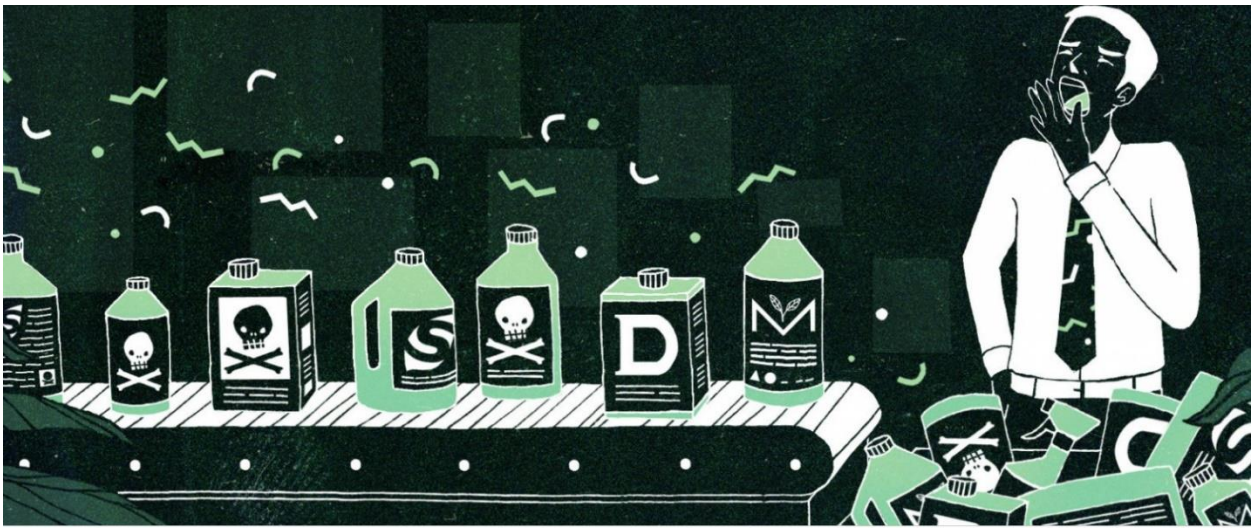
Has Ottawa sold out to Big Agro and its toxic chemicals?

First article from the Special Report: Bureau of Poison[1]
By Bruce Livesey[2], July 25th 2017



The federal government oversees pesticide use through the Pest Management Regulatory Agency, an obscure division of Health Canada. Illustration by Oanh Le.

The first of a two-part series

Ten years ago, Davis Bryans began finding more dead bees than expected on the ground beside his hives - or bees behaving strangely. But “we couldn’t put our finger on the cause,” he relates.

Bryans is co-owner of Munro Honey, a beekeeper based in Alvinston, Ontario, which has been breeding bees for more than 100 years. Headquartered in a tidy, red-and-white building on a country road three hours southwest of Toronto heading towards Sarnia, Munro[3] stands smack dab in the middle of farming country, surrounded by rippling fields of soy, corn and wheat.

In the spring of 2012, calamity struck. Bryans and his co-workers were finding large numbers of dead and sickly bees in and around the hives. “We had a big loss of bees after the farmers planted early,” recalls Bryans. “And what happened was bees were healthy in the mornings and they came back and were dying at the entrance of the hives.”

The nearby farmers plant their crops with seeds coated with neonicotinoids (or neonics), an insecticide designed to prevent pests from feeding on their plants. First patented in the mid-‘80s by the $70-billion chemical and pharmaceutical multinational, Bayer AG, neonics are now the world’s most widely used insecticide, registered in 120 countries.

Indeed, after Munro’s dead bees were tested, traces of neonics were discovered on them.

Health Canada working at the 'bidding' of the pesticide industry?

Munro Bees is now a plaintiff in a class-action lawsuit[4] launched by Ontario beekeepers seeking $450-million in damages against Bayer and Syngenta, another agrochemical company, blaming neonics for harming their bees. The suit says Munro Honey lost $3-million between 2006 and 2013 as a result of lost bee hives. (Bayer and Syngenta deny neonics are responsible for the bee deaths, although their own internal research[5] has shown otherwise at high doses.)

In fact, neonics have been linked[6] to declining bee colonies across North America and Europe. Yet, according to the Food and Agriculture Organization of the UN, 75 per cent of the world’s food crops depend on pollination by bees, at least in part.

But Bryans also places a great deal of blame for Munro's dying bees on Canada's pesticide regulator, the Pest Management Regulatory Agency (PMRA), an obscure Ottawa-based branch of Health Canada[7]. The PMRA’s mandate is to oversee the estimated 7,000 pest control products registered in Canada, containing about 600 active ingredients. "I think they did a real poor job," responding to the bee crisis, says Bryans. "I was not very impressed."

