benefit.” However, Dr. James D. Lu of the Vancouver Coastal Health Unit (in a February 19/09 letter to the city of Richmond), stated: “Whether or not pesticides are used for yard maintenance, efforts of homeowners to keep appealing and well maintained landscaping should be recognized. The aesthetics of urban landscape has public health value.” In the same letter, Dr. Lu added that “A comprehensive Integrated Pest Management (IPM) approach offers a better alternative to cosmetic pesticide ban by-laws. IPM strikes a balance between prudence, public policy, and private choice.” Pesticides aid in keeping a lawn free of weeds, and in protecting trees and shrubs from insects and disease – all of which contribute to the “aesthetics of urban landscape.” Furthermore, what is wrong with maintaining the aesthetics of a yard with low-cost and efficacious pesticides (safe to use according to label directions, and registered through the PMRA), something which is of great usefulness? It should not be a prerogative of the CCS to make decisions on what should be of value to me or anyone when the true scientific consensus is not on your side. I do not enjoy hand-picking weeds or insects when safe, conventional, and reasonably-priced products are available to do the job when it is necessary. There are many of us who are also not interested in using expensive, inefficient, and more labour-intensive ‘organic’ products.

Your letter states that a recent poll “found that 76% of British Columbians supported a ban on the cosmetic use of pesticides.” I would like to see that poll, along with how the questions were framed, who exactly was polled, and the number of people polled. Even if the figure should be accurate (something I doubt), formulating laws in response to a public that has been continuously fed inaccurate – and sometimes clearly

fraudulent – information is not the way a democracy is supposed to work. According to Cass Sunstein, an internationally recognized expert in jurisprudence who now heads the U.S. Office of Information and Regulatory Affairs under President Barack Obama,

In democratic societies, governments do not capitulate to the fears of its citizens, or pretend that a general idea of precaution can provide helpful guidance. Democratic governments care about facts as well as fears.

(Cass Sunstein, *Laws of Fear: Beyond the Precautionary Principle*, 2006, p. 226)

In your letter, you maintain that the body of evidence is “growing,” something which is similarly claimed in many of the issuances from the CCS. The “growing body” consists entirely of epidemiological studies, which as a whole are actually inconsistent when it comes to pesticides. This is something of which the CCS would be aware if it bothered to undertake a thorough look through the available literature. A major problem with epidemiological studies – acknowledged by many prominent and respected epidemiologists – is that the inexact methods of research results in work that is very frequently afflicted by bias as well as chance masquerading as ‘statistical significance.’ Dr. Michael J. Thun (Vice President of Epidemiology and Surveillance Research, American Cancer Society) has said that “With epidemiology you can tell a little thing from a big thing. What’s very hard to do is to tell a little thing from nothing at all.” Dr. Samuel Shapiro (Emeritus Director, Slone Epidemiology Center, Boston University) has written that “Epidemiologists have only primitive tools, which for small relative risks are too crude to enable us to distinguish between bias, confounding and causation” and “no one has shown that small relative risks are interpretable but in the absence of large ones they have nevertheless become the rage.” In other words, even if ‘cosmetic’ pesticides used in Canada did cause a small increase in cancer incidence (which is a biological implausibility), their effect would not be discernable through the use of epidemiological methods. In yet another paper, Dr. Shapiro noted that “In non-experimental research, the possible existence of bias can never be entirely eliminated, and our ability to infer causation is correspondingly limited.” Another major problem, ‘publication bias,’ leads to a preponderance of studies with positive results being published, and many of those with no, or negative, findings being left to gather dust. Again, this is another well-known problem in the field of epidemiology, and elsewhere. What occurs as a result of publication bias are studies ‘suggesting’ a problem with pesticides being much more likely to be published than those that do not.

A recent paper from the journal *Epidemiology* is worth quoting here:

Public concern about the safety of pesticides has been prompted by recent studies reporting associations with cancer in children and adults. These studies based their exposure information on questionnaires, and assumed that direct or indirect contact with pesticides implied a dose delivered to the target tissue. As the present analysis has shown, the consequences of this assumption could be a high false-positive rate in classification of exposure. The impact of this kind of error can be profound and has rarely been quantified. Until improvements are made in classifying pesticide exposure in epidemiologic studies, results on health effects will be subject to misclassification bias, which makes it difficult to draw valid conclusions about the safety of specific pesticides.

