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# Cosmetic Pesticides

## INFORMATION BRIEF

Developed by the Canadian Cancer Society,  
Alberta/NWT Division, Public Policy Team

October 2013



## Canadian Cancer Society's position on cosmetic pesticide use:

The Canadian Cancer Society is very concerned about the use of potentially cancer-causing pesticides for cosmetic purposes. Because of their potential for harm and because cosmetic pesticides do not provide any health benefits, we propose that municipal and provincial governments implement policies to ban their sale and use.

It is important to note The Society's call for restrictions on pesticide use does not apply to their application in agriculture to grow food, using pesticides to ensure public health and safety, or using pesticides to prevent environmental damage. The application of pesticides in these cases is not considered cosmetic and as such would remain permissible under a ban.

It is also important to note that The Society does not target specific pesticide products or active ingredients (chemicals within pesticide products that kill, control or repel pests). This is because, in some cases, certain pesticide products and active ingredients may have both cosmetic and non-cosmetic uses.

We are focused instead on how pesticides are being used, advocating for restrictions that would prohibit their use in any instance where the serious health risks associated with pesticide exposure outweigh all potential health benefits of application. In many instances weeds and pests can and should be managed through alternative means.

## The precautionary principle:

According to the *precautionary 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. Although the links between pesticide exposure and cancer are not yet conclusive, the body of evidence is persuasive enough to warrant protective measures to limit or eliminate public exposure to pesticides wherever possible.

The precautionary principle provides a framework for guiding health policy decisions in areas of scientific uncertainty. It defends that preventative measures are often necessary even when cause-and-effect correlations may never be definitive.

The pesticide issue is very complex. The extensive number of ingredients, the innumerable volume of chemical combinations in the thousands of available products in addition to the many uses and exposure routes of pesticides (as well as other factors), makes establishing causation between specific chemicals and certain cancers virtually impossible within the ethical restrictions of scientific research.

According to the precautionary principle, this absence of conclusiveness does not justify inaction. Given the current body of research and the seriousness of the associated health risks, The Society strongly recommends eliminating exposure to pesticides wherever possible.

## Pesticides are a group of chemicals that include:

- Insecticides (insect control)
- Herbicides (weed control)
- Fungicides (control of disease caused by fungi)



- Rodenticides (rodent control)
- Fumigants (substances used in gaseous form to control insects)
- Other pesticides (e.g. microbials or chemicals to control algae, slugs and insect eggs)

### Definition of cosmetic pesticide use:

The cosmetic use of pesticides, (also known as non-essential use), refers to the use of pest control products to improve the appearance of non-agricultural green spaces such as lawns, gardens, parks and sports fields as well as for controlling pests in and around the home.

Often pesticide products are referred to as cosmetic (or non-essential) pesticides. This describes a group of pest control products developed and sold primarily for uses that would be deemed cosmetic (see above).

### People are exposed to pesticides by:

- absorption through the skin
- inhalation (breathing into the lungs)
- swallowing (by eating, drinking or touching hands to mouth)

### Cancer and pesticide exposure:

A growing body of human, population-based or epidemiological evidence implicate pesticide exposure in the occurrence of several types of cancers including non-Hodgkin lymphoma, multiple myeloma, prostate, and kidney and lung cancer, among others. Increasingly convincing evidence comes from research on children exposed to residential pesticides and increased cancer incidence.

Our review is regularly updated to take into account new research findings as well as new evaluations of evidence from respected, international, scientific bodies such as the WHO's International Agency for Research on Cancer, the US National Toxicology Program and the US Environmental Protection Agency.

### Pesticide exposure and other health risks:

In addition to cancer, pesticides have also been linked to other health risks including (but not limited to): neurodevelopmental and neurodegenerative effects like Parkinson's disease; adverse reproductive outcomes including limb reductions, urogenital anomalies (urinary tract and genital), central nervous system defects, orofacial clefts (mouth and face), heart defects, eye anomalies, decreased fertility, altered growth including low birth weight and prematurity, and fetal death; learning disabilities and asthma as well as death caused by acute poisonings.<sup>1</sup>

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<sup>1</sup> Sanborn, M., Kerr, K.J., Sanin, L.H., Cole, D.C., Bassil, K.L. and Vakil, C. "Non-cancer health effects of pesticides: Systematic review and implications for family doctors." *Canadian Family Physician*, Vol 53, (October 2007): 1712-1720.



