



ADMINISTRATIVE REPORT

Report Date: June 20, 2016
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VanRIMS No.: 08-2000-20
Meeting Date: July 12, 2016

TO: Vancouver City Council
FROM: Director of Sustainability
SUBJECT: Amendments to Health By-law No. 9535 with Respect to Neonicotinoid Pesticide Use

RECOMMENDATION

- A. THAT Council approve, in principle, the amendments to Health By-law No. 9535 set out in Appendix A, to prohibit the use of neonicotinoid pesticides within the City of Vancouver.
- B. THAT Council instruct the Director of Legal Services to bring forward the proposed amendments set out in Appendix A for enactment.

REPORT SUMMARY

The purpose of this report is to seek Council's approval to amend Health By-law No. 9535 to prohibit the use of neonicotinoid pesticides within the City of Vancouver.

COUNCIL AUTHORITY/PREVIOUS DECISIONS

The original Greenest City Action Plan, adopted by Council in July 2011, included 125 high-priority actions which are now 80% complete. On November 3, 2015 Council approved the second phase of the Greenest City Action Plan which presented fifty-one new high-priority actions and 19 advocacy items across the ten goal areas. These actions and items provide concrete steps to ensure that Vancouver reaches its Greenest City targets to become the greenest city in the world by 2020. As part of 2015-2020 priority actions the reduction of toxins in the public and private spheres was highlighted as a priority action.

In 2014, Council adopted the Healthy City Strategy with a vision for a healthy city for all. Creating “Environments to Thrive In” is one of the 13 goals of the Healthy City Strategy, ensuring that Vancouverites have the right to a healthy environment and equitable access to livable environments in which they can thrive; this goal includes a target for toxins prevention.

In 2014 the Vancouver Park Board stopped using neonicotinoids in all City parks and stopped the procurement of neonicotinoid treated vegetation from third-parties for use on Park Board lands.

In 2006 the City of Vancouver took action to prohibit the use of pesticides for cosmetic purposes. The City of Vancouver’s Health By-law No. 9535 prohibits the application of a pesticide that is a registered control product under the federal Pest Control Products Act.

Other programs such as the Community Gardening program, Green Streets program and the Greenways program include landscape and design guidelines that outline pesticide-free management practices. Recreation programs focussed on pesticide-free gardening, beekeeping and planting for pollinators are also offered through the Park Board to members of the public.

CITY MANAGER'S/GENERAL MANAGER'S COMMENTS

The City Manager recommends approval of the aforementioned recommendations.

REPORT

Background

Health By-law No. 9535

Section 2.9 of the City of Vancouver’s Health By-law No. 9535, prohibits the use of certain pesticides. The goal of this provision is to minimize the negative health impacts of pesticides on people, on non-target organisms, like bumblebees and other pollinators that can come into contact with pesticide-affected vegetation, and to reduce the input of pesticide-contaminated storm water runoff into nearby creeks and rivers. Section 2.10 (f) of the By-law allows for the use of a pesticide if an infestation occurs that presents risk of substantial loss or damage to property. A list of permitted pesticides that are effective and environmentally friendly is included in Schedule A of the by-law for residents’ reference. These pesticides have been designated by the Province of British Columbia as “excluded pesticides”, and according to the Integrated Pest Management Regulation, scheduled to come into force on July 1, 2016, a provincial license is not needed to apply them.

Neonicotinoids, a class of pesticides, are not an excluded pesticide and their use has dramatically increased to combat chafer beetle infestations in the City of Vancouver.

What are neonicotinoids?

Neonicotinoids are a class of synthetic and persistent pesticides that act as neurotoxins to kill insects. Through numerous scientific studies, they have been found to negatively affect many non-target insects such as native bumble bees and honey bees when used for cosmetic and agricultural purposes. When applied to turf lawns and other plants, neonicotinoids make all parts of a plant toxic. As a result, non-target insects that pollinate, rest on plants and ingest plant material are vulnerable to being poisoned.

Neonicotinoids have been available in Canada for just over ten years. There is emerging evidence that neonicotinoids may be found in significant concentrations in soils, surface waters and groundwater where they are applied, creating many exposure pathways for humans and the environment. Other jurisdictions are taking actions to ban or significantly reduce the use of neonicotinoids, including the Province of Ontario, the State of Minnesota, the US Fish and Wildlife Service, the US Environmental Protection Agency, the US Fish and Wildlife Service, Australia and the European Union.

