

**Pesticide Free Nova Scotia's**

**Response to the**

**Proposed Non-Essential Pesticide Ban**

**For healthy people living in sustainable environments.**  
**[www.pesticidefree.ns.ca](http://www.pesticidefree.ns.ca)**

# **Pesticide Free Nova Scotia's Submission**

## **March 2, 2010**

### **Re: Limiting our Risk – A Discussion Paper about a proposed provincial ban on non-essential lawn care pesticides**

Pesticide Free Nova Scotia (PFNS) is pleased to respond to this discussion paper. The health and safety of Nova Scotians, and the sustainability of our environment, consistently rank among the highest priorities of Nova Scotians in polls. We appreciate the opportunity to share our views.

PFNS is a coalition of health and environmental organizations committed to a province that is free of hazardous cosmetic pesticides – those used for aesthetic reasons on lawns and other cosmetic landscapes. Our members are leading environmental and healthcare organizations, including:

- The Canadian Cancer Society
- The Ecology Action Centre
- Sierra Club Atlantic
- Environmental Health Association of Nova Scotia
- Real Alternatives to Toxins in the Environment
- The Nova Scotia Learning Disabilities Association
- Breast Cancer Action Nova Scotia

We are officially endorsed by:

- The David Suzuki Foundation
- Ecojustice Canada
- The Canadian Association of Physicians for the Environment
- The Nova Scotia Field Naturalists
- Dr. Robin Walker, Pediatrician
- Dr. Roy Fox, Nova Scotia Environmental Health Centre

Our goal is to protect the people and the environment of our province, and that is the perspective from which we speak.

Pesticide Free Nova Scotia is officially endorsed by prominent Nova Scotian physicians, and our position for progressive legislation and programming to eliminate the sale and use of cosmetic pesticides is endorsed by municipalities throughout the province.

Our position is bolstered by a large and growing body of peer-reviewed scientific evidence demonstrating significant harmful health and environmental effects associated with pesticide exposure. No licensing, labelling or registration process can undo or prevent that exposure, because as an environmental contaminant, pesticides drift and run off, affecting even people who never use them.

**“It’s Nice to see people against pesticide spraying. I remember the former Chief of Waycobah First Nations in the 1970’s. He fought against spraying in the Cape Breton Highlands, along with a few local environmentalists. I would like to see more people fighting together against toxins.” –From one of Pesticide Free Nova Scotia’s 228 Facebook members**

In response to the discussion paper’s three questions:

**1. Do you believe that the application of pesticides for lawn maintenance is non-essential? Why or why not?**

Yes!

There is extensive evidence, from HRM, from Quebec, from municipalities across Canada where bans on pesticides have been in effect for many years, and from people who have chosen not to use pesticides on their lawns and gardens, that pesticides are not needed in order to have well maintained, beautiful properties.

Lawn care pesticides provide no economic, health or environmental benefits to lawn owners or their neighbours, and pose risks to both the environment and the health of the user and his/her neighbours. Lawn pesticides do not stay put; they have been shown to drift in the air and runoff into the water, affecting everyone’s health. That is why health organizations support a ban, including the Canadian Cancer Society, the IWK Health Centre, and Canadian Association of Physicians for the Environment. The NS College of Family Physicians also advocates “clear regulations and legislation to protect the public from those products whose chemical components do not meet evidence based standards.”

There are highly effective alternatives to lawn pesticides that do not pose the same risks, making these products totally non-essential. A Dalhousie University study on the effectiveness of organic turf management as an alternative to pesticide intensive treatment found that pesticides on turf are completely unnecessary.<sup>1</sup> Homeowners can expect the same great lawns, and all the benefits thereof, once cosmetic pesticides are banned in Nova Scotia.

---

<sup>1</sup> Patriquin DG, Reid D and Walsh B. 1995. *The Oaks Experiments on Organic Turf Management*. Report to Edmonds Environmental Services and Canada-Nova Scotia Sustainable Economic Development Agreement, 302 pp

**“With the absence of pesticides, the bugs return, with the bugs come the birds and bees. I've witnessed it happen on Peninsular Halifax over the past couple of decades.” –Another of Pesticide Free Nova Scotia’s 228 Facebook members**

**2. Do you agree with the provincial ban on non-essential lawn care pesticides by the Government of Nova Scotia? Why or why not?**

Yes!

