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submitted via email: Nalisha.Asgarali@ontario.ca

Dear Nalisha Asgarali,

**Re: Proposed changes to regulation of pesticides in Ontario, under Bill 132.
Pesticide Regulation (63/09 General)
(ERO 019-0601)**

I am writing on behalf of *Prevent Cancer Now* to present our analyses and conclusions regarding the proposed changes to regulation of pesticides, particularly as they pertain to “cosmetic” uses of pesticides. *Prevent Cancer Now* is a civil society organization that works on primary cancer prevention.

Ontario has been recognized and celebrated across North America as having the most progressive regulation of pesticides for non-essential (“cosmetic”) uses for lawns, gardens and public spaces. The *Cosmetic Pesticide Ban Act* was the culmination of decades of public education and hard work by the medical community, scientists concerned about human and ecosystem health as well as resiliency, parents, organic landscapers who showed that beautiful, healthy landscapes are possible without pesticides, and many more everyday Ontarians. Visitors from other provinces remark how wonderful it is to smell the spring-time lilacs instead of weed-killers, people with asthma and sensitivities are protected from noxious chemicals, streams and lakes are cleaner, and we have fewer chemicals in our immediate environment that disrupt hormone systems, harm children even before they are born, and cause cancers and chronic diseases.

Thus, *Prevent Cancer Now* is pleased to see a commitment to retain a ban on cosmetic use of pesticides in Bill 132 and proposed regulations. We write to strenuously encourage the government to hold true to this commitment, and to maintain current protections of health and the environment.

It is not clear, unfortunately, that the current protections will in fact survive the proposed changes. Indeed, it appears that proposed changes will not maintain the precautionary underpinning of the current regulation, and open the door to use of any and all pesticides, even highly hazardous one, rather than only the least-toxic options permitted presently. This translates into increased pesticides in the soil, water, air, and (via drift and dust) our homes, and greater risks to public and environmental health.

There is no need to loosen the rules. The current [Class 11 pesticides list](#) includes 73 ingredients – there is not shortage of options! The current Class 11 pesticides are selected specifically to be least-toxic solutions to various pests. Health Canada does not currently maintain an equivalent list online, although all products advertised to control pests – from vinegar against weeds, to soap against insects – must be registered with the Pest Management Regulatory Agency (PMRA) within Health Canada.

Opening the door to more toxic and older pesticides, it is proposed that the permitted list would be opened to include old pesticides with a history of safe use. As well, authority to add chemicals to the list will rest with the Director and thus the Minister, in the absence of capacity within the government or from the Ontario Pesticide Advisory Committee (OPAC) – see below for further discussion re. OPAC. As defined, this list could include any number of products currently banned for cosmetic use. Indeed, although federal legislation stipulates that pesticides must not pose “unacceptable risks,” Some parties maintain that all registered pesticides are “safe.” Thus, the proposed regulation under Bill 132 could effectively erase the protection currently inherent with Class 11 pesticides.

The proposal to disband the Ontario Pesticides Advisory Committee is ill-founded and a similar committee should be re-convened. According to a letter from to OPAC chair to the Premier, this volunteer, non-partisan, highly-qualified, external committee of science-based, pesticide professionals expert committee assisting the Ministry regarding pesticides was struck in 1971 by the then-Conservative government to provide necessary expertise, while helping to keep the government lean. The *Pesticides Act* established OPAC to report directly to the Minister, with a simple, four-part mandate to:

- a) review annually the content and operation of this Act and the regulations and recommend changes or amendments therein to the Minister;
- b) inquire into and consider any matter the Committee considers advisable concerning pesticides and the control of pests, and any matter concerning pesticides and the control of pests referred to it by the Minister, and report thereon to the Minister;
- c) review publications of the Government of Ontario respecting pesticides and the control of pests, and report thereon to the Minister; and
- d) perform such other functions as the regulations prescribe. R.S.O. 1990, c. P.11, s. 10.

Nowhere in the current OPAC mandate is the justification for dissolution found in the consultation, that “OPAC’s main role in providing advice to support classification would no longer be needed ...”

Dissolving OPAC will remove a very thrifty, valuable resource for the Minister to make decisions in the public interest. Similar capacity should be re-convened in some manner.

The provincial application and classification process is not duplicative, and must be retained, particularly for least-toxic options. Ontario’s Class 11 pesticides list is unique, aiming for least-toxic, or at least reduced-risk approaches for pest control. The PMRA does not list a reduced-risk category in its label search application (<http://pr-rp.hc-sc.gc.ca/lr-re/index-eng.php>) or its information on pesticides and pest management.