As pesticides like neonics have generated controversy in recent years, the role of the PMRA has come into sharp relief. Critics of the agency accuse it of being “captured” by the very agrochemical companies - such as Bayer, Syngenta, Dow-Dupont, Monsanto and BASF - that it’s supposed to be regulating. “There is a wide perception they provide cover for allowing industry to carry on," says Dr. Warren Bell, founding president of the Canadian Association of Physicians for the Environment (CAPE) and contributing editorialist to *National Observer*.

Among the PMRA's sins is allowing chemical companies to sell pesticides in Canada for years without those companies having provided all of the data showing their products are safe - as they are legally required to do. This includes most of the neonics being sold in Canada - which are now fingered for poisoning bees. The PMRA is also charged with turning a blind eye to mounting evidence that the most popular pesticides on the market are wreaking widespread health and environmental damage. Moreover, the PMRA is being sued by[8] environmental organizations to force it to do its job. “We don’t really have any oversight of the pest management system in Canada," says John Bennett, a former executive director of the Sierra Club of Canada and a policy advisor with Friends of the Earth, an Ottawa-based environmental organization. "They don’t really have anyone to review their own decisions because they are busy working at the bidding of the pesticide industry to approve new pesticides. They are extremely close with the industry.”

PMRA operates in great secrecy

One of the PMRA's key functions is to evaluate the environmental and human health data of pesticides produced by agrochemical companies – all global giants with vast resources and great influence. “They're influential enough to cause our entire pollination population on the continent to decline severely without anybody doing anything about it,” remarks Tibor Szabo, former president of the Ontario Beekeepers' Association. “That's how influential they are.”

The PMRA operates in great secrecy. None of the key data the agrochemical companies provide about their products can be seen except in the final stages of a pesticide being approved – and only in a reading room in Ottawa for 60 to 90 days. You must sign an affidavit to promise you won't undermine the proprietary interests of the companies. If you gain entry to the room, none of the studies can be photocopied or removed. When asked about this, PMRA outreach manager Lindsay Hanson conceded: “You are correct in that there are limitations to what (the public) can actually do with the data. They are not allowed, as you said, to make copies of it and take it outside the reading room. It’s controlled that way. But in terms of its interpretation that is, of course, up to the individual who is looking at it.”

When asked about the allegation that the PMRA is "captured" by agrochemical companies, Hanson sidestepped the question, instead describing the review process of pesticides as "rigorous" and "fair". Hanson

says the companies must provide up to 200 studies on human and environmental impacts to the PMRA. “That data is based on quality assurance programs and practices that meet very high standards," he notes. “The review for a new pesticide in Canada can take up to 18 to 24 months to complete.”

"Foisted upon us and unavoidable"

Despite the PMRA's claims its processes are thorough, another story is unfolding on the ground. Take bees and neonics as an example.

The Canadian Honey Council says there are roughly 8,000 beekeepers in Canada operating about 720,000 colonies. But a decade ago, bee colonies, especially in Ontario, began to struggle, with as much as one third of hives[9] dying off every year.

In 2012 and 2013, the die offs were on an unprecedented scale. By the winter of 2013-’14, 58 per cent of bees in Ontario didn’t survive the winter, although the cold that winter played a role, while other provinces lost about 19 per cent on average. In the States, it’s the same story. Colony numbers have declined significantly in recent years. In California alone, honey production has fallen by a half, while the bee population dropped by 70 per cent in Iowa.

Szabo, for one, is convinced neonics are the main culprit. “Basically what's happening, is we're causing wide-scale, permanent – because the effects are permanent and cumulative – damage to our pollinating insects with the constant exposure to these neurotoxins,” he maintains.

But it's not just bees and neonics. Scientists are linking pesticides with widespread environmental, animal and human health damage. Pesticides are also accused of wiping out deer, frog, butterfly and bird populations, poisoning food and water supplies, while causing higher rates of cancer, birth defects, sexual changes, immune deficiency, dementia and impacting biodiversity.

In 2016, the World Wildlife Fund (WWF) released a report[10] saying populations of fish, birds, mammals, amphibians and reptiles dropped 58 per cent between 1970 and 2012 – with a 81 per cent loss of freshwater wildlife and 38 per cent of terrestrial wildlife. Many scientists see this collapse related, in part, to pesticide use.

Indeed, the late Joe Cummins, a professor of genetics at the University of Western Ontario in London, blamed the decline of both the East Coast

fisheries and Great Lakes wetlands on the herbicide atrazine washing from cornfields into groundwater, streams and rivers.