There is sufficient evidence, found through independent (non-industry sponsored) scientific peer-reviewed studies, of harm to health and environment to enact a ban on any non-essential pesticides. While some landscapers and representatives of the pesticide manufacturers claim that Health Canada’s Pest Management Regulatory Industry (PMRA) completes scientific reviews of cosmetic pesticides before they are approved, there is good reason to go further than PMRA standards. PMRA relies solely on data supplied by pesticide manufacturers. Lab tests are not performed on pre-natal or newborn rats – the stage when health effects would be most damaging. Further, only single chemicals are tested – no realistic data on interacting pesticide chemicals is used.

In 2000, the Parliamentary Standing Committee on Environment and Sustainable Development issued its report, *Pesticides: Making the Right Choice for the Protection of Health and the Environment*. In it, the committee pointed out the inherent shortcomings of the federal pesticide regulation committee as follows: "We asked ourselves whether it is possible for one agency, the Pest Management Regulatory Agency (PMRA), to perform two virtually conflicting tasks, namely that of approving chemical pesticides as requested by industry while at the same time regulating them in order to protect human health."

Fortunately, better studies on the impacts of pesticides have been conducted independently. Here are some of the health impacts that the peer-reviewed scientific research has showed us:

*Cancer Rates*

- Exposure to pesticides is associated with an increased risk of many cancers, including brain cancer, prostate cancer, kidney cancer, and pancreatic cancer.<sup>2</sup>
- There is compelling evidence linking pesticide exposure to the development of leukemia<sup>3</sup> and Non-Hodgkin’s lymphoma.<sup>4</sup>
- Many studies show increased cancer risk in children exposed directly or indirectly to pesticides. These associated cancers include: brain cancer, kidney cancer in

<sup>2</sup> Sanborn, M., D. Cole, C. Vakil, M. Weselak and J. Kasperski, *Pesticides Literature Review*, Ontario College of Family Physicians, 2004. pp. 13-16.

<sup>3</sup> Ibid., p. 51.

<sup>4</sup> Ibid., p. 38.

offspring of occupationally exposed men, and excess acute lymphocytic leukemia in children whose mothers used pesticides in homes and gardens during pregnancy.<sup>5</sup>

### *Fetal exposure risks*

Fetal exposure to pesticides during pregnancy has been linked to cancer, fetal death, and reproductive damage.

- Findings showing increased risk of childhood acute lymphocytic leukemia when women use pesticides in the home and garden during pregnancy.<sup>6</sup>
- Proximity to commercial pesticide applications is associated with an elevated risk of fetal death due to congenital anomalies. The largest risk for fetal death from pesticide exposure is during the 3rd-8th week of pregnancy.<sup>7</sup>
- Two common childhood cancers are linked to prenatal exposure to household pesticides. Use of any pesticide by the mother during pregnancy increases her child's risk for acute leukemia and non-Hodgkin's lymphoma.<sup>8</sup>

### *Neurological risks*

A number of chronic neurological diseases in the elderly have been linked to long-term pesticide exposure. These include Parkinson's disease, amyotrophic lateral sclerosis, and Alzheimer's disease. All these diseases are difficult to treat, which highlights the importance of prevention by reducing lifetime pesticide exposure.<sup>9</sup>

### *Any exposure is a risk*

- Exposure to all the commonly used chemical pesticides — phenoxyherbicides, organophosphates, carbamates, and pyrethrins — has shown positive associations with adverse health effects. There is no basis to believe that if we only ban one or two pesticides, that we will protect the health of our citizens. Overall, research does not support the concept that some chemical pesticides are safe.<sup>10</sup>

And here are some of the known environmental impacts of pesticides (including weed and feed pesticide/fertilizer combinations):

- Fertilizer runoff into groundwater can contribute to an excess of nitrate in the water people depend on to drink. High levels of nitrate in drinking water can cause nervous system impairments, birth defects, cancer, and "blue baby syndrome", in which the oxygen content in an infant's blood falls to dangerous levels.<sup>11</sup>

---

<sup>5</sup> Ibid., p. 173

<sup>6</sup> Ibid., p. 173.

<sup>7</sup> Ann Neurol 2006;60:197-203

<sup>8</sup> Rudant, Menegaux, Leverger, Baruchel, Nelken, Bertrand, Patte, Pacquement, Verite, Robert, Michel, Marguerite, Gandemer, Hemon, and Clavel, *Household exposure to pesticides and risk of childhood haematopoietic malignancies: the ESCALE study*, 2007.

