

Insecticide toxic to bees promoted to kill Vancouver chafer beetles

Merit, approved for use in Canada, is a controversial neonicotinoid pesticide used to kill insects

By Lisa Johnson, [CBC News](#) Posted: May 04, 2016 6:00 AM PT Last Updated: May 04, 2016 6:00 AM PT



Chafer beetles have been linked to the destruction of lawns in greater Vancouver since 2001, when they were first reported in New Westminister. This lawn is in Coquitlam. (Margaret Gallagher/CBC)

A chemical insecticide that's being widely promoted to Vancouver homeowners who have had their lawns destroyed by chafer beetles is "highly toxic to bees" and should not be used, warns an SFU biologist.

The insecticide [Merit](#), manufactured by Bayer, contains the active ingredient imidacloprid — one of the controversial [neonicotinoid pesticides](#) that face increasing restrictions worldwide because of the risk they pose to bees.

Companies are marketing the lawn treatment as "very effective" and "low toxicity," but the broad-spectrum insecticide also kills beneficial insects, said Mark Winston, a professor of apiculture at Simon Fraser University and senior fellow at the university's Centre for Dialogue.

"A neonicotinoid is one of the most bee-toxic chemicals out on the market," said Winston.

"By applying to lawns, bees that are nesting in lawns are going to die. These bees are extremely important pollinators in our Vancouver urban ecosystems. So there is just really no way that neonicotinoids should be used in lawn applications for that reason."



Neonicotinoids applied to lawns can harm bees that come into contact with the chemicals, which may include honey bees visiting flowers, or wild bees nesting in soil, says bee expert Mark Winston. (Mike Blake/Reuters)

'Contentious issue' says landscaper

A landscaper who has distributed flyers advertising Merit as cheaper, easier and more effective than the non-chemical alternative —[nematodes](#) — told CBC News he offers it to customers who often have had years of frustration with infested lawns.

Some spend thousands of dollars replacing their grass, only to be hit again, said Paul Corbett of Cutting Edge Vancouver.

"It's usually people that will call us and say, look, I replaced my lawn last year because it was completely torn up by the raccoons. They're digging it up again. What can I do?"

"We know that it's a contentious issue ... but we think [Merit] is the most effective option" for people with persistent infestations, he said.

Corbett said he uses Merit on a few hundred lawns each year. His is just one of many landscaping companies offering the chemical treatment in Metro Vancouver.

2 Treatment Options:

Merit: from \$89	Nematodes: from \$119
<ul style="list-style-type: none">• Very effective (95%)• Low toxicity insecticide• Safe and easy: Water lawn once after treatment• May only be used where established infestations exist	<ul style="list-style-type: none">• Moderately effective (65%)• Natural treatment - microscopic worms• Safe but less convenient: Lawn must be watered daily for up to 2 weeks

MasterCard VISA

A portion of the flyer distributed by landscaping company Cutting Edge Vancouver to homes on the city's west side, comparing Merit insecticide to the nematode treatment of chafer beetles. (CBC)

Insecticide allowed in Vancouver

Merit is not on the list of allowed pesticides in Vancouver. However, an exemption does exist in the [city's health bylaw](#) for using pesticides "to control or destroy pests which have caused infestation to property."

The City of Vancouver did not make anyone available to speak about the insecticide rules and would not address the Merit issue directly in a statement after a week of queries from CBC News.

In a statement attributed to chief license inspector Andreea Toma, the city referred to the bylaw exemption and said it has received no complaints about pesticide usage this year.

The bylaw departments of [Surrey](#) and [Burnaby](#), the next largest municipalities by population in the region, also told CBC News that Merit is not on the list of allowed pesticides in their cities, but did not address whether possible exemptions exist.



Chafer grubs are a popular food source for crows, raccoons and skunks in Vancouver. These ones haven't yet reached their maximum size. (Rafferty Baker/CBC)

Debates rage over 'bee-toxic chemicals'

When Merit, or imidacloprid, is applied to a lawn, it gets watered into the soil and is absorbed by grasses and other plants — even travelling to the pollen and nectar of a plant, as well as ground and surface water, according to [Health Canada](#).

It's used on chafer beetles in July and August — during their early larval stage — and disrupts the nerve impulses of the insects, "resulting in insects not feeding ... and eventually dying," according to [Bayer](#).

But it also attacks other insects and policy debates rage about whether to ban imidacloprid and other neonicotinoids. The European Union [banned](#) most uses of imidacloprid in 2013.

In Canada, a [Senate report](#) last spring found neonicotinoids are harmful to bees but did not recommend taking policy action until Health Canada finishes its [re-evaluation](#) of the chemicals, which is currently underway.

Merit's manufacturer, Bayer, points to the agency's [preliminary assessment](#), which states that there is a potential risk to bees from some soil treatments, but "current Canadian label mitigation adequately minimizes risk for use on turf" according to one study.

Winston thinks Canada's regulations need to be tightened, and said lawn treatments would be particularly harmful to wild bees, which nest in the ground.

"The question is, can they be applied in certain ways in which they are not in contact with bees, and that's an area of some dispute," said Winston, who is also author of [Bee Time: Lessons from the Hive](#).

"But I think there is no scientific dispute at all about the fact that neonicotinoids are highly toxic to bees."



Merit is also sold directly to homeowners, though there are restrictions on the sale and use of the pesticide, according to the Ministry of Environment. (Lisa Johnson/CBC)

Alternative beetle-killer

Those who want to treat a chafer-infested lawn and avoid chemical insecticide can apply nematode worms, a beneficial parasite that feeds on beetle larvae.

It works more slowly and is somewhat less effective, but Corbett said nematodes still work more than 70 per cent of the time, in his experience. People can also plant [alternative grasses and clovers](#) that are beetle-resistant.

"The real story is, how do we get past the mindset of you need a perfect lawn? Which is the mindset in Vancouver," said Corbett, who makes a living in part replacing beetle-ravaged lawns.

"In an environment where you have an alternative, which is safe for the environment and safe for bees, why would you ever possibly want to use a very toxic chemical?" said Winston.