

What are Neonic Pesticides and how are they impacting Wisconsin?

Neonicotinoids In Wisconsin

- Neonicotinoids (neonics) are the most widely used insecticide in Wisconsin and globally. Introduced in the 1990s, these chemicals dissolve easily in water, accumulate in soil, and persist in the environment. In the Midwest, most neonics are applied as a seed treatments, allowing the pesticide to be absorbed into the plant's tissue. As pests consume the plant, they ingest the pesticide, resulting in death or impaired behavior. Some of the pesticide washes off the seed, posing serious risks for non-target species.

WIDESPREAD USE OF NEONICS

Prevalence: In the United States, nearly all corn and nearly half of soybean seeds are treated with neonics before they are purchased by growers. In Wisconsin, neonics are registered for use in more than 500 products.¹

Economic Factors: Some companies require neonic seed treatments for growers to qualify for full seed reimbursements if the stand fails, encouraging use even without pest threats.

Limited Yield Benefit: Neonic treatments often have little to no impact on soybean² or corn³ yield.

HUMAN HEALTH CONCERNS

Pregnancy Risks: Neonics were found in 95% of pregnant women⁴ and are linked to birth defects, autism-like symptoms, hormonal imbalances, reduced sperm quality, and metabolic changes.

Disproportionate Impact: Some populations, particularly Hispanic communities, face higher exposure levels.⁴ While eating organic food and using advanced water filtration can reduce exposure, these options are not always affordable or accessible.

Rising Food Costs: Pollinator loss reduces crop yields, driving up food prices.

ENVIRONMENTAL IMPACT

Water Contamination: Due to their high solubility, neonics easily wash off treated seeds and contaminate Wisconsin groundwater⁵ and surface waters.⁶

Biodiversity Decline:

- Neonic exposure⁷ has been found to contribute to insect and bird population decline.⁸
- A 2023 EPA report warned that continued neonic use could push over 200 endangered species toward extinction.⁹

Effects on Aquatic Life: Neonics disrupt food webs,¹⁰ impair fish behavior,^{11,12,13} and reduce survival rates.

Pollinator Decline: Even low-level exposure affects bee behavior, colony health, and pollination efficiency.^{14,15,16} Pollinator-dependent crops account for nearly one-third of the global food supply,¹⁷ including key Wisconsin crops like cranberries, apples, and cherries.

Impacts on Deer: Exposure leads to smaller jawbones, lower body and organ weight, hypothyroidism,¹⁸ and increased fawn mortality.

REGULATION AND POLICY

Regulatory Gaps: The EPA's Federal Insecticide, Fungicide, and Rodenticide Act "treated articles" exemption allows pesticide-coated seeds to avoid regulation.¹⁹

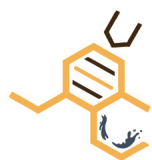
Wisconsin Monitoring Efforts: State agencies (DATCP, DNR, DHS) track pesticide contamination but lack enforceable standards for neonics, limiting regulatory action.

Federal Review: The EPA is currently reassessing neonic regulations, including risks to endangered species and human health.

State-Level Bans: Colorado,²⁰ Washington,²¹ and California,²² are among states that have restricted neonic use.

- New York's Birds and Bees Protection Act phases out the use of most neonic seed treatments unless pests are verified.²³

Global Action: The EU banned outdoor neonic use in 2018. Ontario and Quebec require growers to justify neonic use based on an identified pest issue, which has drastically reduced their overall usage.^{24,25,26}



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RESOURCES

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