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Restricting Neonic Pesticides Is Good For Bees And The Environment

The Ontario government is on the right track with its plan to dramatically reduce the use of 'neonic' pesticides.

By: Faisal Moola Published on Mon Apr 18 2016

In July 2009, a group of scientists met in the small French village of Notre-Dame-de-Londres to discuss precipitous declines in a range of wildlife. They and their colleagues had observed plummeting populations of insects, birds and other species, including common animals like swallows and starlings.

Although they recognized many factors, the scientists knew intensification of agriculture worldwide is a main driver of the biodiversity crisis, with its accompanying destruction

of natural habitats and massive use of pesticides, herbicides and fertilizers. Researchers have reported in the journal *Science* that farmland and pasture now rival natural forest cover, covering 40 per cent of the Earth's land surface.

Although advances in modern agriculture have brought millions of hectares of once-unsuitable scrub land into food production, the environmental consequences of our growing "foodprint" have been severe in some regions, resulting in degraded water quality, widespread soil erosion and rapid declines of many animal and plant species.

Agricultural pollinators such as bees, which are involved in an estimated 35 per cent of global food production, have been especially hard hit across North America and Europe.

The scientists who met in Notre-Dame-de-Londres hypothesized that a new generation of persistent and systemic pesticides, called neonicotinoids, or neonics, were threatening to push already vulnerable populations of insects and other species into a tailspin. These pesticides were introduced into Europe and North America in the 1990s.

They published a joint appeal to global policy-makers to restrict neonic use, under the heading "No More Silent Spring" – referring to Rachel Carson's seminal 1962 book*Silent Spring*, which had generated enormous public attention about widespread ecological damage caused by systemic pesticides like DDT.

Neonics were initially embraced as a kinder, gentler pesticide because they are less directly toxic to humans than older pesticides and are effective at low levels, meaning smaller amounts can be used in farmer's fields. They can be applied to seeds and absorbed into the plant itself, which then becomes toxic to insect pests, reducing the need to spray.

We now know these very characteristics are what make neonics a problem.

Last year, the Task Force on Systemic Pesticides published a comprehensive review of more than 1,000 studies into the environmental impacts of neonics. It concluded that large-scale, prophylactic use of neonics is having significant, unintended ecological consequences on non-target species, including bees, and across terrestrial, aquatic, wetland and marine habitats.

Though designed to kill or deter pests, neonics, like DDT earlier, have wide-reaching ecological impacts, because they act systemically, meaning they diffuse throughout the tissues and sap of treated plants, and are found in the pollen, nectar, flowers and fruit.

According to the Task Force, "Neonics impact all species that chew a plant, sip its sap, drink its nectar, eat its pollen or fruit" and can remain toxic for weeks, months or years. As nerve poisons, they can cause "impaired sense of smell or memory; reduced foraging

in bees; altered tunneling behaviour in earthworms; difficulty in flight and increased susceptibility to disease."

In response to concerns raised by the Task Force, the Ontario government brought in strict restrictions on neonicotinoid use last fall. Quebec has followed suit. New regulations prohibit the use and sale of corn and soybean seeds treated with three commercially available neonicotinoid pesticides, except under certain conditions. That means farmers will no longer be allowed to routinely plant neonic-treated seeds, starting this spring.

However, neonicotinoids continue to be used elsewhere in agriculture, as foliar sprays, soil drenches and seed treatments, in horticulture, golf courses and even in flea and tick treatments for pets. Five neonics are currently registered for use in Canada and are found in more than 100 end-use pesticide products. The French National Assembly recently voted to ban all neonics, on all crops, starting in 2018.

The Ontario government is on the right track with its plan to dramatically reduce neonic use. Evidence-based policy-making is critical to sound management of the environment and economy. Bold action by governments in Ontario, Quebec and, most recently, France, to restrict neonics is evidence that policy-makers are committed to protecting the public good, because bees and other pollinators matter.

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