(Tye E. Arbuckle, Donald C. Cole, Len Ritter, and Brian D. Ripley, “Farm Children’s Exposure to Herbicides: Comparison of Biomonitoring and Questionnaire Data, p187, *Epidemiology*, Volume 15, Number 2, March 2004)

Another statement often emanating from the Canadian Cancer Society is that, although there is no definite or conclusive proof of the cancer/pesticide connection, there is “suggestive evidence” that should compel governments to enact bans. Perhaps you should refer to The World Cancer Research Fund and the American Institute for Cancer Research which, explaining “suggestive evidence,” has stated:

These criteria are for evidence that is too limited to permit a probable or convincing causal judgement, but where there is evidence suggestive of a direction of effect. The evidence may have methodological flaws, or be limited in amount, but shows a generally consistent direction of effect. *This almost always does not justify recommendations designed to reduce the incidence of cancer.* Any exceptions to this require explicit justification.

All the following were generally required:

- Evidence from at least two independent cohort studies or at least five case-control studies
- The direction of effect is generally consistent though some unexplained heterogeneity may be present
- Evidence for biological plausibility

*(Food, Nutrition, Physical Activity, and the Prevention of Cancer: A Global Perspective, World Cancer Research Fund & American Institute for Cancer Research, 2007, p.60 [emphasis mine] )*

The available science concerning 'cosmetic' pesticides used in Canada does not meet the criteria necessary to advocate a ban, according to those listed by the above cited authorities on cancer.

Studies may "show that children may be more vulnerable to pesticide exposure," as your letter purports, and that is why the PMRA builds in extra safety factors for children and pregnant women when registering a pesticide in Canada. As quoted in my May 09 letter, the PMRA states:

[E]xtra safety factors were applied to the no effect level identified in animal toxicity studies to protect population groups, such as children and pregnant women, that may be more susceptible to the potential effects of pesticides.

*(Health Canada's PMRA, Re-evaluation Decision RVD2008-11, May 16, 2008, online)*

New research, published very recently, even suggests that the 'acceptable' level of carcinogens could actually be 500 to 1,500 times higher than is believed at present. The study, by Oregon State University scientists, indicates that health impacts of chemicals are not necessarily "linear" (see "Nonlinear Cancer Response at Ultralow Dose: A 40800-Animal ED001 Tumor and Biomarker Study," *Chemical Research in Toxicology*, May, 2009). A linear (straight-line) progression of effect is usually attributed to a chemical because research with test animals is generally performed only with high doses of the particular chemical being studied, due to limitations imposed by cost. Again, I must note that 'cosmetic' pesticides registered in Canada are not even considered carcinogens.

If the CCS were actually "committed to continuing to review the research as it becomes available, and updating our information and positions where appropriate," why does it continue to ignore the findings of Health Canada's PMRA and thousands of scientists elsewhere? Is the CCS's policy, in reality, to:

- consider only epidemiological studies that supports the CCS stance on pesticides, while ignoring those that have alternate findings
- ignore the many problems with epidemiological studies in general
- take at face value the Ontario College of Family Physicians' *Pesticide Literature Review*, while ignoring all the negative critical assessments it received from reputable scientists and agencies
- dismiss the findings of Health Canada's PMRA
- dismiss the actual findings of the International Agency on Research for Cancer, and reference it as giving support for your stance

- ignore the actual findings of the U.S. EPA, and reference it as giving support for your stance
- ignore all the available toxicological data on pesticides used in Canada
- spend donated money to convince the public of its misinterpretations through paying anti-pesticide activists to spread their uninformed rhetoric with reimbursements for costly travels and presentations (e.g., payment for numerous presentations by Toxic Free Canada's Mae Burrows and for even more numerous promotions by Carole Rubin for her *Get Your Lawn Off Drugs* polemic)
- and, to not consider biological plausibility before making judgements?

