

**FACTS CONCERNING THE LACK OF ANY SCIENTIFIC BASIS FOR THE ANTI-PESTICIDE STANCE OF THE
CANADIAN CANCER SOCIETY AND OTHER ANTI-PESTICIDE ORGANIZATIONS**

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The Canadian Cancer Society (particularly the BC/Yukon division, with several prominent anti-pesticide activists on its Board) has taken a leading role in attempting to convince the Canadian public—as well as Provincial and municipal authorities—that pesticides are responsible for an increased incidence of disease, particularly cancer. The CCS and other anti-pesticide groups never miss an opportunity to state that there is a “growing body of evidence” linking pesticides with cancer, and that we should therefore ban all of what they erroneously categorize as ‘cosmetic’ pesticides (a contrived term which cannot be found on any pesticide label).

What is *not* explained is that the “evidence” consists of some epidemiological studies showing a weak (in most cases, a very weak) link between some pesticides and cancer. Not stated is the fact that there are numerous studies which can find no such correlations, or that there exist some which show inverse relationships (in other words, less cancer when some pesticides are used). All this serves to illustrate the problem with epidemiology, not with pesticides. Even prominent epidemiologists have stated that epidemiology is incapable of discerning small effects, and that small effects detailed in studies may well be due to chance. Those relying on such studies seem unaware of the limitations of epidemiology.

By definition, epidemiology *cannot* prove causation, only correlations, and a legitimate study may state that its findings might be due to other, possibly unknown, confounding factors. This one would never know from the way the anti-pesticide groups interpret studies with weak links. On the other hand, epidemiological methods have convincingly illustrated such correlations as those between smoking and lung cancer, and water-borne pathogens and cholera. Subsequent toxicological studies have been used to confirm the connections. However, the difference here is that these diseases result in adverse effects to large numbers of humans, and it was—relatively—easy to show convincing correlations. It is also of utmost importance to understand that toxicology, a much more exact science, does not corroborate supposed connections between cancer and those pesticides which have been disingenuously labelled ‘cosmetic’. Despite claims to the contrary, Health Canada’s PMRA (Pest Management Regulatory Agency) is well aware of all these epidemiological studies, and has both toxicologists and epidemiologists on staff to analyze and evaluate them.

It should be—although does not seem to be—illuminating to realize that *not a single case* of cancer has been found to have been caused by ‘cosmetic’ pesticides. In fact, the International Agency for Research on Cancer (IARC is part of the U.N.’s World Health Organization) lists very few pesticides as carcinogenic or as probable or possible carcinogens—and none of these can be found among ‘cosmetic’ pesticides used in Canada.

The ongoing American Health Study (AHS) is the largest epidemiological study ever undertaken on the possible effects of pesticides: it has 85,000 farmers, their spouses, and commercial applicators enrolled in Iowa and North Carolina. Most farmers in this study had used pesticides for 11 to 30 years before

being enrolled. As one would expect, strong correlations were observed for cancer risk factors such as obesity, smoking, and age, but there were no strong associations with pesticides. There were some weak links, such as between the users of 2,4-D (the most common herbicide used on lawns) and colorectal cancer: a 30% *reduction* in colorectal cancer. Another study completed with data from the AHS revealed yet another inverse relationship. This time, a reduced incidence of pancreatic cancer was observed in those who had used DDT. Obviously, it is hard to believe that occupational exposure to pesticides has a cancer-reducing benefit. It does, on the other hand, help to illustrate the problem with using epidemiological studies as a definitive foundation for conclusions regarding the possible health effects of pesticides.

According to Dr. Scott Weichenthal of Health Canada's PMRA, "weak associations may occur by chance, particularly when small numbers of exposed cases are available and when multiple tests of association are conducted." Although the AHS is composed of those who are most likely among society's most pesticide-exposed people, Weichenthal states that "current occupational exposure levels are not expected to result in increased risks of adverse health effects."

