March 11, 2026

Representatives Rick Hansen and Paul Andersen, Co-Chairs
House Agriculture Finance and Policy Committee

Re: Support for H.F. 3704 (Pursell) to Limit Unnecessary Pesticide Use

Dear Co-Chair Hansen and Co-Chair Anderson,

The undersigned 46 organizations, farms, and businesses, representing tens of thousands of Minnesotans, write to support **H.F. 3704 (Pursell)** to address unnecessary uses of insecticides, especially neurotoxic neonic pesticides. Neonic contamination poses risks to children's health, affordable and healthy produce, clean water, and outdoor industries like angling and birdwatching. Meanwhile, the most widespread uses in Minnesota fail to economically benefit the farmers that use them, instead representing a needless input cost that eats into farmers' already thin margins. **The bill does not ban use of neonics or any other insecticide**, but reins in high-cost uses with negligible benefits.

Neonics are found everywhere: in the bodies of 95% of pregnant women nationwide;[1] in 94% of Minnesota's white-tailed deer;[2] and in at least 80% of surface water samples statewide.[3] Contamination poses risks to people and devastates ecosystems:

- **Neonics pose risks to children's health.** Studies show that neonic exposure is widespread and especially harmful to our most vulnerable. Neonics pass easily from a pregnant person to the developing fetus. Prenatal exposure to these neurotoxins is associated with malformations of the heart and brain[4] and cognitive impairment.[5] Animal studies suggest additional cause for concern, associating neonic exposure with elevated risk of other neurological, reproductive, and developmental harms.[6]

- **Neonics threaten availability of affordable and healthy food**. Neonics wipe out pollinators, degrade soil health, and kill pest predators that farmers rely on to feed Minnesotans. Pollinator declines are already lowering yields of some crops[7] and contributing to malnutrition globally.[8] As pollinator-dependent crops become scarcer, prices will likely continue to increase, worsening the affordability crisis for families.

- **Neonics threaten bird and fish populations that support multi-billion dollar industries in Minnesota.** They are highly toxic to aquatic invertebrates that fish,[9] birds,[10] and other wildlife rely on for food. As a result, neonics have been linked with the collapse of fisheries,[11] declining mayflies,[12] and loss of grassland and insect-eating bird populations.[13]

Neonic-coated corn and soybean seeds are likely responsible for at least 90% of the neonic contamination entering Minnesota's environment. Nearly all conventional corn and about half of soybeans in the state are grown from neonic-coated seed, covering upwards of 12 million acres with neurotoxic neonics each year. In a letter to U.S. EPA, the Minnesota Department of Agriculture explained its own data showing that documented bee kills and "elevated and concerning" neonic levels in water coincide with the corn and soybean planting period.[14] Meanwhile, studies show that neonic

seed coatings provide little to no benefit to farmers in many circumstances—especially in corn and soybean in northern states like Minnesota.[15]

H.F. 3704 (Pursell) would direct the Department to develop a regulatory program to ensure that insecticide-coated seeds are used only where needed, while granting MDA broad discretion to implement the program in a way that works for Minnesota farmers. It would also prohibit lawn and garden uses that create toxic hotspots without benefitting farmers—eliminating the vast majority of neonic contamination by reining in high-cost, low-benefit neonic uses.

These are proven, targeted solutions to neonic contamination. In 2019, Quebec, Canada implemented a verification of need program for neonic-coated corn and soybean seeds.[16] The program has successfully reduced neonic contamination while preserving farmer yields—and the province now plans to expand the program to all insecticide seed coatings. New York and Vermont have also passed legislation to rein in unnecessary neonic-coated seed use; those programs will be implemented in the coming years. New Jersey, Maine, New York, Vermont, and Nevada have already prohibited lawn and garden neonic uses.

It is time for Minnesota's leaders to act—for children, for pollinators, and for the future of Minnesota's food systems. We urge your support for this crucial bill, which takes a common-sense approach to tackling the neonic contamination crisis.