Proposed changes could obliterate the current cosmetic pesticides protections. The following statement seemingly says (illogically) that the cosmetic list will be maintained, while being subsumed into a general list of all domestic class pesticides registered for use in Canada. *The general cosmetic pesticides ban will be retained, including existing exceptions [for golf and other specialty turf playing surfaces], but a single list of permitted pesticides would replace the current classes.*

The province is NOT required to eliminate Class 11 as claimed: *This is required as the federal government’s registration process currently does not restrict the use of pesticides for cosmetic use. This will require amendments to provide an alternate approach for regulating the cosmetic pesticides ban without the need for classification. There is no requirement to abandon a higher safety standard that protects our children and neighbourhoods from toxic chemicals. Indeed, the converse led us to the*

Cosmetic Pesticide Ban Act. This is a misrepresentation of the province’s powers and responsibilities for pesticide regulation. The Federal regulations set a minimum, but the province has further obligations under its jurisdiction, to protect workers, and health and the environment. Municipal powers should be retained, should there be any weakening of protections under Provincial laws and regulations.

Health Canada is under-stating risks of pesticides. The federal *Pest Control Products Act* requires that there be “reasonable certainty” of “no unacceptable risk” posed by pesticide use. This is not the same as “safe.” For a period in the late 2000s “safe” was expunged from the PMRA website on the basis that the word engendered complacency and so was an unsafe claim. This did not survive the Harper government. The following image, from the Health Canada website, illustrates use of a high-hazard product without protective gloves, on a plant that is already dead (to what purpose?). Clearly Ontarians are in need of further protection from pesticides.



Image from Health Canada website.

<https://www.canada.ca/en/health-canada/services/about-pesticides.html> “hazardous products with this pictogram can cause death or poisoning “

[<https://www.ccohs.ca/oshanswers/chemicals/howto/skull.html>]

EXEMPTIONS: There is no justification, and many reasons *not* to add cemeteries to the list of properties that may be sprayed with a broad range of more toxic pesticides.

Exemptions from the cosmetic pesticides ban were granted on the basis of two considerations:

1. Extraordinarily high quality turf was required for golf, tennis and lawn bowling; and
2. Integrated Pest Management (IPM) would be used to reduce pesticide use, and this would be verified by annual submission of pesticide use reports by golf courses.

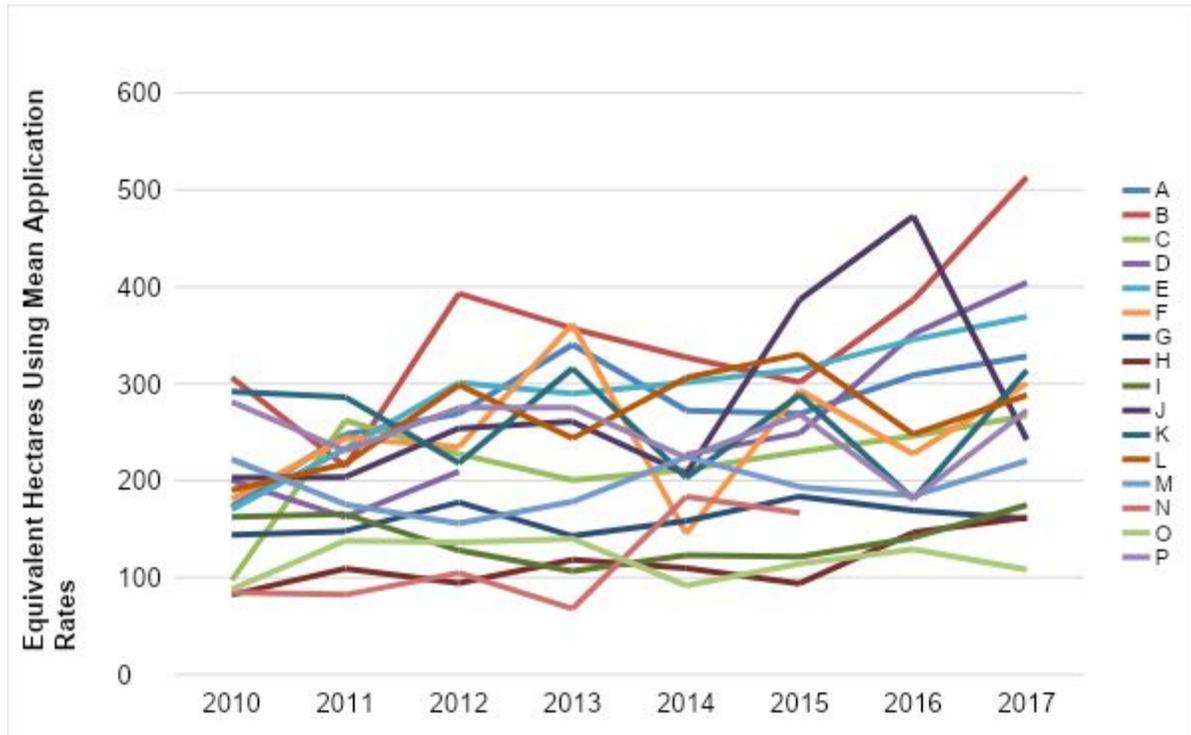
Cemeteries do not involve extraordinarily high-quality turf playing surfaces, so should not be added to the list of exempted property types. As well, cemeteries must be fostered as ecological havens.

