

Neonicotinoids are a group of non-selective, toxic pesticides.

There are eight different neonicotinoids, also known as neonics, and related compounds falling into three categories:

N-nitroguanidines:

imidacloprid, thiamethoxam, clothianidin and dinotefuran

Nitromethylenes:

nithiazine, nitenpyram

N-cyanoamidines:

acetamiprid and thiacloprid

In Australia, these compounds are marketed under brands such as Confidor, Talon ant killer, Defender Maxguard, Amgrow Rose spray and Quickbayt flybait to name a few.

In fact there are hundreds of Neonic products approved for use by the Australian Pesticides and Veterinary Medicines Authority in Australia (APVMA).

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WHAT ARE NEONICOTINOIDS?

Project Pollinator First



Project Pollinator First is an initiative of
the Bee Collective

Insect numbers are decreasing across the world.

In Europe and North America, numbers of insect species, such as the monarch butterfly have dropped by 90% in the past 20 years.

In Australia, research is limited however an increase in the use of pesticides such as neonicotinoids, has been linked to a dramatic drop in insect numbers.

Neonicotinoids (or neonics) are a class of pesticides that target the nervous system of insects. Neonics are less expensive to make and less toxic to humans than other products, making them an appealing option for agricultural applications.

However, new research has demonstrated neonics are far more toxic to insects, including those not targeted by agricultural practices than prior industrial insecticides.

Neonics can be sprayed, or more commonly are used to coat seeds so that as the plant grows its entire structure is toxic.

Key Issues

Toxicity

Neonics pervade the entire plant structure, infecting the sap, nectar and pollen of a plant. This makes the entire plant toxic to any visiting pollinators – caterpillars on leaves, insects on flowers, bees, birds and bats are all at risk of poisoning or death on exposure.

An increase in pesticide toxicity loading over the past 26 years, potentially threatens the health of honey bees and other pollinators.

Non-Target Species

Pollinators have complex social networks.

Neonics interrupt these networks by killing indiscriminately, creating break points between species.

The Safety Data Sheets for neonics states it is highly toxic to invertebrates, birds and aquatic life.

This is backed by field evidence of bird poisonings including recent finds of dead parrots in Western Victoria, Australia.

Bees

Research has shown bees are attracted to flowers sprayed with neonics because of its nicotine-like effect on brain cells. Bees then take the poisoned nectar and pollen back to the hive where it impacts brain development of baby bees.

Neonics also impair learning and memory in bees resulting in reduced nesting and failure to build brood cells.

In 2017, 3 out of 4 hives surveyed across the globe contained neonicotinoids.

Environment

Neonics have a long soil life and are water-soluble – they travel from the soil to the water table when it rains, runoff into rivers and sit in puddles on roadsides and in farmland.

Previously safe drinking and breeding places become toxic to pollinators and other non-target species, and where neonics have been restricted to greenhouse use in the UK, those rivers have become heavily polluted with neonics.