Respectfully,

Alliance for Sustainability
American Bird Conservancy
Audubon Upper Mississippi River
Austin Audubon Society
Austin Chapter 10 Izaak Walton League of America
Backcountry Hunters and Anglers - Minnesota Chapter
Bicycle Alliance of Minnesota
Central Minnesota Audubon Society, Inc.
Clean Water Action
Climate Land Leaders
Conservation Minnesota
CURE
Environment Minnesota
Environmental Working Group
Fly Fishers International - Upper Midwest Council
Friends of Minnesota Scientific and Natural Areas
Heirloomista Farm

Land of Lakes Bird Alliance
League of Women Voters of Ottumwa
League of Women Voters Upper Mississippi River Region Interleague Organization
League of Women Voters, Edwardsville Glen Carbon
Metro Blooms
Midwest Farmers of Color Collective
Minnesota Center for Environmental Advocacy
Minnesota Division Izaak Walton League of America
Minnesota Environmental Partnership
Minnesota Herpetological Society
Minnesota River Valley Audubon Chapter
NRDC Action Fund
Pesticide Action & Agroecology Network
Pollinate Minnesota
Pollinator Friendly Alliance
Renewing the Countryside
Rochester Chapter Izaak Walton League of America
Roots Return Heritage Farm LLC
Sierra Club North Star Chapter
St Croix Oak Savanna Chapter Wild Ones Native Landscaping
Starry Skies North
Twin Cities Crickets by Nimble Lifecycle, LLC
Twin Cities Trout Unlimited
Twin Tiger Farm & Gardens
Vote Climate
Wes Libbey Northern Lakes Chapter of Izaak Walton League of America
Wild Farm Alliance
Wild Ones - Arrowhead Chapter
Zumbro Valley Audubon Society

[1] Jessie Buckley et al., Exposure to Contemporary and Emerging Chemicals in Commerce among Pregnant Women in the United States: The Environmental influences on Child Health Outcome (ECHO) Program, Environ. Sci. Technol. 56(10), 6560-6579 (2022), https://pubs.acs.org/doi/10.1021/acs.est.1c08942.

[2] Dan Gunderson, Data show increasing insecticide levels in Minnesota deer, MPR News (Aug. 23, 2022), https://www.mprnews.org/story/2022/08/23/data-show-increasing-insecticide-levels-in-minnesota-deer.

[3] Minn. Dep't of Agriculture, 2024 Water Quality Monitoring Report Table 3-1 (June 1, 2025), https://wrl.mnpals.net/node/4355 (clothianidin found in 80% of river and stream samples); Berens et al., Neonicotinoid Insecticides in Surface Water, Groundwater, and Wastewater Across Land-Use Gradients and Potential Effects, (2021), https://bit.ly/4fl5L67.

[4] Dr. Jennifer Sass, Neonic Pesticides: Potential Risks to Brain and Sperm (Jan. 6, 2021), https://www.nrdc.org/bio/jennifer-sass/neonic-pesticides-potential-risks-brain-and-sperm.

[5] Robert Gunier et al., Prenatal Residential Proximity to Agricultural Pesticide Use and IQ in 7-Year-Old Children (May 25, 2017), https://pubmed.ncbi.nlm.nih.gov/28557711/.

[6] Dr. Jennifer Sass, Neonic Pesticides: Potential Risks to Brain and Sperm (Jan. 6, 2021), https://www.nrdc.org/bio/jennifer-sass/neonic-pesticides-potential-risks-brain-and-sperm.

[7] J.R. Reilly et al., Crop production in the USA is frequently limited by a lack of pollinators (July 29, 2020), https://winfreelab.com/wp-content/uploads/2020/07/Reilly2020_PRSB.pdf.

[8] Harvard T.H. Chan School of Public Health, Pollination loss removes healthy foods from global diets, increases chronic diseases causing excess deaths (Dec. 14, 2022), https://hsph.harvard.edu/news/pollination-loss-removes-healthy-foods-from-global-diets-increases-chronic-diseases-causing-excess-deaths/.