**UPI** beta

## Indictments in pesticide poisoning deaths

Feb. 3, 2011 at 2:25 PM

### Danger to children:

Children are particularly vulnerable to the dangers of pesticides because of their rapidly growing bodies and developing immune systems. Children are also at greater risk of exposure to pesticides as they are more likely than adults to spend time on the ground, crawling and playing on grass where pesticides have been used directly or on floors where residues may persist.

Pesticides are easily tracked indoors where they can exist for years; inside, in the absence of soil microbes and sunlight, the rate at which pesticides breakdown slows considerably. A study of a common active ingredient in herbicides found that house dust can contribute up to 30% of a child's total exposure before application to lawns and up to 76% of exposure, post-application.<sup>2</sup>

Another study found that the health risks to babies from pollutants in house dust may be 100 times greater than for adults. The young ingest more dust and are up to ten times vulnerable to such exposures. House dust, it found, is a major source of exposure to pesticides.<sup>3</sup>

### Community and provincial support:

In 2001 the Supreme Court of Canada upheld Hudson Quebec's pesticide bylaw – the first of its kind to be passed in 1991. Since then, in Canada, over 170 communities and seven provinces (Quebec, New Brunswick, Ontario, Alberta, PEI, Nova Scotia and Newfoundland and Labrador) have some form of cosmetic pesticide policy. Of the seven provinces, only Ontario and Nova Scotia have legislation considered sufficiently strong to significantly reduce cosmetic pesticide exposure.

As of January 1, 2010, herbicide-fertilizer combination products – also referred to as 'weed and feed' – were no longer sold in Alberta. The ban was adopted in response to findings of excessively high levels of pesticides in the environment, thought to be the result of 'weed and feed' use. More comprehensive legislation is still required to adequately protect Albertans from unnecessary exposure to pesticides.

According to a 2008 Check Mate poll of Alberta residents shows an average of 87% (or nearly 9 out of 10 Albertans) would support a ban on the use of non-essential pesticides when considering children's health, the health of pets, and the risks to the environment/air quality/water quality.<sup>4</sup> Despite community support, Alberta Environment has stated there are no intentions of taking further action.

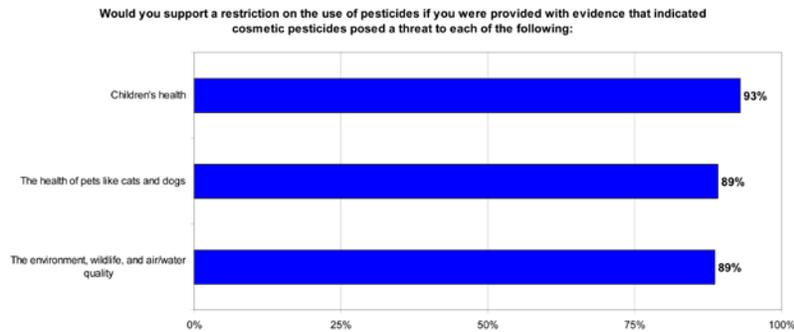
<sup>2</sup> Sears M., Walker C.R., van der Jagt R. H.C. and Claman P. "Pesticide assessment: Protecting public health on the home turf." *Paediatric Child Health*, Vol. 11, No. 4, (April 2006): 230.

<sup>3</sup> Roberts, John W., Wallace, Lance A., Camann, Philip D., Gilbert, Steven G., and Takaro, Lewis and Tim K. "Monitoring and Reducing Exposure of Infants to Pollutants in House Dust." *Reviews of Environmental Contamination and Toxicology*, Vol 201, (2009): 1-39.

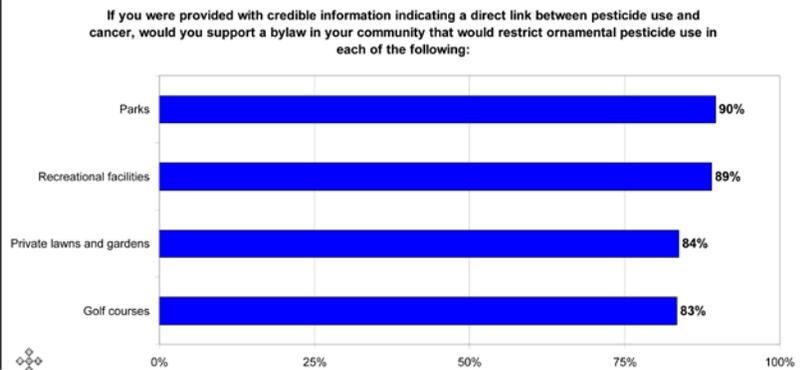
<sup>4</sup> Check Mate Strategic Planning Inc. *Canadian Cancer Society - Alberta - Pesticide Poll Research Report*. 2008