<sup>9</sup> Supra, note 1, p.174.

<sup>10</sup> Ibid., p. 173

<sup>11</sup> 2. U.S. EPA. (2006). Consumer Factsheet on: Nitrates/Nitrites; Weyer, P. (2001) Nitrate in Drinking Water and Human Health; Bowman, D.C., Cherney, C.T., Ruffh, T.W.Jr. (2002). "Fate and Transport of Nitrogen Applied to Six Warm-Season Turfgrasses", Crop Science, 42:833; Starr, J.L., DeRoo, H.C. (1981) "The Fate of Nitrogen Fertilizer Applied to Turfgrass", Crop Science, 21, pgs 531-36.

- Fertilizer 'overfeeds' waterways with nutrients, causing algae blooms, which use up the water's oxygen and killing many of the organisms (such as fish) that live in that water. Some of the fish kills we see in inland waters are due to this effect, as is the massive 'Dead Zone' in the Gulf of Mexico<sup>12</sup>
- In the United States, 96% of fish taken and analyzed from major streams and rivers contained residues of one or more pesticides at detectable levels.<sup>13</sup>
- Groundwater can also be contaminated by pesticides, and several lawn care chemicals, including mecoprop, 2,4-D and dicamba have been identified as having the ability to leach into groundwater.<sup>14</sup>
- Pesticides can be tracked into the home from the outdoors, where they build up in carpets and clothing and continue to put families at risk of chronic exposure.<sup>15</sup>
- Approximately 7 million birds are killed by lawn-care pesticides in the US each year.<sup>16</sup>
- Homeowners use up to 10 times more chemical pesticides per acre than farmers<sup>17</sup>

Prevention of health and environmental harm is far more effective, more humane, and less costly than remediating damage once it is done.

The health and environmental effects of pesticides are devastating, and there is convincing evidence that only a provincial ban on sale and use of pesticides, ensuring pesticides are not available can be effective in significantly reducing exposure. An abundance of research shows that voluntary reduction and education alone have little effect in reducing pesticide use. There is no evidence that any industry-led effort to reduce pesticide use has ever been effective, including the industry-touted integrated pest management (IPM) system.

The province of Quebec has been successful in its efforts to reduce pesticide use through province-wide prohibitions on sale and use. Indeed, Quebec is the only Canadian provincial jurisdiction that has seen major reductions in pesticide use. (Ontario also has strong legislation in place but that province's cosmetic pesticide ban was passed very recently and the data on its effectiveness is not yet available.)

---

<sup>12</sup> Bormann, F.H., Balmori, D., Geballe, G.T. (2001). Redesigning the American Lawn: A Search for Environmental Harmony; Institute for Agriculture, Trade and Policy. (2002). Hypoxia in the Gulf of Mexico: A Growing Problem.

<sup>13</sup> Gilliom, R. (U.S. Geological Survey). (1999). (1999). Pesticides in the Nation's Water Resources. Water Environment Federation Briefing Series Presentation.

<sup>14</sup> Smith, A.E., Tillotson, W.R. (1993). "Potential Leaching of Herbicides Applied to Golf Course Greens" in eds. Racke and Leslie's Pesticides in Urban Environments.

<sup>15</sup> Wargo, J. (1996). Our Children's Toxic Legacy: How Science and Law Fail to Protect Us from Pesticides. New Haven, Connecticut: Yale University Press; Lewis, R.G., Bond, A.E., et al. (1991). Preliminary Results of the EPA House Dust Infant Pesticides Exposure Study (HIPES). Abstracts of the Papers for the American Chemical Society, 201(89); Lewis, R.G., Fortmann, R.C. et al. (1994). Evaluation of Methods for Monitoring the Potential Exposure of Small Children to Pesticides in the Residential Environment. Archives of Environmental Contamination and Toxicology, 26(1); Nishioka, M.G. et al. (1996). "Measuring Transport of Lawn-Applied Herbicide Acids from Turf and Home: Correlation of Dislodgeable 2,4-D Turf Residues with Carpet Dust and Carpet Surface Residues", Environmental Science and Technology, 30; Nishioka, M.G. et al. (2001). Distribution of 2,4-D in Air and on Surfaces Inside Residences after Lawn Applications: Comparing Exposure Estimates from Various Media for Young Children", Environmental Health Perspectives, 109.

<sup>16</sup> Pimentel, D. (2004). Quoted in Steinberg's (2006) American Green: The Obsessive Quest for the Perfect Lawn.