[9] *See, e.g.*, Masumi Yamamuro et al., *Neonicotinoids Disrupt Aquatic Food Webs and Decrease Fishery Yields*, Science (Nov. 1, 2019), https://bit.ly/34rKCSG.

[10] Yijia Li et al., *Neonicotinoids and Decline in Bird Biodiversity in the United States*, Nat. Sustain. (Aug. 10, 2020), https://go.nature.com/2F3Mz0u.

[11] Masami Yamamuro et al., Neonicotinoids disrupt aquatic food webs and decrease fishery yields (Nov. 1, 2019), https://www.science.org/doi/10.1126/science.aax3442.

[12] Paul Van Den Brink et al., Acute and chronic toxicity of neonicotinoids to nymphs of a mayfly species and some notes on seasonal differences (Jan. 2016), https://pubmed.ncbi.nlm.nih.gov/26419398/.

[13] Yijia Li et al., *Neonicotinoids and Decline in Bird Biodiversity in the United States*, Nat. Sustain. (Aug. 10, 2020), https://go.nature.com/2F3Mz0u.

[14] Letter from Thom Petersen, MDA to U.S. Environmental Protection Agency (Feb. 9, 2024), Regulations.gov Docket No. EPA-HQ-OPP-2023-0420, available at https://www.regulations.gov/comment/EPA-HQ-OPP-2023-0420-0139.

[15] *See, e.g.*, Jocelyn Smith et al., *Quantifying Early Season Pest Injury and Yield Protection of Insecticide Seed Treatments in Corn and Soybean Production in Ontario, Canada*, J. of Econ. Entomology 113(5), 2197-2212 (Oct. 2020), https://bit.ly/3G4GDl3; Jacob Pacenka et al., *IPM Reduces Insecticide Applications by 95% While Maintaining or Enhancing Crop Yields Through Wild Pollinator Conservation*, PNAS 118 (44) (Oct. 25, 2021); Mourtzinis et al., *Neonicotinoid Seed Treatments of Soybean Provide Negligible Benefits to U.S. Farmers*, Scientific Reports 9 (11207) (2019), http://bit.ly/3tvOUH8; Genevieve Labrie, *Impacts of Neonicotinoid Seed Treatments on Soil-Dwelling Pest Populations and Agronomic Parameters in Corn and Soybean in Quebec (Canada)*, PLoS ONE 15(2): e0229136 (2020), http://bit.ly/3g2FDn1.

[16] Louis Robert, Commentary: Québec's experience with pesticide ban offers a glimpse of what New York can expect, *Albany Times Union* (Oct. 2023), available at https://www.timesunion.com/opinion/article/quebec-s-pesticide-ban-experience-previews-n-y-18397410.php; NRDC, Need-Based Use Programs for Insecticides Work (Dec. 2025), https://www.nrdc.org/sites/default/files/2025-12/Need_Based_Pesticides_FS_25-12-B_06_locked.pdf.

March 11, 2026

Chair Rick Hansen and Chair Paul Anderson
Agriculture Finance and Policy Committee
Minnesota House of Representatives

RE: Testimony of NRDC Action Fund in Strong Support of H.F. 3704

Co-Chairs Hansen and Anderson and Members of the Committee:

NRDC Action Fund submits the following testimony in support of H.F. 3704. This bill will provide urgently needed reductions in use of harmful and unnecessary insecticides, while preserving flexibility for farmers to address real pest problems.

Neonicotinoid insecticides (neonics) are the most commonly used insecticides nationwide, used mainly as coatings for field crop seeds.[1] Neonic-coated seeds may now represent the largest annual deployment of insecticides in U.S. history,[2] with pollution building up in Minnesota's environment year after year. Meanwhile, needless lawn and garden neonic use creates toxic hotspots in the places where many Minnesotans live, work, and play.