Cemeteries are large vegetated properties in urban areas, providing habitat and refuge for diverse species that would be adversely affected by pesticides, as well as increasingly extreme weather.

Integrated Pest Management has not resulted in decreased use of pesticides on golf courses. *Prevent Cancer Now* examined IPM data from 16 elite courses, and tallied total pesticide use after normalizing

various pesticides according to their potency (indicated by application rate). The graph for total pesticide use illustrates that:

1. Some courses used substantially less pesticides than others, so there is a lot of room for improvement for many courses; and
2. There is no evidence whatsoever that pesticide use declined over the years with use of IPM, for fungicides, insecticides, herbicides, or total pesticides.



Total pesticide use calculated as equivalent hectares (ha-eq), by each of 16 elite Ontario golf courses, from 2010 to 2017.

Courses A, B, C, E, H, K and O were Audubon-certified.

Courses D, F, G, I, J, L, M, N and P were not Audubon-certified.

Annual reporting of pesticide use data by golf courses should result in a valuable resource for research into improved pest management. Data should be submitted into a database for easier reporting and to facilitate research. The data files on the IPM website is not easily seen, as golf courses are no longer listed; the are available via a search function. As well, data is provided as pdfs, jpgs and in other formats, files are corrupted and some are missing, so data extraction is laborious. Online data submission is common with other Ministry activities, would be easier for golf course employees, and would permit some data quality verification at the time of submission. **A valuable research opportunity is being squandered. The IPM initiative resulted in golf courses proceeding as usual. The Ontario government should take this opportunity to right this wrong, and to advance research for least-toxic pest control.**

Appended to this submission is a summary of shortcomings of federal pesticide assessments. This is ample justification for the Ontario Government to retain precautionary restrictions on pesticides used for cosmetic purposes.

Pesticide ingredients and degradation products are toxic. For example, some may interfere with hormone signalling. The endocrine system orchestrates development, metabolism, reproduction, immunity, maturation and aging – from pre-conception to death. [Endocrine disruption](#) happens at levels of exposure that may be inhaled or absorbed during spraying, by a toddler rolling in the grass or sucking fingers, or even on [dust](#) drifting through windows and tracked in on shoes and paws of pets in homes where the products were not even used. The impacts of pesticides are widespread and diverse, including for example [antibiotic resistance](#).

Parents, educators, health professionals, and environmentalists see that using least-toxic options for pest control is important for human and environmental health. The science is strengthening, that [pesticides are connected to diseases](#) such as cancer, birth defects, reproductive dysfunction, autism, behavioural disorders, autoimmune disease, diabetes, Parkinson's and Alzheimer's diseases, and asthma. The international Endocrine Society advocates a [new scientific paradigm for action](#). The ethical and precautionary approach is to recognize today's strong scientific signals of harm, and to institute least-toxic approaches to landscaping, agriculture, and indeed other aspects of life.

In summary, *Prevent Cancer Now* applauds the stated intention to retain the cosmetic pesticides ban, and to ensure that this is not undermined we recommend:

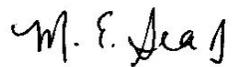
- **Recognition that the province has additional jurisdiction and responsibilities regarding pesticides, and has exercised this to protect public health from toxic exposures;**
- **Accepting municipalities' further restrictions of use of pesticides in their regions;**
- **Maintaining services of advisors as exemplified by OPAC as a highly qualified, low cost resource to support Ontario's program;**
- **Maintaining least-toxic, bio-pesticides criteria for pesticides applied to landscapes, and striking all criteria that refer to "safe" use or "safe" pesticides as being inherently unsafe language;**
- **Not to add cemeteries to the list of exempted properties – cemeteries are not fine turf for sport, and are large havens for biodiversity and resilience in urban areas;**
- **Take actions within and outside of current considerations, to improve implementation of IPM. It is important that golf courses do indeed minimize pesticide use, as was seen for a few in our sample. Improving golf course data submission with input into an online database, would enable tracking of progress, support IPM research, and facilitate assurance of data quality; and**

Transition to Regenerative Agriculture

Although we have not discussed this in our final recommendation above, *Prevent Cancer Now* recognizes that pesticides remain important in other contexts, particularly Agriculture. *Prevent Cancer Now* maintains that Ontario can improve resilience, biodiversity and food quality and value by supporting and giving incentives to support transition to regenerative, organic agriculture. We encourage Ontario to maintain measures to reduce use of insecticides, in particular neonicotinoids.