**Figure 10: Support for Restrictions on Pesticide Use**



**Figure 11: Support for Location Restrictions on Pesticide Use**



Canadian Cancer Society—Alberta—Pesticide Poll Research Report 2008

**2.4 Public Support For Anti-Pesticide Measures**

The vast majority of respondents (69%) felt that restrictions on pesticide use were a health issue as opposed to a property issue, while 21% felt that it was both a health issue and a property issue. In total, 90% felt that it was a health issue.

Males were slightly more likely to consider it a property issue compared to females (12% vs. 5%).

Figure 10 outlines the amount of respondents that would support restrictions on pesticide use if they were aware of its potential dangers. As shown, roughly 90% would support such restrictions.

Similarly, roughly 80%-90% would support bylaws in their community restricting ornamental use of pesticides in public and private yards and gardens. This is shown in Figure 11.

In all cases, females were more likely to support restrictions than were males. Similarly, Edmonton residents that participated in the survey were more likely to support such restrictions than were Calgary residents. Unsurprisingly, those that used ornamental pesticides were less likely to support such bylaws.

Demonstrating further support of anti-pesticide measures, the respondents rated their level of support for bylaws within their specific communities at 7.94 on a 10-point scale, on average. Just over three quarters (76%) rated their support at 7 or greater, while only 11% gave a rating of 4 or less. Females showed more support than did males (8.35 vs. 7.39). Edmonton had slightly higher support than did Calgary (8.14 vs. 7.89). No community received a mean rating of less than 7.46, but the results for any communities other than Calgary or Edmonton are not statistically significant.

**Supreme Court says municipalities have right to regulate pesticides**

CBC News Posted: Jun 28, 2001 10:30 PM ET | Last Updated: Jun 28, 2001 10:30 PM ET

**Health Canada and the Pest Management Regulatory Agency (PMRA):**

Pesticides are registered and approved for use by Health Canada's, Pest Management Regulatory Agency. The Canadian Cancer Society supports the work of the PMRA as its assessments of pesticides help minimize risk, to both human health and the environment, from pest control products. The Society is often asked why we advocate for bans on cosmetic pesticides when the PMRA still approves them for sale and use.

First, it is important to note that the PMRA does not claim any pesticides to be safe. Rather the PMRA registers pesticides that, when used according to label instructions, do not pose what it deems to be an unacceptable risk. The Society's stance on this differs because we believe there is no instance in which the use of pesticides for cosmetic purposes justifies the potential for harm.



It is also important to understand that the body of evidence from which we have formulated our position is different than that which the PMRA uses to register pesticides. Below outlines some of these differences:

1. The PMRA primarily relies on animal toxicology studies whereas The Society reviews population-based, epidemiological research to assess the real-world effects of pesticide exposure.
2. The PMRA relies on evidence provided by pesticide manufacturers which poses a conflict of interest. On the other hand, The Society looks at third party, peer-reviewed research.
3. The PMRA evaluates pesticides under ideal circumstances, where pesticides are applied for approved uses only, label directions are followed and protective equipment is used as recommended. It is unclear how the PMRA assesses hazards of real-life exposure - for instance, if the aforementioned are not adhered to.
4. The PMRA evaluates the efficacy of individual active ingredients but not chemicals in combination. This poses a problem both because pesticide products are formulas of active and inert ingredients and because humans may be exposed to multiple pesticide products present in the environment at the same time.
5. Finally, the result of cumulative exposure to pesticides is not assessed by the PMRA. The epidemiological studies evaluated by The Society looks at persistent exposure on the job or in the home.

## JOURNAL-NEWS

Updated: 7:27 p.m. Tuesday, Oct. 11, 2011 | Posted: 7:26 p.m. Tuesday, Oct. 11, 2011

### **Chemical spray spurs middle school evacuation; students taken to hospital**

### **Integrated Pest Management (IPM):**

IPM is an approach to green space management that focuses on pest prevention but turns to pesticides in the event that alternatives do not work. The Canadian Cancer Society does not support the use of IPM for lawn and garden management as this approach still fundamentally relies on the cosmetic use of pesticides.