What are chafer beetles and why are they a problem?

The European chafer beetle is an exotic insect that was introduced to turf lawns in BC sometime around 2001. The beetle has become a serious lawn pest in the Lower Mainland since then. Chafer beetles complete their lifecycle in one year, and their population can increase rapidly. Adult beetles emerge from the soil in June to mate. In July, females lay as many as 20 to 30 eggs in the soil. The eggs hatch in about two weeks and the small grubs feed on the grass roots.

The chafer beetle is a nuisance because the grubs feed on the roots of turf grasses, thereby destroying the plants. The grubs also attract other wildlife, such as raccoons and crows, which dig up turf in search of the larvae as food. Damage typically occurs in the fall to early spring when the grubs are full-grown.

Prevention and treatment of chafer beetle infestations

Chafer beetle infestations can often be prevented with good lawn-care practices--raking, dethatching, aerating, fertilizing, watering appropriately, and not mowing too severely. Alternative grass and ground cover types, such as clover, can also be planted that are more resistant to chafer beetles.

A chafer beetle infestation can be managed through the use of nematodes, a microscopic roundworm. Nematodes move through wet soil to seek out and infect chafer beetles. The first larval stage of a chafer beetle's lifecycle is its most vulnerable and this is when nematodes are best applied. The first larval stage generally occurs during late July and early August, and that is when nematodes should be applied. For two to three weeks following the application of nematodes, lawns need to be watered regularly.

The application of nematodes is a proven, effective approach to manage chafer beetles. Nematodes are not dangerous to humans, animals or to the environment. Products containing the nematodes for chafer beetle control are available at local garden supply stores and often cost less than other anti-chafer beetle pesticides such as neonicotinoid based pesticides. Information about the management of chafer beetles through lawn care and

nematodes is provided on the City of Vancouver's website at <http://vancouver.ca/home-property-development/chafer-beetles.aspx>.

Strategic Analysis

Health Canada's Pest Management Regulatory Agency (PMRA) manages and approves which pesticides may be available for the purpose of sale and distribution in Canada. The Province of British Columbia regulates the use and sale of pesticides within the province. Section 330 of the Vancouver Charter grants the city authority to make by-laws:

- (a) *for providing for the care, promotion, and protection of the health of the inhabitants of the city and for preventing the spread of contagious, infectious, or other disease, and, for that purpose, for regulating, controlling, and restricting persons and their activities;*

The Greenest City Action Plan and the Healthy City Strategy include direction to reduce the use of toxins. Recently, the use of neonicotinoids, such as Merit, has significantly increased on private property to combat chafer beetles, even though effective and environmentally friendly nematodes are also available. Depending on the level of infestation, the application of a neonicotinoid-based pesticide may be faster than using nematodes. However, after applying a neonicotinoid to a lawn most landscapers recommend that no family members enter onto the lawn for a 24-hour period. Neonicotinoids are persistent pesticides that are known to be toxic to a range of target insects and non-target insects and birds. New studies on the impacts of neonicotinoids suggest that these pesticides may spread further than originally thought and that they may be affecting mammals, fish and humans.

Revising the Health By-law No. 9535 to prohibit the use of neonicotinoids will reduce the potential risks to people and impacts on the environment, particularly on pollinators such as bumblebees and honey bees. In order to make it easier for residents to use nematodes, the Water Shortage Response By-law No. 8912 was recently amended. Residents can now get a three-week watering exemption permit for the purposes of nematode application (previously, the bylaw exemption was limited to two weeks). The permit fee is \$10. The three-week exemption matches the recommended application period for nematodes and allows for additional watering days within the accepted hours of 4 am to 9 am during Stage I and Stage II water restrictions (May 15 - October 15 as per Metro Vancouver's direction).

Staff have consulted with the BC Landscape and Nursery Association and the Invasive Species Council of Metro Vancouver about this topic and will work with both organizations to disseminate information about the proposed amendment to members and the public. Should the amendment be adopted approximately 600 landscaping and retail businesses who operate in Vancouver will receive notification of the revisions.

Implications

Financial

There are no financial implications associated with this report.

Environmental

Bumblebees, honey bees, butterflies, and other pollinators provide essential ecosystem services by pollinating crops, backyard gardens, fruit trees, and native plants. These native pollinators and honey bee populations are declining across North America due to the impacts of industrial agriculture, urbanization, disease, climate change, and pesticide use. Prohibiting the use of neonicotinoids will reduce the release of toxic pesticides into the environment thereby benefitting Vancouver's environment.