The harms to Minnesota's agriculture, wildlife, and people from widespread, prophylactic use of neonics far outweigh their limited benefits. Neonic and other systemic insecticide seed treatments drive massive contamination of land, water, wildlife, and our communities, with serious consequences:

- **Neonics pose risks to Minnesotans' health.** Neonics appear in the bodies of half the U.S. population at any given time. They have been detected in more than 95% of pregnant women tested across the country,[3] with levels steadily rising, indicating worsening, widespread exposure. Research links neonic exposure to birth defects of the heart and brain and cognitive impairment in prenatally exposed children,[4] as well as lower testosterone, sperm count, and sperm quality in adults.[5]

- **Neonics jeopardize access to healthy and affordable food.** Neonic contamination is a leading cause of dramatic losses of bees and other pollinators that cut into farmers' bottom lines.[6] One neonic-treated corn seed contains enough active ingredient to kill 250,000 bees.[7] They also harm beneficial insects that naturally control pests, and they degrade soil health.[8] Ultimately, they threaten the viability of our food systems.

- **Neonics contribute to mass losses of wildlife that support billions of dollars of economic activity in Minnesota.** Neonics wipe out insects and other invertebrates that countless species, including birds and fish, rely on for food. These impacts travel up the food chain, jeopardizing the natural landscapes and wildlife that make Minnesota unique.

Systemic insecticide seed coatings benefit multinational corporations, not farmers. Neonic seed treatments are applied to certain field crop seeds by default, not based on actual pest pressure, padding the pockets of multinational seed and agrichemical companies at Minnesotans' expense. Research shows that these seed treatments rarely improve yields in corn and soybean, and even if they do, it is not at levels that would allow farmers to recoup the costs of purchasing

the seed treatment.[9] In some cases, they actually harm yields, by undermining soil health and killing beneficial insects that help control pests.

H.F. 3704 builds on successful models for reducing unnecessary neonic contamination. Since 2019, Quebec, Canada, has operated a need-based use program for neonic seed coatings for field crop seeds.[10] The program has successfully and dramatically reduced use of neonic seed coatings and the resulting runoff,[11] without impacting yield.[12] As a result of this success, the province recently expanded the program to include all insecticide seed coatings. New York and Vermont have passed similar laws,[13] which go into effect in 2029– H.F. 3704 aligns with this timeline.

Restricting wasteful non-agricultural uses of neonics follows even broader precedent. New Jersey, Maine, Nevada, New York, Vermont, California, Colorado, Maryland, and more have restricted these unnecessary pesticide uses.

In sum, H.F. 3704 adapts common-sense, proven solutions from other jurisdictions to fit Minnesota's needs. It would protect Minnesotans and our environment by reining in the state's number one source of neonic pollution. With more damage done every day, Minnesota's legislature must act now. **We urge you to advance this important legislation.**

The Science Supporting H.F. 3704 Is Strong and Clear: Detailed Analysis

The body of scientific evidence supporting H.F. 3704 is robust and growing. We provide a detailed summary of the harms, pollution, and inefficiencies resulting from widespread use of neonic-treated seed below.