### **Alternative Pesticides:**

Biopesticides are often promoted as natural alternatives to synthetic pesticides. They are registered for sale by Health Canada (PMRA) in the same way as conventional synthetic pesticides. Biopesticides include:

- Naturally occurring or organic substances that control pests (biochemical pesticides)
- Micro-organisms that control pests (microbial pesticides)
- Pesticidal substances produced by plants containing added genetic material (plant-incorporated protectants)

Like synthetic pesticides, there are associated health risks with biopesticides, although cancer is not one of them and reported adverse events are less serious. There is cause for concern however; biopesticides are often applied in higher concentrations and require more frequent application than synthetic products.



Fiesta, an iron-based alternative product, promoted by industries as a natural pesticide, is becoming increasingly popular. Although iron is a natural element in the environment, the long-term safety is unknown.

Because of the aforementioned concerns, the Cancer Society considers natural alternatives a less dangerous option than synthetic pesticides, but does not recommend them.

### Safe practices for green spaces:

The Society does support other ways to improve the appearance of lawns, gardens and other green spaces, including:

- Fertilizing with compost, manure, grass clippings or slow-release organic fertilizers.
- Over-seeding your lawn once a year, making it thick and healthy, helping to crowd out weeds.
- Aerating your lawn in the spring or fall, allowing moisture and nutrients to reach the roots of the grass.
- Mowing high. Never cut more than one-third of the height of your grass.
- Sharpening your blades. Dull blades tear and stress grass blades, increasing the potential for disease and infestation.
- Pulling or digging out weeds at their root by hand. It's easier when the soil is moist.
- Reducing the area of grass that needs maintenance by planting native flowers, plants or herb and vegetable gardens.

Other examples of safer gardening practices include permaculture and xeriscaping. Additionally, using native plant species and other alternatives (e.g. clover), creates better self-sustaining spaces that require fewer resources to maintain than traditional turf.

Larger green spaces, for example sports fields, may require a more comprehensive maintenance plan. It is important that municipalities invest in operational changes necessary to ensure the successful transition to pesticide-free turf management. Just as turf management plans are necessary to maintain green spaces with the use of pesticides, so are plans to effectively manage them without pesticides. A comprehensive, alternative strategy will ensure a sustainable transition away from IPM.

Although green spaces can be effectively managed without the use of pesticides, it is also important that our tolerance for imperfection increases. Dandelions for example, albeit visually unappealing to some, do not pose a serious threat to public health and do not necessitate the use of potentially cancer-causing pesticides to eradicate them.

### Recommendations:

The Canadian Cancer Society believes that the cosmetic or non-essential use of potentially cancer-causing pesticides on gardens, green spaces and around the home should be prohibited in order to limit the risk of harm to human health. Although research linking pesticide exposure to cancer isn't yet conclusive, the evidence is persuasive enough to warrant the implementation of protective measures to eliminate pesticide exposure wherever possible. This is especially critical given the breadth and severity of the health risks associated with pesticides.



## Suggested resources:

### Educational Tools:

- A Chemical Reaction: <http://www.safelawns.org/blog/2013/02/safelawns-heading-to-british-columbia/> (contact Paul Tukey of SafeLawns.org for copy)
- Living Downstream: <http://www.livingdownstream.com/>

### General Pesticide Information:

- Health Canada Pesticides and Pest Management: <http://www.hc-sc.gc.ca/cps-spc/pest/index-eng.php>
- United States National Pesticide Information Center: <http://npic.orst.edu/>

### Pesticide regulations in Canada:

- Pest Management Regulatory Agency: <http://www.hc-sc.gc.ca/ahc-asc/branch-dirgen/pmra-arla/index-eng.php>
- Regulation of Pesticides in Canada: [http://www.hc-sc.gc.ca/cps-spc/pubs/pest/\\_fact-fiche/reg-pesticide/index-eng.php](http://www.hc-sc.gc.ca/cps-spc/pubs/pest/_fact-fiche/reg-pesticide/index-eng.php)
- Pest Control Products Act: [http://www.hc-sc.gc.ca/cps-spc/pubs/pest/\\_fact-fiche/pcpa-lpa/index-eng.php](http://www.hc-sc.gc.ca/cps-spc/pubs/pest/_fact-fiche/pcpa-lpa/index-eng.php)