In 2015, a group of scientists published a paper[11] in which they argued the collapse of insect and bird populations across Europe has coincided with the use of pesticides, notably neonics. “On the basis of existing studies and numerous observations in the field… (the scientists) came to the hypothesis that the new generation of pesticides, the persistent, systemic and neurotoxic neonicotinoids and fipronil, introduced in the early 1990s, are likely to be responsible at least in part to these declines,” they noted.

Moreover, there is growing evidence these pesticides are affecting human health. While people are living longer due to better nutrition and smoking less, they're also developing more chronic diseases.

Michael Skinner, a biologist at the Washington State University, argues that environmental toxins are now being passed from parents to children – with dire consequences. He points to a recent in-depth analysis revealing more than 95 per cent of the world's population has at least one health problem, including heart disease, cancer, anxiety, infertility, asthma and diabetes. Even children age 0-9 are having high rates of issues. Skinner blames pesticides, herbicides, jet fuel and plastics. “What your ancestors are exposed to is going to cause disease in you,” he’s said. “And you're going to pass it onto your grandchildren.”

University of British Columbia professor and environmental lawyer David Boyd did a study[12] in which he argued that 10,000 to 25,000 deaths, 24,000 new cases of cancer, and the birth of 2,500 low-birth-weight babies in Canada, can be linked to environmental hazards each year.

David Bellinger, a professor at the Harvard University School of Public Health, has conducted research[13] that has attributed the loss of nearly 17 million I.Q. points among American children five years of age and under to one class of insecticides. Other studies have tied herbicides to low birth weights among newborns and pesticides to increases in leukemia among children. And MIT senior research scientist Stephanie Seneff and independent scientist Anthony Samsel have co-authored a series of papers conjecturing that the world's most popular herbicide, glyphosates, could be responsible for increased rates of diabetes, asthma, obesity, dementia, autism, cancer, Parkinson’s and other chronic diseases. Says Seneff: “Glyphosate is insidiously toxic.”

A study done in Germany[14] last year found that 99.6 per cent of Germans tested had traces of glyphosate in their blood, and 14 of the country's most popular beers had glyphosates in them. "It's in flour, it's in bread, it's in beer, it's in vaccines, it's ubiquitous," says Christopher Portier, a scientist and former director at the US National Center for Environmental Health. "It's everywhere in little amounts."

The herbicide atrazine is now found in most drinking water across North America, and in many other parts of the world. Dr. Paul Winchester, a professor of neonatal-perinatal medicine at the Indiana University's school of medicine, has also linked atrazine in the water systems of Indiana to elevated rates of birth defects among infants. "In a sense we discovered the tip of an iceberg of a correlation between pesticides and adverse outcomes," he says. Producers of atrazine have argued there is no credible link between any birth defects and the herbicide.

Moreover, with the introduction of genetically modified seeds in the mid-nineties, these chemicals cannot be removed from food. "We make choices about seatbelts and bike helmets," says Jennifer Sass, a senior scientist at the Natural Resources Defense Council in Washington, DC, "but these chemicals are not things that we can make choices about. It's foisted upon us and it's unavoidable."

As Inka Milewski, a former science advisor for the Conservation Council of New Brunswick, says, "It's not so much that these chemicals make you dead – they just make you sterile, infertile, or they make you dumb or sick or they compromise your immune system."

Auditor General finds chronic problems with PMRA

So how, then, is the PMRA performing? The PMRA was established in 1995 and is governed by the *Pest Control Products Act,* which was written to prevent "unacceptable risks to people and the environment through use of pest control products." With an annual budget of $44-million, it's run by Richard Aucoin, who joined the agency in 1996 and became its executive director nine years ago.

However, the Auditor General of Canada has carried out three investigations into the PMRA since 2003 — and found it wanting.

In its first investigation[15], the Auditor was clearly unhappy with the PMRA, stating “the federal government is not adequately ensuring that many pesticides used in Canada meet current standards for protecting health and quality of the environment.” It found a host of problems at the PMRA, including weaknesses with the studies the agrochemical companies had provided, little follow up on pesticides once they are approved, unrealistic assumptions on how end users will use pesticides, rushing to approve pesticides without following necessary steps, and not ensuring pesticides met current standards.

But most alarmingly was the PMRA’s “heavy use” of temporary registrations, which are now called “conditional” registrations, whereby companies are permitted to sell pesticides without having provided all necessary data to the agency. It’s akin to getting your driver’s license without being able to prove you can drive a car.