I. Neonics Are Toxic, Persistent, and Everywhere

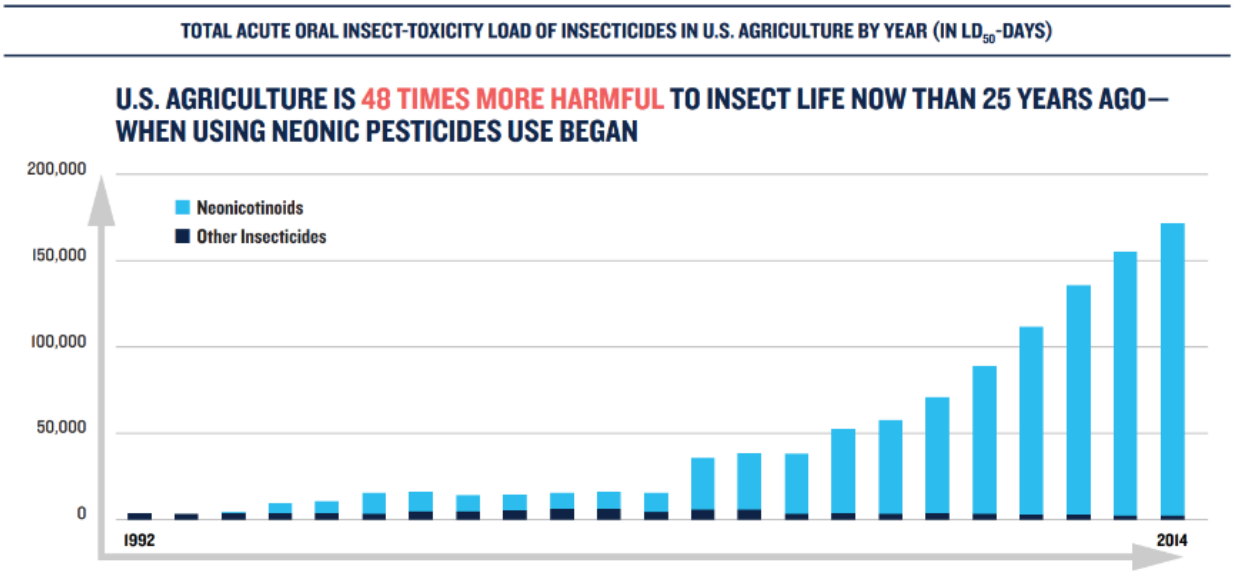
Neonics are the most widely used insecticides nationwide. They cause widespread ecological destruction and pose risk of harm to children's health. There are three factors that make neonics especially problematic for the environment and public health.

First, neonics are extremely toxic to insects and other invertebrates. For example, just one corn seed treated with a neonic product at EPA-approved rates can contain enough pesticide to kill over 250,000 bees.[14]

Second, neonics are exceptionally good at contaminating the environment. Unlike older, conventional insecticides, neonics are "systemic," meaning they are absorbed by plant tissues in order to make the plant itself—including its nectar, pollen, and fruit—toxic. To achieve this result, neonics dissolve easily in water and persist for long periods in soil. Because neonics build up in areas of year-after-year use[15] and spread out with each rainfall or watering, their extensive and continual use has caused ubiquitous contamination of large portions of the country's soil, water, and plant life.

Third, neonics are the most widely used insecticides in the United States. Nearly all conventional corn[16] and about half of soybean is estimated to be grown from a neonic-treated seed meaning neonics are likely used on about 11 million acres in Minnesota on those two crops alone.[17] But they are also widely approved as seed treatments on other crops.

Neonics' toxicity, persistence, and widespread use have massively increased harm to insect populations. One study estimates that since neonics were first introduced, U.S. agriculture has become 48-times more harmful to insect life.[18] Ninety-eight percent of this increase was attributable to neonics, the number one use of which is on treated seeds (see figure below).



Data from Michael DiBartolomeis et al., "An Assessment of Acute Insecticide Toxicity Loading (AITL) of Chemical Pesticides Used on Agricultural Land in the United States," *PLoS One* (August 6, 2019).

II. Neonic Contamination Is Widespread

Neonics broadly contaminate land, water, wildlife, and even people's bodies nationwide. The U.S. Geological Survey (USGS) has detected neonics in a about half of stream samples nationwide.[19] A recent analysis by Dr. Pierre Mineau suggests that Minnesota is no exception to widespread contamination.[20] Dr. Mineau found that of sampling sites regularly tested by the Minnesota Department of Agriculture (MDA), 95% showed positive neonic detections. Detections frequently exceed benchmarks for harm to aquatic ecosystems set by the U.S. Environmental Protection Agency.