At the very least, I would seriously question the ethics of misrepresenting the real findings of the IARC and the EPA, while dismissing those of Health Canada's PMRA. Obviously, if you published misinterpretations of the PMRA's statements and findings, you would be quickly – and likely, publicly – admonished by them, which may explain why their findings (and possible CCS refutations) are always omitted from any of your communications. *If one cannot trust the Canadian Cancer Society to honestly interpret easily available science on such a basic issue, what is it we should trust it on?*

I am aware that the CCS is not the only organization that is guilty of spreading unfounded and unscientific fears about pesticides. However, that does not excuse it from attempting to put its own house in order.

I wrote in my May 09 letter that the Canadian Cancer Society was in danger of increasing the incidence of cancer due to its uninformed attempts to spread the fear of pesticides. As I said then, most people do not see a difference between various uses of pesticides, whether the products are for 'cosmetic,' agricultural, or other purpose. Many, who cannot afford 'organic' fruit and vegetables, will reduce their consumption of conventional products due to the fear of ingesting pesticides. And, since it has been shown many times that an increase of fruit and vegetables in the diet significantly decreases the odds of getting cancer, the 'pesticide fear' instilled in the public by the CCS will most likely increase the incidence of cancer. One has only to look at the recent events in Toronto to understand the logic of this.

Toronto brought in its own pesticide ban a few years ago, and, in April of this year, the Province of Ontario instituted its provincial ban of both the sale and use of 'cosmetic' pesticides. In both cases, the 'dangers' of pesticides – particularly cancer – were touted as the rationale behind the bans. The Ontario Ministry of Environment even posts on its website that it had "listened to medical experts – like the Canadian Cancer Society – who have made a convincing case for reducing our exposure to pesticides, particularly children who are generally more susceptible to the potential toxic effects of pesticides." Although the CCS's efforts have produced its desired goal in Ontario, what has been the real result of all those fear tactics? Because there is now a strike in Toronto involving city workers who collect the trash, piles of uncollected garbage are growing in city parks and green spaces. At these sites, there have been huge increases in the population levels of insects. According to a story in the *Toronto Sun*,

Public health manager Reg Ayre testified the growing fly infestation could result in salmonella and *E.Coli* spreading in the neighbourhood, where homes are close to the dumpsite entrance [at Christie Pits]. With diapers, organic material and other trash decomposing in stacked bags, he said the winged pests will transport bacteria to homes and onto food.

(Ian Robertson, "Pesticides Sprayed at Christie Pits," *Toronto Sun*, July 05, 2009)

The City wisely decided to spray insecticide to control the infestations and thus avert a possible health emergency. However, it was necessary to first obtain an injunction in order to stop picketers who feared, according to the story quoted above, that the pesticides "may have lasting effects." A Toronto television station reported that "Residents are worried the vapour from a pesticide sprayed on the growing mounds of garbage could be harmful to people as well." One of the local residents added, "If there [wasn't a long-

term health concern], I don't think the City would have prohibited the spraying of these pesticides on our lawns in the first place” (from “Can't Win: As City Sprays Trash, Residents Upset about Pesticide Use,” Citytv, July 05, 2009).

In response to these concerns, Patricia Trott, a City of Toronto spokeswoman, had to announce that “The medical officer of health has said when measures are used properly there are no risks to public health” (Quoted by Tamsyn Burgmann, *The Canadian Press*, July 5, 2009). It would seem Toronto wants to have it both ways: pesticides are dangerous when used according to label directions (hence, the bans); pesticides are safe when used properly when the City needs to use them.

Toronto’s experience clearly illustrates the case I made in my original letter: when the CCS foments fear of ‘cosmetic’ pesticides, the public begins to fear all pesticides – no matter for whatever reason they may be used. In the case of Toronto, many residents were more scared (unreasonably) of pesticide “vapour” than of salmonella and *E.Coli*.

The points enumerated in your response indicate that my original letter in all likelihood has not even been read, since many of the same CCS explanations that I addressed have simply been reiterated. You suggest that those in the CCS “are dedicated to protecting the health of Canadians by using the best information to raise awareness.” As it pertains to pesticides, the Society is falling far short of this goal.