When asked about why temporary registrations are given out, Hanson of the PMRA said they were offered in cases where it was deemed "risks were acceptable, but in some situations we needed additional confirmatory information at that time.”

In fact, in 2003, the Auditor found 58 per cent of new pesticides registered the previous year were being sold without their manufacturers having provided all necessary data to the PMRA. “Examples of information gaps at the time of temporary registration include what happens to the pesticide after it is released into the environment, what impact it is likely to have on children's central nervous systems, and how toxic it is to invertebrates and non-target plants,” the Auditor noted at the time.

In 2008, the Auditor did a second audit[16]. By then 272 pesticides had received temporary registrations. In fact, the Auditor discovered nine pesticides had been on the market for more than 10 to 20 years (one as much as 21 years) without agrochemical companies providing all of the data to the PMRA.

Then, in 2015, the Auditor did a new audit[17] and again found[18] “important weaknesses” with the PMRA’s performance, including 80 pesticides were being sold in Canada with temporary registrations – including most of the neonics available in Canada. Overall, the audit discovered a total of nine pesticides had been on the market for a decade or more as conditionally registered – eight of which were neonics – the same number as in 2008. “We also found that the Agency had never exercised its authority to cancel a conditional registration when registrants failed to fulfill the conditions of

registration," they noted. In short, the PMRA was allowing the companies to get off scot-free.

Inadequate, industry-funded studies

Kathleen Cooper, a senior researcher with the Canadian Environmental Law Association (CELA), says agrochemical companies keep delaying providing the PMRA with studies showing how neonics impact on bees. "And they were given deadlines (by the PMRA) to do these studies," she relates. "And they did lousy studies, like one from the University of Guelph in particular. It was considered inadequate, it was industry-funded. So they missed the deadline. So they had another (temporary) registration, so it was re-approved on condition of doing these studies. So they missed that deadline. And then they missed it again. We're still… waiting for the final re-evaluation of the entire group of pesticides and we're still waiting to see the results of those chronic toxicity studies in bees that, you know, they just kept on extending the deadline. And there's no penalty for missing the deadline."

In response to the Auditor's 2015 report, last year the PMRA announced[19] it was going to stop giving conditional registrations – but only on new pesticides, not those currently on the market. This winter, Health Canada began considering phasing out one class of neonics, imidacloprid, due to its impact on aquatic insects – but only over a three-to-five year time frame.

"Rarely will (PMRA) take a pesticide off the market," says Cooper. "They will tweak the label or they will add additional requirements or mitigation for the workers or application rates… But you never get to 'Boy, this thing is bad news'."

Lois Corbett, current executive director of the Conservation Council of New Brunswick and a former senior adviser to three of Ontario's environment ministers, maintains that "over time (the PMRA) was captured by industry. This is not unique to Canada – it's the same in the U.S., same in Europe… I don't think it is a deep conspiracy here. (Industry representatives) are on the phone all the time. They are providing science advice and papers. Because there are billions of dollars of interest at stake here. And they've got the money."

The PMRA may also have been undermined by successive governments, Liberal and Conservative, urging federal bureaucrats to help the private sector

get their products to market. Funding cutbacks and under staffing may not have helped, says John Bennett, senior policy advisor of Friends of the Earth.

PMRA sued by enviro groups

But more significantly, the PMRA uses a “risk-based” assessment model that critics believe ensures no pesticide could ever be banned. This model looks at the probability of a substance causing harm if you are exposed to it, no matter how toxic the chemical is. “It takes into account how much Canadians are actually exposed to the pesticide and determine whether that’s at an acceptable risk or not,” says Annie Bérubé, director of government relations for the Montreal-based environmental group, Équiterre. “(But) the risk-based model is problematic.” Bérubé says this approach is weak on assessing the impact of people being exposed multiple times to pesticides and the cumulative risk. Or, mixing those toxins with other chemicals. “And then there is what is an acceptable risk?” asks Bérubé.

The PMRA’s performance is so weak that it’s often sued by environmental organizations to force the agency to follow the law. In 2013, the legal advocacy group, Ecojustice, on behalf of Équiterre and the David Suzuki Foundation, launched a lawsuit[20] to force the PMRA to review pesticides banned in other OECD countries – as the act demands it must do. “We saw in Europe they were banning (certain pesticides), but in Canada nothing was happening,” says Bennett.

As a result of this lawsuit, the federal government agreed to review the approval of 383 pesticide products containing 22 active ingredients - many of which have links to cancer and water contamination.