More recently released MDA testing found clothianidin, just one neonic commonly used as a seed treatment, in 80 percent of all surface water samples and 49 percent of all groundwater samples.[21] This is consistent with independent testing finding at least one neonic in 97% percent of creek and river samples across the state.[22]

Treated seeds are the leading source of contamination. As MDA has said, its data "detail significant relationships between the corn and soybean planting dates in Minnesota and surface water detections for neonicotinoids found on treated seed and the timing of bee kill investigations. The MDA has consistently . . . found a significant connection between the detection of clothianidin and imidacloprid in Minnesota rivers and streams at concentrations exceeding the EPA's chronic aquatic life benchmarks (ALB) for freshwater invertebrates and the statewide treated corn and soybean planting period." [23] (Attachment A) In other words, MDA's

own data show that treated seed use is a leading cause of neonic contamination that puts Minnesota's aquatic ecosystems and pollinators at risk.

Neonic contamination extends to wildlife in Minnesota and beyond. Studies by the Minnesota Department of Natural Resources documented neonics in 61% of white-tailed deer in 2019, and in 94% of deer in 2021.[24] In 2021, Neonic concentrations exceeded levels linked with harms to deer in 64% of deer. [25] In Texas between 2020 and 2022, over one third of birds tested positive for imidacloprid.[26] And a 2026 study in North Dakota detected neonics in 13%, 15%, and 35% of bobcats, fishers, and river otters, respectively.[27]

In 2019, the Centers for Disease Control and Prevention (CDC) published the updated results of its national biomonitoring program, which measures pesticides in the urine of thousands of Americans age three and older.[28] The update included data from 2015-16, and was the first to include neonics. The results showed that roughly half of the U.S. general population is exposed to neonics on a regular basis, with children having higher levels than adults.[29]

More recent data suggests that neonic exposures have grown significantly in recent years, with risks of exposure especially acute for pregnant women and young children. A 2022 multistate study of 171 pregnant women found that over 95% had neonics or neonic degradates in their bodies.[30] Detection levels generally exceeded previous CDC findings and, alarmingly, detection also steadily increased over the course of the four-year study period (2017-2020) – both in frequency and in magnitude – with the highest levels in Hispanic women.

Together, these studies show that neonic contamination is widespread and getting worse.

III. Neonics Threaten the Health of Minnesota's Residents, Especially Children

Neonics are chemically similar to nicotine. They attack nerve sites that insects and humans share, which play a central role in the operations of our brain and nervous systems.[31] More specifically, critical parts of the brain are densely populated with nerves containing the particular nACh receptor area targeted by neonics (the α4β2 subunit), including: the cortex (responsible for planning, judgment, creativity, inhibition, attention, memory, language); the thalamus (emotion, memory); and the cerebellum (posture, balance, coordination, speech).[32]

Health experts have long been concerned about the impact of nicotine-like substances on the brain—a reason they have long warned pregnant women to avoid nicotine.[33] A growing body of research now links neonic exposures to elevated risk of developmental or neurological damage in humans, particularly in infants and young children.[34] These include malformations of the developing heart and brain, autism spectrum disorder, cognitive impairment, memory loss, and tremors.[35] Research also finds associations between higher neonic exposure and impairments to metabolic processes like insulin regulation and fat metabolism.[36]

Animal testing shows an even broader range of concerning injuries with implications for human health, including: multiple birth defects and increased rates of death for the fawns of white-tailed deer fed "field realistic" (i.e., "real world") levels of neonics in water;[37] reduced thyroid functioning in deer;[38] and in prenatally exposed rodents, deficits such as thinner brain cortexes and other brain abnormalities, altered behavioral reflexes, and decreased sperm and testosterone levels.[39] New research also shows neonics can target mammalian ovaries, resulting in significantly fewer egg follicles, and more unhealthy ones.[40] All of these studies have implications for similar risks to people.

