

Ban 'neonic' pesticides. Our food supplies are at risk

Posted by Joan Russow

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The science of pesticide development and regulation is complex, so let's put things simply: Human beings rely on food to survive. Much of that food comes from insect-pollinated plants. Modern agriculture relies on pesticides to grow that food.

But those pesticides, including best-selling neonicotinoid insecticides – we have learned, through hundreds of peer-reviewed studies from around the world – are killing the pollinators.

Alas, human-made chemicals designed to help grow food are killing the very creatures upon which the entire food system relies so critically.

It's an ironic and unfortunate cycle; and yet, it's precisely the situation in which we find ourselves.

One-third of the human diet comes from insect-pollinated plants. The commercial value of bees to the pollination of crops in Canada alone exceeds \$2-billion annually. Meanwhile, pollinator populations worldwide are in decline.

Why?

In 2015, the Task Force on Systemic Pesticides (TFSP) – an international group of independent scientists convened by the International Union for Conservation of Nature – produced a comprehensive assessment of the science on the ecological effects of

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neonicotinoids. This landmark review, which considered more than 1,100 peer-reviewed studies, as well as data from manufacturers, identified clear evidence of harm to honeybees and a large number of other non-target species.

This week, the TFSP updated the 2015 assessment to take into account more than 500 new peer-reviewed studies. The new assessment reveals broader impacts and reinforces the 2015 conclusions: Neonics represent a major worldwide threat to biodiversity and ecosystems and the benefits we receive from nature.

These findings reiterate the need to stop all agricultural uses of systemic pesticides, including most urgently their prophylactic use in seed treatment, such as in corn and soy production. The use of these pesticides runs contrary to environmentally sustainable agricultural practices. It provides no real benefit to farmers, decreases soil quality, hurts biodiversity and contaminates water, air and food. There is no longer any reason to continue down this path of destruction.

So, what's so special – and dangerous – about this particular type of pesticide?

Neonicotinoid pesticides ("neonics") are systemic pesticides, meaning they are absorbed by the plant and integrated into all plant tissues – roots, stems, leaves, flowers – as well as pollen and nectar. First introduced in the 1990s, neonics are now the most widely used insecticides in the world. Agricultural applications include seed treatments, soil treatments and foliar sprays. Neonics are also used in forestry, flea treatments for pets, domestic animal breeding and commercial lawn-care products.

A closely related systemic pesticide, fipronil, is currently at the centre of a growing food safety scandal in Europe after high levels of the toxic insecticide were detected in egg products sold in 15 EU states, plus Switzerland and Hong Kong. Millions of eggs have been recalled across Europe out of concerns that contaminated eggs pose a serious safety risk to consumers. While fipronil is not currently registered for use in Canada, a cocktail of neonics is regularly employed in food production for human consumption in Canada.

In 2013, the European Union [imposed a moratorium](#) on certain uses of imidacloprid, clothianidin and thiamethoxam on bee-attractive crops and is now considering a proposal to extend this moratorium. In my home country of France, our new biodiversity law includes a

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provision to ban all neonics starting in September, 2018.

While countries around the world are starting to take action on neonics, North American regulators have been slow to act.

Taking an important step forward, Health Canada's Pest Management Regulatory Agency (PMRA) has now proposed to phase-out imidacloprid for agricultural and most other outdoor uses, but not until 2021 at the earliest. Environmental groups are rightly calling for a faster phase-out plan and comprehensive action to end the use of all neonics.

Over all, the global experiment with neonics is emerging as a clear example of pest-control failure. Governments around the world – including Canada – must follow the lead of countries such as France to ban neonics and move toward sustainable, integrated pest-management models, without delay.

The health of our ecosystems and food sources depends on it.

Dr. Bonmatin is in Ottawa and Toronto this week for a major TFSP research release