<sup>17</sup> U.S. Fish and Wildlife Service. (2000). Homeowner's Guide to Protecting Frogs; Templeton, S.R., Zilberman, D., Yoo, S.J. (1998). "An Economic Perspective on Outdoor Residential Pesticide Use", Environmental Science and Technology 32, 421A.

Beyond health and environmental benefits, banning pesticides is actually good for the economy because it creates new business opportunities, and jobs, in organic pest control, the fastest growing segment of the lawn and garden market. Statistics Canada research shows significant new lawn care business and job growth in municipalities that have banned cosmetic pesticides, including HRM.<sup>18</sup> Banning the sale and use of toxic pesticides encourages the development and marketing of safer alternatives, as shown already in Quebec and Ontario.

We are pleased that this ban will make Nova Scotia a leader in the region on this issue, and a model for other Atlantic Canadian provinces.

“I would like to see N.S. do better than NB. In the end we breathe the same air and drink the same water.”

Attendee at Amherst Wellness Expo, February 2010

**“When I was a small child spending the summer at our family cottage on Nova Scotia's beautiful North Shore, I can remember the distinctive sound of the truck that came along every few weeks to spray the roadside weeds with pesticides. I had been trained to run inside the house when I heard that sound. We've kept the homemade "No Spray" signs my grandfather made and posted them near the road on our property to keep these unwanted, unneeded toxins off us. It is my wish that no child in Nova Scotia need fear being doused with cosmetic pesticides just because they ignored the sound of the sprayer truck.”**

--Another Pesticide Free Nova Scotia Facebook member

### **3. Do you have any additional comments about the proposed non-essential pesticide ban?**

We are pleased to see Quebec's 'allowed list' approach, in which acceptable products are listed and all else are banned. The position paper *Limiting Our Risk* contains little detail about how this list would be developed. We suggest that third party standards such as the Organic Materials Review Institute (OMRI) would be the best way to make a white list. It would be transparent, constantly updated, objective and unaffected by lobbying. There are always new cosmetic pesticides in development, but these should not be allowed until there is sufficient evidence of safety. A list of acceptable pest control chemicals similar to the Class 11 Pesticide list (described as lower risk or biopesticides) contained in the Ontario Pesticides Act is the type of allowable pesticide list we hope will be considered.

<sup>18</sup> Statistics Canada Business Pattern (1998-2005)

We are pleased that proposed legislation will apply to residential, commercial, public and semi-public properties.

We are also pleased that agriculture will not be affected by the ban. The use of pesticides for lawn maintenance is a separate issue from the use of pesticides in agriculture, and it is appropriate to separate these issues in this legislation.

As pleased as we are with this proposal, we have a few recommendations to make it even more effective.

- As requested by UNSM in 2007, and as promised in the 2009 election by the NDP, municipalities should also gain the right to pass their own supplementary by-laws. The provincial legislation will establish a basic standard which will protect all citizens, but communities that wish to provide further protection of residents' health should have the right to do so, providing a greater measure of harm reduction. This is the approach which is incorporated in legislation for all other issues of public health and safety. Quebec has substantially reduced cosmetic pesticide use with this model. There should be absolutely no clause in new legislation barring municipal rights to pass pesticide bylaws.
- Currently, it is not clear that ornamental and vegetable gardens in residential settings are included in the ban. This could be used as justification for stores to carry a broad range of otherwise prohibited products, thus opening the door to their widespread use by consumers and landscapers. The use of pesticides in home gardens and in landscaping in areas used by the public also poses risk. We recommend that the Province legislate a complete ban on use of cosmetic pesticides for these purposes, and clearly distinguish these uses from the applications permitted in the legislation.
- This ban would be even more effective if it were extended to include cemeteries and golf courses. The province should work closely with golf courses and cemeteries with the aim of completely eliminating chemical pesticide use, considering a schedule for complete phase out of pesticide use.
- This ban should be accompanied with an effective education program so that the rules, punishments and legal (organic) alternatives are clear and known. Research shows that behaviour change is most common when good legislation and comprehensive education are combined.

**“I worked at a garden centre when Ontario went pesticide free. Sure there were a few people who complained but overall it was very well embraced and people were willing to use more natural methods such as getting rid of dandelions by spot treating them with pickling vinegar and getting rid of grubs by using nemotodes.” –Another of Pesticide Free Nova Scotia’s 228 Facebook members**