Then, last year, Ecojustice filed another lawsuit[21] against the PMRA over neonics, in particular clothianidin and thiamethoxam, arguing the PMRA was engaging in an unlawful course of conduct by allowing them to be sold in Canada without the agrochemical companies having provided all of the scientific data they must furnish. Health Canada and four agrochemical companies formed an alliance to have this lawsuit thrown out of court - but two weeks ago their claim[22] was dismissed, with a judge ruling the lawsuit can proceed.

Farmers, forestry companies dependent on pesticides

So why are pesticides so ubiquitous?

Every year, about 3 billion kilograms of pesticides are sprayed across the globe, constituting a (US) $60-billion market. According to Statistics Canada, the area of farmland treated with herbicides, insecticides and fungicides increased by 3 per cent, 42 per cent and 114 per cent respectively between 2001 and 2011. In Canada, 100 million kilograms of pesticides were sold in Canada in 2014 – up from 82 million kilograms in 2009.

Their popularity is straight forward. The agricultural and forestry industries believe such chemicals maximize yields. After all, pests can destroy crops – a cost borne by farmers or forestry companies.

Last fall, I was in Fredericton researching a story when I had a coffee with David Coon, the sole MLA of the Green Party in New Brunswick. A cheery, soft-spoken, self-effacing 60-year-old and longtime environmental activist, Coon discussed glyphosates with me. They are the most popular herbicide in the world, and the one most heavily sprayed on New Brunswick's forests.

Invented in the 1970s by Monsanto Co., the St. Louis, Missouri-based agrochemical and biotech multinational, nearly 8.6 billion kilograms of glyphosates have been sprayed over the past 40 years around the world. "It's now almost impossible to eat regular food which is not contaminated with glyphosate," says Meg Sears, chair of Prevent Cancer Now, a group raising concern about toxins in the environment.

In New Brunswick, the provincial government sprays glyphosate on Crown land to hinder the growth of hardwood trees – so that softwood trees can flourish. Softwood lumber is coveted by pulp and paper companies to feed their mills.

In 2014, the province signed a 25-year agreement[23] with J.D. Irving Ltd., which runs the region's largest forestry company, guaranteeing Irving a fixed amount of lumber every year. And therein lies the hitch. "In the Acadian forest you cannot convert forests to plantations on a large-scale without spraying (with herbicides)," Coon tells me. "The pulp business is all about maximizing

production at the lowest possible cost. Without herbicides (like glyphosate), costs would go up for sure and other areas would be impossible to harvest."

As a result, says Coon, the province had "boxed itself in" to spray its forests with glyphosate, no matter what the human health and environmental costs. "It's now embedded in the DNA of that (25-year) contract," he says.

Yet glyphosate is now being blamed for wiping out New Brunswick's white-tail deer population, which has fallen from 286,000 in the mid-'80s to 70,000 today. And that's because deer eat hardwood trees – which glyphosate destroys.

Moreover, in 2015, the International Agency for Research on Cancer (IARC) – an advisory arm of the World Health Organization (WHO) – concluded[24] that glyphosate is "probably carcinogenic to humans." Thierry Vrain, who spent 30 years working for Agriculture Canada as a soil biologist and manager, says "hundreds of scientific studies done show that the IARC experts concluded that (glyphosate) basically causes oxidative stress… It's a toxic chemical. OK? So it causes oxidative stress, and it can lead to cancer."

The PMRA, however, refuses to accept IARC's conclusion. "We don't determine (glyphosate) to be a carcinogen," says Hanson.

What's happening in New Brunswick with glyphosate is merely a microcosm of what farmers and forest companies face around the world. They have become fiercely dependent on herbicides, insecticides and genetically-modified seeds – all with the belief these chemicals keep costs under control and profit margins intact.

Which, actually, might not be true. The *New York Times* published an investigation[25] last fall into the performance of genetically modified (GMO) crops – which rely on pesticides – and found they don't produce the promised yields. The newspaper compared yields in Europe – which largely banned GMOs 20 years ago – to that of the US and Canada and discovered no discernible advantage in North America. At the same time, a National Academic of Science report found "there was little evidence" that GMO crops in the US had increased yields either.

Meanwhile, pesticide use has gone up in North America – while it has plummeted in Europe.

Back in Alvinston, Ontario, Munro Honey continues to struggle to keep its bees alive. While queen bees used to last three to four years, Munro finds now they usually only live a year.

Co-owner Davis Bryans is unhappy that neonics are sold without agrochemical companies being forced to show their impact on bees. “We’ve been asking them to do studies on neonics for years and they have been putting them off,” he says, angrily. “The environment is the guinea pig to do the research.”

Next: How the PMRA dropped the ball on Canada's most controversial pesticides

List of Citations

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