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February 19, 2014
Agriculture and Forestry Committee
Senate of Canada

Re: Study on the importance of bees and bee health in the production of honey, food and seed in Canada

Dear Senators,

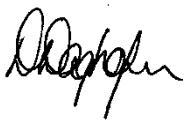
Prevent Cancer Now is a national organization working to eliminate the preventable causes of cancer. We congratulate you for conducting the study on bees and bee health, for two reasons.

Bees are essential for pollination, and a diet rich in fruits and vegetables is very important to lower risks not only of cancer, but also other serious, common chronic diseases. Cancer, as well as cardiovascular, metabolic and neurological conditions are debilitating Canadians, both young and old. They impair productivity and economic potential, while being an immense drain on the public purse.

Secondly, the neonicotinoid insecticides that are very strongly linked to bee deaths may well cause cancer and other chronic conditions directly. These chemicals have very complex breakdown pathways and are not adequately assessed using animal testing. In the environment the breakdown products linger for years, but these metabolites are removed from cleaned cages in laboratories. Some of the breakdown products are more toxic to mammals than the parent compound. These concerns were summarized and referenced in a recent article in Prevent Cancer Now's newsletter, An Ounce. The article is available at: http://www.preventcancernow.ca/the-buzz-about-the-new-nicotine-like-insecticides.

Therefore, Prevent Cancer Now urges the Senate Agriculture and Forestry Committee to request the PMRA to place a moratorium on neonicotinoid insecticides, until independent research proves that the pesticides in the environment (including all breakdown products) do not affect bees, or mammals.

Sincerely yours,



Diana Daghofer
Co-Chair, Prevent Cancer Now
On behalf of the Board of Directors

The Buzz about the "new nicotine-like" insecticides

An Ounce, Prevent Cancer Now newsletter, Winter 2014.
http://www.preventcancernow.ca/the-buzz-about-the-new-nicotine-like-insecticides

By Meg Sears PhD

To minimize risks of cancer and other chronic diseases, a healthy diet includes lots of fruits and vegetables. Growing many of these foods requires pollination by bees, but bees are dying *en masse* – this is called "colony collapse." Top of the list of suspect causes is a group of chemicals known as neonicotinoid (literally "new, nicotine-like") insecticides.

These pesticides coat many seeds sold to farmers (e.g. corn and soy), and are sprayed against insects such as potato beetles and orchard pests. In some jurisdictions they may even be applied to turf to kill grubs.

Prevent Cancer Now spread the word of the request for comments from Canada's Pest Management Regulatory Agency (PMRA); in the interim the PMRA proposed that the risks are manageable. In contrast, the European Union found strong grounds to limit use of neonicotinoids, and has instituted a moratorium.

Canadian beekeepers, such as those in Ontario, see ample evidence that these insecticides kill bees. Neonicotinoids don't stay in one place – they are mobile in the environment, and pollinators ingest the pesticide from pollen and water. Henk Tennekes and Pierre Mineau, have demonstrated falling insect and associated bird populations with current use of neonicotinoids in Europe and North America respectively.

Neonicotinoids degrade very slowly (breakdown products persist for years), and thus are continually building up in the environment, with some breakdown products even more toxic than the original chemical. Breakdown is very complex, as illustrated by Bayer's information on imidacloprid. According to the US National Toxicology Program summary, the breakdown product, 2-chloropyridine, has no known environmental breakdown pathway, is very stable, is mutagenic, and has the characteristics of a carcinogen. Every molecule of the pesticide creates a molecule of 2-chloropyridine.

High levels of infections in some "collapsed colonies" have clouded evidence that neonicotinoids cause bee deaths; however recent research shows that these are connected. Honey bees exposed to a common neonicotinoid insecticide had impaired immunity and higher pathogenic viral replication, making them more susceptible to infection.

Will we save our bees? The scientists and bee-keepers are pitted against pesticide lobbyists for the hearts and minds of Canada's regulators. Croplife, the chief pesticide lobbying group, just recruited

former Conservative MP Ted Menzies as its new President and CEO. According to investigations by CBC, Menzies is restricted from lobbying until 2018, but his job includes openly dispatching others to bend the ears of his former colleagues.

What to do? Organic farming methods are bee-friendly, while virtually all of Canada's conventionally grown corn and half the soy seed comes with a coating of neonicotinoid insecticide. While lobbyists battle it out in Ottawa, we can all write letters, and vote with our money at the grocery store.

Referenced Links

Health Canada's PMRA consultation regarding neonicotinoid insecticides. http://www.hc-sc.gc.ca/cps-spc/pest/part/consultations/_noi2013-01/noi2013-01-eng.php

European Union EFSA identifies risks to bees from neonicotinoids. http://www.efsa.europa.eu/en/press/news/130116.htm

European Union moratorium on use of neonicotinoid insecticides. http://ec.europa.eu/food/animal/liveanimals/bees/neonicotinoids_en.htm

Ontario Beekeepers. Bee Poisonings. http://www.ontariobee.com/issues-and-advocacy/ongoing-issues-and-actions/spring-2012-bee-poisonings

Henk Tennekes. Disaster in the Making. http://www.disasterinthemaking.com/reviews.html

Pierre Mineau, for the American Birds Conservancy. The Impact of the Nations Most Widely Used Insecticides on Birds. http://www.abcbirds.org/abcprograms/policy/toxins/Neonic_FINAL.pdf

Coalition for a Healthy Ottawa. Imidacloprid. http://www.flora.org/healthyottawa/merit-pesticide-insecticide-grub.htm

US National Toxicology Program. 2-chloropyridine. http://ntp.niehs.nih.gov/ntp/htdocs/Chem_Background/ExSumPdf/2-Chloropyridine_508.pdf

Neonicotinoid clothianidin adversely affects insect immunity and promotes replication of a viral pathogen in honey bees. http://www.pnas.org/content/110/46/18466.full?sid=91b78c65-53ab-43c3-a77f-f33954fcc97e

Croplife announces appointment of Ted Menzies. http://www.croplife.ca/newsreleases/ted-menzies-announced-as-new-croplife-canada-president

CBC Investigation regarding appointment of Ted Menzies to Croplife, shortly after retiring from House of Commons. http://www.cbc.ca/newsblogs/politics/inside-politics-blog/2013/11/former-mp-ted-menzies-to-take-on-new-gig-at-croplife-canada.html