### Protect yourself on the job:

- Canadian Centre for Occupational Health and Safety, Pesticides – Working Safely: [http://www.ccohs.ca/oshanswers/chemicals/pesticides/working\\_safely.html](http://www.ccohs.ca/oshanswers/chemicals/pesticides/working_safely.html)
- World Health Organization, Preventing health risks from the use of pesticides in agriculture: [http://www.who.int/occupational\\_health/publications/pesticides/en/index.html](http://www.who.int/occupational_health/publications/pesticides/en/index.html)
- Environmental Protection Agency (US), Worker Safety and Training: <http://www.epa.gov/opp00001/health/worker.htm>

### Resources:

- [www.Beyondpesticides.org](http://www.Beyondpesticides.org)
- [www.Safelawns.org](http://www.Safelawns.org)
- National Pesticide Information Centre: <http://npic.orst.edu/ingred/aifact.html>
- Pesticide Action Network: <http://www.panna.org/>; <http://www.pan-europe.info/>

### Stakeholders:

- [www.Pesticidefreebc.org](http://www.Pesticidefreebc.org)
- Coalition for a Healthy Calgary: [www.healthycalgary.ca](http://www.healthycalgary.ca)
- Canadian Association of Physicians for the Environment (CAPE): <http://www.cape.ca/toxics/pesticides.html>
- David Suzuki Foundation: <http://david Suzuki.org/publications/reports/2006/pesticide-use-in-canada/>
- Sierra Club: <http://www.sierraclub.ca/national/programs/health-environment/pesticides/index.shtml>
- Toxic Free Canada: <http://www.toxicfreecanada.ca/campaign.asp?c=10>

### Pesticide Registration/Assessment of Risk:

- Health Canada's Pest Management Regulatory Agency (PMRA) public registry: <http://pr-rp.hc-sc.gc.ca/pi-ip/index-eng.php>



- Ontario Pesticide Product Information System (PEPSIS) database of registration: <http://app.ene.gov.on.ca/pepsis/>
- US Environmental Protection Agency (EPA) registered pesticides: <http://www.epa.gov/pesticides/>
- US National Toxicology Program (NTP): <http://ntp.niehs.nih.gov/ntp/roc/twelfth/roc12.pdf>
- International Agency for Research on Cancer (IARC): <http://monographs.iarc.fr/ENG/Classification/ClassificationsAlphaOrder.pdf>
- IARC monographs on pesticides: <http://monographs.iarc.fr/ENG/Monographs/suppl7/Suppl7-48.pdf>; <http://monographs.iarc.fr/ENG/Monographs/vol53/mono53.pdf>
- European Commission Directorate General for Health and Consumers EU pesticides database: [http://ec.europa.eu/sanco\\_pesticides/public/index.cfm](http://ec.europa.eu/sanco_pesticides/public/index.cfm)
- US Agricultural Health Study: <http://aghealth.nci.nih.gov/results.html>

### Pesticide Profiles:

- US National Pesticide Information Center (in collaboration with the US EPA): <http://npic.orst.edu/ingred/aifact.html>
- Beyond Pesticides: <http://www.beyondpesticides.org/gateway/index.htm>; <http://www.beyondpesticides.org/health/cancer.htm>
- CAREX Canada: [www.carexcanada.ca](http://www.carexcanada.ca)
- Pesticide Action Network: <http://www.pesticideinfo.org>

### Pesticide Policy:

- Pesticides Free? Oui!: <http://www.davidsuzuki.org/publications/downloads/2011/pesticide-free-oui-2011.pdf>
- Provincial legislation: [Quebec \(2003\)](#); [New Brunswick \(2009\)](#); [Ontario \(2009\)](#); [Alberta \(2010\)](#); [PEI \(2010\)](#); [Nova Scotia \(2011\)](#); [Newfoundland and Labrador \(2012\)](#)
- Gold standard municipal policy: City of Toronto [http://www.toronto.ca/health/pesticides/city\\_reports.htm](http://www.toronto.ca/health/pesticides/city_reports.htm); City of Peterborough <http://www.peterborough.ca/Assets/City+Assets/By-Laws/2005/05-077+Pesticide+by-law+-+amended+by+06-056.pdf>
- [Pesticidefreebc.org](http://www.pesticidefreebc.org)

### Pesticides and food safety:

- Health Canada, Pesticides and Food: <http://www.hc-sc.gc.ca/cps-spc/pubs/pest/fact-fiche/pesticide-food-alim/index-eng.php>
- Canadian Food Inspection Agency: <http://www.inspection.gc.ca/eng/1297964599443/1297965645317>

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Prepared October 2013  
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For more information about pesticides, please visit [cancer.ca/pesticidefreealberta](http://cancer.ca/pesticidefreealberta).