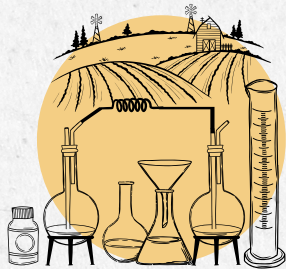


# Neonics:

## What's the big deal, anyway?



### When were they introduced?

Neonicotinoids were introduced by Bayer CropScience in the 1990s as a new class of insecticides. Since then, many more neonic products have been developed and are extensively used in agriculture and pest control.



### How do they work?

Neonicotinoids work by targeting the nervous system of insects, disrupting nerve signaling and ultimately leading to paralysis and death. They are systemic chemicals, transported through the entire plant, making all parts toxic to insects and leading to environmental contamination in soil and water.



### How often are they used?

Neonicotinoids are now the most widely used class of pesticides globally, with extensive application in agriculture, landscaping, residential, and pet care, despite research highlighting their devastating ecological impacts. 95% of corn seed planted in the US is coated with neonics.

**Neonics are so toxic that a single treated seed can kill 80,000 bees.**

**Scientific studies show that use of neonics is a primary cause of pollinator decline.**



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[www.pollinatorstewardship.org](http://www.pollinatorstewardship.org)



# How do neonics impact pollinators?



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Neonics are absorbed by plants, making their leaves, nectar, pollen, and fruit toxic to insects. Up to 97% of the pesticide leaves the seed and end up in the soil and water, where it can kill non-target organisms. According to the EPA, neonics are driving over 200 species toward extinction, including some key pollinators.

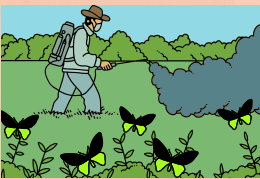
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The primary types of exposure are acute and sublethal. Acute exposure is typically a single, short-term contact with a harmful substance that causes immediate effects, symptoms include 100 or more dead bees around the hive for every frame of bees. Sublethal chronic includes pesticide contact that causes effects below the level of death but impacts health or behavior, impairing vital functions such as communication, foraging, reproduction, immune function, and disease resistance, akin to lead poisoning in humans and is the most common type of exposure. Sublethal exposure symptoms are often overlooked by beekeepers, seeing issues like varroa as the primary cause of loss when it could be an secondary opportunistic factor due to issues like lowered immune function from sublethal neonic exposure.



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Widely used in agriculture, particularly on crops such as corn and soybeans, and applied as seed coatings, soil injections, and foliar sprays. They are also used in horticulture and nurseries for ornamental plants, in forestry settings for pest control, and in residential areas for pest control in gardens and lawns as well as pet care products. Recent research indicates that a typical range of 67-95% of groundwater samples contain at least one neonicotinoid.

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In your home, use pollinator friendly landscaping methods, avoid residential use of pesticides, and buy organic whenever possible. Advocate for and support pollinator friendly policies and projects including local and state bans on neonic use, education for regenerative farming, and pollinator forage and garden projects. Support legal and legislative advocacy by joining the Pollinator Stewardship Council.

