

Neonicotinoids were developed to effectively kill unwanted insects on crops while being harmless to humans and other mammals.

Neonicotinoids are systemic pesticides, meaning they're in every part of a plant. Generally, seeds are coated in the pesticide before they're planted, and, as a plant develops, the chemicals move into the leaves, roots, pollen, nectar, and even the food products eventually made from the crop. If insects feed on any part of the plant — even water droplets released by plant leaves — the pesticide, a neurotoxin, kills them. In the case of honeybees, if the amount of pesticide ingested isn't strong enough to kill them, it can still cause impaired communication, disorientation, decreased life span, suppressed immunity and disruption of brood cycles.

A recently published paper has found that exposure to the insecticide caused an 85% reduction in the production of queen bees, which are crucial to establish new colonies.