



WHAT ARE NEONICS DOING FOR YOU?

WHAT ARE NEONICS?



Neonicotinoids ("Neonics") are a class of systemic insecticide that are absorbed by plants when applied and expressed in all plant tissues including the foliage, nectar, and pollen. They are most commonly used to treat seeds on row crops.

HOW DO THEY IMPACT OUR ENVIRONMENT?

Threatens non-target insect life

Research suggests that neonics have made U.S. agriculture 48x more harmful to insect life since their introduction.



Chemicals move off seeds

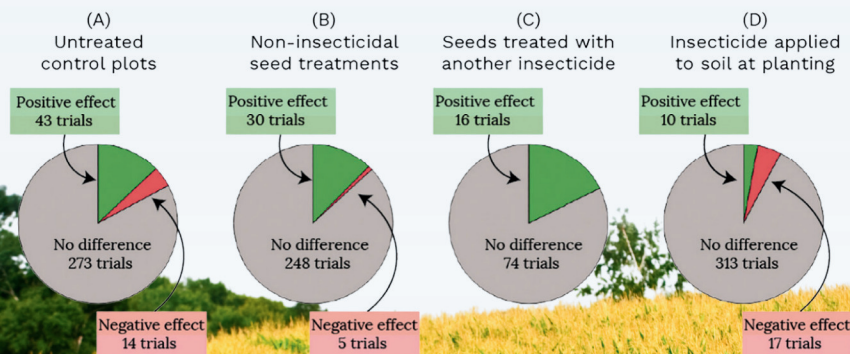
Research suggests that only 2-20% of the active ingredient on neonicotinoid-treated seeds gets taken up by the plant while >90% might remain in the environment and move into non-target soil, water, and plants.



DO NEONICS PROTECT CROP YIELD?

Extensive research from Cornell University found that corn, soybean, and other seed coatings provide **no overall economic benefits to farmers.**

Effect of neonicotinoid-treated corn seeds on yield compared to:



Find this report and more at popvt.org/resources

HOW DO NEONICS IMPACT THE CROP FOOD SYSTEMS?

Kill off predator pests

Neonics **kill natural predators of plant pests**, such as carabid beetles, spiders, and parasitoid wasps, that many farmers count on for pest control. Studies show that **neonic use can increase pest pressure** by eliminating the predators of common pests, thereby perpetuating the need to apply the insecticide.

Soil Health

Neonics can also harm soil insects, like earthworms, that are critical to nutrient cycling and soil stability. Some research shows that neonics may even harm soil microbes that are important for plant growth, nitrogen cycling, and improved soil fertility.

Impacts to bees

In 2023, **29.5% of bee-collected pollen samples tested positive** for at least one neonicotinoid. Honey bees are most likely to come in contact with neonicotinoids during times of seed planting (~May) and corn tasseling or soybean bloom (~August).

LEARNING FROM QUEBEC

In 2019, Quebec passed restrictions on neonic treated seeds.

In January 2024, UVM Extension and the Vermont Bee Lab hosted a panel discussion to learn how Quebec farmers made the transition from neonicotinoid treatments. Here's what they had to say:

- **Seed companies have adjusted to market demand** in Quebec and there is little issue with sourcing seeds.
- **They continue to find no difference in yields.** To prevent pest problems from occurring, Quebec farmers rely on quick crop rotations, usually 1-2 years (e.g. corn, legumes, and winter rye), which builds diversity in the soil.

WHAT CAN YOU DO TO REDUCE THE RISK OF NEONICOTINOIDS?

The best way to reduce neonicotinoid exposure to honey bees is to avoid their use altogether.

Research possible alternatives, commit to integrated pest management practices, and avoid spraying during bloom times of nearby, pollinator-attractive forage. Check out your seed labels & ask your seed company representatives about options for non-treated seeds.