I would more than appreciate an in-depth and comprehensive response to the *actual* questions and issues raised in both my May 09 letter as well as in this one, so that I may understand what it is that actually motivates the CCS’s unscientific approach to pesticides. Unfortunately, your response does nothing to enlighten me.

As was the case with my original letter to Ms. Kaminsky, I am sending this one in the form of a pdf. This makes it easier to cc (along with your reply of July 03) to those listed below, as well as to a great many other people, companies, and both private and government agencies across Canada.

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John J. Holland (former CCS supporter)  
*Communications Director*  
*Integrated Environmental Plant Management Association of Western Canada*  
*Email: iepma@shaw.ca*

cc: Ms Barbara Kaminsky, CEO, Canadian Cancer Society, BC/Yukon  
Ms. Heather Logan, Senior Director, Cancer Control Policy and Information, Canadian Cancer Society  
Premier Gordon Campbell  
Honourable Barry Penner, BC Minister of the Environment  
Prime Minister Stephen Harper  
Honourable Jim Prentice, Federal Minister of the Environment  
Dr. Michael Ignatieff, Leader of the Opposition  
Dr. Richard Aucoin, Executive Director, PMRA  
Ms. Trish MacQuarrie, Director General, PMRA  
Mr. Al Johnson, Director, WorkSafeBC  
Ms. Shantal Nadeau, Executive Assistant, Canadian Medical Association  
Canadian Nurses Association

**Note: The above letter is in reply to Ms. Seely’s email, which is copied below.**

**From:** Kathryn Seely [mailto:kseely@bc.cancer.ca]  
**Sent:** July-03-09 10:54 AM  
**To:** lux3@shaw.ca  
**Subject:** FW: 09 May 2009 Letter

Dear Mr. Holland:

I am writing in response to your correspondence to Ms. Kaminsky of May 9, 2009. Thank you for writing to us to express your concern regarding the Canadian Cancer Society's position on the cosmetic use of pesticides.

As you are aware, the Canadian Cancer Society is concerned about cosmetic pesticide use, or the use of pesticides for aesthetic purposes, on public and private lawns, gardens, parks and other green spaces. As these products are used solely for aesthetic purposes, offer no health benefit, and have the potential to cause harm, the Canadian Cancer Society is calling for a ban on the use and sale of these products.

We are fortunate to have many safe and effective alternatives available which further underscore the opportunity to move away from potentially harmful pesticides. Our position is based on the growing body of evidence suggesting a connection between substances in pesticides and some cancers, as well as the precautionary principle.

The body of evidence includes:

- peer-reviewed published studies
- evaluations from organizations such as the World Health Organization's International Agency for Research on Cancer, the US National Toxicology Program, and the US Environmental Protection Agency on the carcinogenicity of pesticides

Though the science is not definitive, it is growing, and suggests that pesticides can increase the risk of developing both adult and childhood cancers.

That list of cancers includes adult and childhood leukemia, non-Hodgkin lymphoma, as well as prostate, kidney, brain and lung cancers. Studies also show that children may be more vulnerable to pesticide exposure because of their rapidly growing and developing bodies, as well as the unique ways they can be exposed (for example, from playing on green spaces treated with pesticides). In short, we believe there is enough evidence to want to take precaution.

In addition to the growing body of evidence, our position is also based on the precautionary principle. According to the principle "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause-and-effect relationships are not fully established scientifically." In the case of the cosmetic use of pesticides, because their use may cause harm, and provides no health benefit, we are calling for a ban.

We appreciate that not all people will agree with some of the positions we take on issues that face Canadians. In a recent Ipsos Reid study we found that 76% of British Columbians supported a ban on the cosmetic use of pesticides. This, coupled with a growing number of Canadian provinces and municipalities that have adopted, or are considering adopting pesticide legislation and bylaws, further supports our position.

The Canadian Cancer Society is committed to continuing to review the research as it becomes available, and updating our information and positions where appropriate. We are dedicated to protecting the health of Canadians by using the best information to raise awareness and to take action where suitable opportunities exist.

Thank you for your correspondence and inquiry.

Sincerely,

Kathryn Seely  
Public Issues Manager  
Canadian Cancer Society, BC & Yukon Division