We thank you for the opportunity to contribute these observations and recommendations. We hope that Ontario will continue to be the envy of North America as we protect children, our most vulnerable, and our environment from adverse effects of pesticides, in the places where the majority of Ontarians live, work and play. *Prevent Cancer Now* would welcome questions, or requests for clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "M. E. Sears".

Meg Sears PhD, Chairperson, Prevent Cancer Now

meg@preventcancer.ca

cc: Premier Doug Ford
Minister Elliott (Health)
Minister Hardeman (Agriculture, Food and Rural Affairs)
Minister Yurek (Environment, Conservation and Parks)
Minister MacLeod (Heritage, Sport, Tourism and Culture Industries)

Attachment

Canadian Federal Pesticide Regulation: *Why Other Levels of Government Require Least-Toxic Approaches to Pest Control*

Many Canadian jurisdictions restrict the use of registered pesticides, surpassing federal label requirements. This summary is to help you understand why.

Pesticides are products that destroy or control “pests,” which are defined as organisms that are “harmful, noxious or troublesome.” Pesticides include herbicides against plants, insecticides, fungicides, rodenticides, etc. Health Canada’s Pest Management Regulatory Agency (PMRA) regulates pesticides, under the *Pest Control Products Act* (PCPA).¹ The PMRA uses a two-step process of hazard identification and then risk management, registering all products deemed to pose “acceptable risks” according to scientific assessments.

While the PMRA registers products for sale and use, provincial and municipal governments are responsible to qualify and licence applicators, and can further restrict pesticides to protect human and environmental health. The most progressive jurisdictions such as Ontario (population 14 million) require least-toxic approaches, particularly for “cosmetic” uses in turf care and landscaping.

Scientific limitations of Canadian federal pesticide regulation

The PMRA and the health and medical community reach opposite conclusions regarding pesticides and human health. The doctors, who urge precautionary minimization of exposures, rely upon the publicly available, real-life human epidemiological research rather than the confidential industry-produced animal test data relied upon by the PMRA. The PMRA conducts virtually no testing itself, and does not systematically assess the existing science.^{2,3} Rather, it conducts a paper audit of data submitted by the pesticide manufacturers. Unfortunately, the PMRA assessment of human health risk is flawed, for the following reasons:

1. **High-dose animal testing in labs is of limited relevance for people.** Testing determines the maximum dose that does not make an animal (usually a rodent such as a rat or mouse) seriously ill. Rodents are different from humans, in that they have enzymes that help them metabolize poisons. Humans do not have the same enzymes and, of course, tests are not conducted on humans. That would be unethical. Also, tests do not generally cover the animal’s lifespan and further generations. In humans, exposures that may cause no symptoms in the mother can cause life-long harm to her unborn child, and childhood exposures can cause symptoms in adulthood. Some effects may be passed through generations due to changes in gene expression, called epigenetic effects.
2. **Tests do not address low-dose or cumulative effects, as they build up with multiple exposures and over time.** The regulatory system actually dissuades companies from doing low-dose, environmentally relevant testing, because testing is only required to a crude “no effect” level. Any findings of adverse effects at low doses could preclude the product being registered. This highlights

the need for independent research. Some health effects occur at doses commonly encountered in the environment; effects that may predispose people to cancers as well as other major chronic diseases. One important mechanism by which this happens is endocrine disruption.