CONCLUSION

Neonicotinoids are a relatively new pesticide to Canada and other jurisdictions. Their impact on targeted insects and non-target pollinators, such as native bees, are known. Emerging scientific studies and action from other jurisdictions suggest that neonicotinoids may also affect soil quality, water quality, birds, mammals and humans. Given that effective and environmentally-friendly alternative lawn care treatments are available, it is recommended that the use of neonicotinoids be prohibited within the City of Vancouver.

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BY-LAW NO.

A By-law to amend Health By-law No. 9535
regarding new pesticides

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

1. This by-law amends the indicated provisions of the Health By-law, No. 9535.
2. In section 1.2, Council adds the following definition in correct alphabetical order:
“neonicotinoid means a class of synthetic pesticides derived from nicotine that may be applied to seeds, soil and foliage including but not limited to imidacloprid, clothianidin, thiamethoxam, dinotefuran, thiacloprid and acetamiprid;”
3. Council strikes section 2.9 and replaces it as follows:
“Ban on pesticides
2.9 A person must not apply, or suffer or allow the application of, a pesticide:
 - (a) that is a neonicotinoid; or
 - (b) that is a registered control product under the Pest Control Products Act (Canada); andthat persons use directly or indirectly to control, destroy, attract, or repel a pest, being:
 - (i) an animal, plant, or other organism that is directly or indirectly injurious, noxious, or troublesome, or
 - (ii) an injurious, noxious, or troublesome condition or organic function of an animal, plant, or other organism, or to mitigate or prevent any injurious, noxious, or troublesome effects of a pest.”
4. In section 2.10, Council strikes the words “of a pesticide” and replaces them with “of a pesticide other than a neonicotinoid”.
5. Council strikes Schedule “A” and replaces it with the Schedule “A” attached to this By-law.
6. A decision by a court that any part of this By-law is illegal, void, or unenforceable severs that part from this By-law, and is not to affect the balance of this By-law.
7. This By-law is to come into force and take effect upon enactment.

Schedule A
Permitted Pesticides

acetic acid	pesticides in aerosol containers
animal repellents except thiram	pesticides registered under the federal Act for application to pets
anti-fouling paints	piperonyl butoxide
antisapstain wood preservatives used on private, industrial land owned by the company or person responsible for applying the preservatives	plant growth regulators
asphalt solids used as pruning paints	polybutene bird repellents
bactericides used in petroleum products	pyrethrins
boron compounds	resmethrin
boron compounds with up to 5% copper for insect control and wood preservation	silica aerogel, also referred to as silica gel, amorphous silica and amorphous silica gel
capsaicin	silicon dioxide, also referred to as diatomaceous earth
cleansers	slimicides
corn cellulose	soaps
corn gluten	sulphur, including lime sulphur, sulphide sulphur and calcium polysulphide
deodorizers	surfactants
d-phenothrin	swimming pool algicides and bactericides
d-trans-allethrin, also referred to as d-cis, trans allethrin	tetramethrin
fatty acids	thymol
ferric phosphate	wood preservatives
ferrous sulphate	zinc strips
formic acid	<i>Bacillus sphaericus</i> , also referred to as Bs <input type="checkbox"/>
hard surface disinfectants	<i>Bacillus subtilis</i> <input type="checkbox"/>

insect repellents	<i>Bacillus thuringiensis</i> var. <i>israelensis</i> , also referred to as Bti
insect semiochemicals, including pheromones, kairomones, attractants and repellents	<i>Bacillus thuringiensis</i> var. <i>kurstaki</i> , also referred to as Btk <input type="checkbox"/>
insecticides sold and used in tamper resistant bait stations	citric acid
kaolin	copper (oxychloride and tribasic only) <input type="checkbox"/>
laundry additives	FeHEDTA <input type="checkbox"/>
material preservatives	ferric sodium EDTA <input type="checkbox"/>
methoprene	garlic
mineral oils for insect and mite control	lactic acid <input type="checkbox"/>
naphthalene for fabric protection	<i>Phoma macrostoma</i> <input type="checkbox"/>
n-octyl bicycloheptene dicarboximide	pyriproxyfen
octenol	<i>Sclerotinia minor</i>
oxalic acid	sodium chloride
paradichlorobenzene for fabric protection	spinosad