The administrators and board of the Canadian Cancer Society should be taken to task for wasting the contributions collected by selfless volunteers who work in the hope that they might aid in the discovery of a cure for cancer. Although the CCS has taken a leading role in the attempt to have municipalities and provinces prohibit well-researched and registered pesticides, it has not one scientist on staff with the necessary expertise to evaluate the work and findings of the over 350 qualified scientists of Health Canada's PMRA. It does not seem to be generally realized that the Canadian Cancer Society is an agency composed mostly of volunteers, with a well-paid administrative staff.

A great deal of money has been wasted by the CCS, in BC and across Canada, on numerous newspaper ads, press releases through professional agencies (whose services are expensive), extensive letter-writing to newspapers, creating anti-pesticide website proclamations, formulating anti-pesticide Power Point presentations to be given to municipal councils, paying anti-pesticide activists to give their presentations to councils and others, publishing and distributing unscientific brochures, having numerous anti-pesticide ads placed in newspapers, sponsoring an anti-pesticide author for making numerous presentations around BC, and having its staff personally lobby cabinet ministers and legislators. This expenditure of scarce resources saves not one life, and prevents not one case of cancer. The same money could have been used to further increase awareness of the benefits of quitting smoking or of the link between diet and cancer—the largest known preventable causes of cancer. The funds to discredit pesticides spent instead to educate the public on real causes of cancers would, without doubt, have actually saved some lives. This is a shameful result created by an institution that is supposedly devoted to decreasing the incidence of cancer.

The CCS has done, and is doing, valuable work in other areas—hence its good reputation—and it is most disconcerting to realize how badly it has steered off course on a subject for which there is ample science and qualified scientists easily available. It is unforgivable that a respected Canadian institution is squandering its hard-earned reputation and limited resources in such an unscientific pursuit, particularly

at a time when sufficient research money is lacking. According to a January 16, 2010 article in the *Globe & Mail*, cancer studies are being cancelled due to ever-increasing costs. For 2009/10, the Canadian Cancer Society was able to fund only 19% of applications. Even more disturbing is that 76 “strongly recommended” cancer research grants could not receive funds, and 158 others that were also approved could not get off the ground. According to the Society’s vice-president of research, Michael Wosnick, “it just gets depressing when you see how much gets left on the table.” Not so depressing, obviously, that scarce money can’t be wasted by the CCS on the unscientific attack on ‘cosmetic’ pesticides.

A common claim by anti-pesticide groups and individuals is that many pesticide studies accepted by the PMRA in their registration process are biased in favour of the products because the studies are financed by the manufacturers. This assertion is totally spurious. It is both unreasonable and unacceptable to expect the Canadian public to pay for studies that may benefit the product manufacturer: such is not done for pharmaceutical companies and others, and should not be for pesticide manufacturers. What is important to note, and which is either purposely ignored or beyond the comprehension of the anti-pesticide groups, is that all studies used in support of a pesticide registration must be completed by laboratories sanctioned by Good Laboratory Practice (GLP) and using only GLP practices. GLP is a set of standards maintained by the international OECD (Organization for Economic Co-operation and Development). The 30 OECD member countries include Canada, the U.S., the U.K., Sweden, and Japan. All aspects of research must attain a high standard, with all steps documented, and all results must be reproducible. Studies have to be demonstratively valid and unintentional violations can invalidate the study, while intentional violations may be a criminal offence. Manufacturers do pay for many of the studies; they cannot pay for the results they may want.

Why are the over 350 highly qualified scientists at Health Canada’s PMRA—and their findings—totally dismissed? Are we to believe that anti-pesticide groups and organizations (which, unfortunately, includes the Canadian Cancer Society)—with absolutely no scientists with pesticide expertise—are better qualified to judge the effects of pesticides than real experts? From much of the media coverage and the numerous bylaws enacted by municipalities and provinces, it would seem the answer is “yes.” This is definitely one of the tragedies of our times. Science, not just in the case of pesticides, is being supplanted by propaganda and misconceptions. Also disturbing is that the media often treat the fabrications of the anti-pesticide groups and individuals as proven science. It seems that if you repeat something often enough, it will be accepted as truth. And, despite what some in the Canadian Cancer Society and other organizations seem to believe, science fact can be neither determined nor confirmed through public opinion polls.

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