3. **No testing is done on endocrine disruption – an important mechanism behind [many pesticides'](#) chronic toxicities.** Many pesticides have already been found to disrupt the endocrine or hormone systems.⁴ Hormones orchestrate every step of development from gestation through the entire lifespan. Endocrine-disrupting chemicals act at extremely low concentrations in the body, and can have different, even opposite effects at higher doses.⁵ Alterations to hormone levels during critical windows of development can cause permanent changes to children's lives, affecting their intelligence and behaviour, and making them more susceptible to infections, asthma, obesity, diabetes, reproductive failure, cardiovascular disease and cancers. One 2011 study reviewed [endocrine effects of 91 pesticides](#).⁴ A second study confirmed previously known androgen (male hormone) effects of some pesticides,⁶ while among [previously untested pesticides](#) nine were anti-androgenic and seven were androgenic. The [US Environmental Protection Agency](#) and the European Union are screening pesticides for effects related to actions of estrogen, androgen, thyroid and other hormones. A [2012 review](#) of 845 scientific papers showed evidence that endocrine-disrupting chemicals have adverse health impacts at very low doses in animals and humans.⁷ The Endocrine Society – a global group of medical science professionals⁸ – published in 2015 a 150-page updated research review and statement calling for attention to endocrine-disrupting chemicals.⁵
4. **Only active ingredients are tested – not the products on the shelf.** Products can contain more than one pesticide ingredient. As well, additives or “formulants” are used in pesticide products to slow metabolism of the active ingredient (i.e., prolong its effect), and to improve spreading and absorption of the product. Additives can do the same when pesticides contact humans. A [2014 study](#) found that 8 of 9 common commercial products tested were hundreds of times more toxic to human cells than just the pure pesticide active ingredient without formulants.⁹
5. **Pesticides are not tested in combination.** While we know that chemicals can act very differently in combination, only single pesticides are assessed in isolation.
6. **Pesticide registration is based on all directions being followed.** Even if people make the effort to access the label fine print, instructions are extremely difficult to follow. For example: “avoid inhaling”; “avoid contact with the skin or eyes”; and “apply only when there are no children, pregnant women, elderly persons, pets or animals present.”
7. **The PMRA does not take into account much of the medical literature.** Methods and standards are developed for systematic review in environmental health (e.g., by the US National Toxicology Program^{3,10}). Real-life study of the effects of pesticides is difficult, and the PMRA dismisses this information as showing only correlation and not as the level of causation requiring protective action. The PMRA is of the opinion that it is virtually impossible to *prove* that chronic pesticide exposures cause harm to humans, leaving the federal regulator relying upon industry-supplied high-dose animal testing. As reported in 2017 in the prestigious journal *Science*, ignoring the majority of the science is the status quo among regulators.¹¹
8. **Precautionary Principle is *not* up front.** Health Canada and industry groups point out that the Precautionary Principle is incorporated in the *Pest Control Products Act*. In fact, this is quite limited because precautionary approaches are only incorporated late in the process, during risk

management, such as determinations of permissible exposures (noted below, an additional margin introduced in 2002, to protect the most vulnerable, is not even being implemented). Application of the Precautionary Principle to the first step – hazard identification – could potentially push the process towards least-toxic choices. On the other hand, industry representatives have been known to turn this approach upside-down, advocating precaution against rushing to remove “tools from the toolbox” before being 100% certain that they are causing substantial harm.

Federal audits of Health Canada’s pesticide management

The Federal Commissioner of the Environment and Sustainability in the 2015 audit of pest control products found glaring deficiencies and concerns regarding pesticide registration.¹² Some concerns are as follows:

- The PMRA had made little progress since the 2008 audit to limit the duration of some conditional registrations (when pesticide sales are permitted pending further information to complete the assessment). Eight of nine products that had been registered conditionally for a decade or more were neonicotinoids, a class of neurotoxic insecticides that have been linked to Bee Colony Collapse Disorder and the death of other pollinators and aquatic species.
- Under conditional registrations the PMRA permits use of the pesticide without having received and assessed all of the risk and value studies, to determine the impacts on human health and the environment. At the time, 80 out of 7,000 pesticide products were conditionally registered. None of the industry studies are available to the public until the pesticide is fully registered, and even then an individual must personally visit offices in Ottawa and record relevant information with pen and paper.
- The PMRA has never exercised its authority to cancel a conditional registration when a registrant has failed to satisfy conditions of registration, within a five-year period.
- Re-evaluations of older pesticides are behind schedule.
- Cumulative health impacts have not been addressed when required in the re-evaluations of pesticides.
- It took the filing of a lawsuit before the PMRA began to consider whether special reviews were deemed necessary for pesticides banned since 2013 in OECD countries.
- PMRA has not promptly cancelled the registrations of some pesticides when risks were deemed unacceptable. In one case it took 11 years to cancel the registration of a pesticide after it was determined the risks posed to human health were unacceptable.
- Lengthy phase-out periods have been allowed to occur despite the risks posed to human health of continued use.
- An additional “uncertainty factor” to protect the most vulnerable individuals, introduced to the *Pest Control Products Act* in 2002, is very rarely incorporated in assessments.

For more information, please contact *Prevent Cancer Now*.

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