Information and studies collected by EPA reaffirm the risks posed by neonics, yet these risks are often undercounted and ignored in regulatory decision-making. EPA poisoning reports reveal that hundreds of people have been poisoned with neonics, with some fatalities reported.[41] A recent analysis of pesticide manufacturer-submitted toxicity studies also concluded that EPA is ignoring statistically significant harms in those studies, meaning EPA's regulatory standards are likely inadequate to protect Americans from widespread exposure.[42]

These widespread and growing exposures are a considerable concern for childhood neurological development. A 2022 study shows that neonics flow through the placenta, and then to all the fetal tissues including the developing brain and nervous system.[43] Previously, Japanese researchers had identified neonics in the urine of newborn babies, further supporting the idea that neonics pass from a pregnant mother to her developing fetus.[44] This is highly concerning given the multitude of studies suggesting developmental risks from neonic exposure.

People are commonly exposed to neonics through food and water.[45] Conventional chlorination alone, without carbon filtration treatment, generally fails to remove neonics from drinking water.[46] More concerning still, neonics break down in water, forming chemicals that can be several hundred times more toxic to people than the original neonic chemical, which then may be made more toxic still through the chlorination process.[47]

IV. Neonics Drive Losses of Pollinators and Other Beneficial Insects, Threatening Farmers' Bottom Lines and Our Food Systems

More than two decades of research identifies neonic contamination as a driving factor behind mass losses of bees and other crucial pollinators. Since the mid-2000s—when annual losses of honey bee colonies skyrocketed—beekeepers nationwide have consistently lost more than 30% of their colonies each year.[48] In the most recent monitoring period, Minnesota beekeepers lost an estimated 64% of their colonies.[49] And while honey bees are important to agriculture in their own right, they also serve as a canary in the coalmine for disappearing populations of Minnesota's 400-plus wild bee species, as well as other pollinators that are crucial to agriculture and ecosystems.

Among all the stressors affecting bees, only the dramatic uptick in the use of neonicotinoid pesticides in the mid-2000s—mainly from increased use on corn and soybean seeds[50]—matches the dramatic uptick in bee losses witnessed at precisely that time.[51] Since that time, a large and growing body of research confirms neonics are a leading cause of bee and other pollinator declines, including several comprehensive global literature reviews[52] and the largest neonic field study to date—actually funded by the pesticide industry itself.[53] In 2020, Cornell University published its own review of over 1,100 studies finding substantial harms from a broad variety of neonic uses, [most notably from treated corn, soybean, and wheat seeds as well as] non-agricultural turf and ornamental uses.[54] In 2024, researchers identified increase neonics use as "a major driver of changes in occupancy across hundreds of wild bee species."[55] Neonic use is also linked to significant declines in butterflies,[56] particularly monarchs,[57] which can encounter harmful or deadly levels of neonics in farm fields or nearby wild plants that can absorb neonics and stay toxic for years. In fact, neonic treated seeds were recently identified as the number one factor correlated with monarch butterfly declines in the Midwest, including the monarch butterfly.[58]

Pollinator losses are already harming farmers. A 2023 study estimates that inadequate pollinator populations are reducing production of fruits, vegetables, and nuts by 3-5% worldwide.[59] Reduced production of these healthy foods is, in turn, leading to an estimated 427,000 additional preventable deaths annually.[60] And these deaths are disproportionately in wealthier countries like the United States, where reduced access to healthy foods is more likely to shift people's diets to cheaper, unhealthy alternatives. Another major study shows that many top fruit crops are "pollinator limited" across the U.S., meaning that a lack of bees and other pollinators is currently lowering crop yields.[61]

Beyond pollination, neonics harm other beneficial insects essential for farming—such as nematodes,[62] earthworms,[63] and pest predators[64]—and can disrupt other key components of soil health. Pest predators are especially at risk from eating contaminated insects, as the harmful neonic levels can remain in insect prey,[65] leading to decreased yields as the beneficial predator populations die out.[66] Research from Penn State found that in no-till systems, neonics can indirectly increase slug damage and lower crop yields by poisoning insects that eat slugs.[67] A study of northern Great Plains farms found that fields using neonics and other conventional insecticide treatments had 10 times the insect pressure and fewer profits compared with those employing regenerative farming methods, likely due to lower input costs, more "good bugs" that keep pest populations under control, and better crop marketability.[68] Research also shows that neonics may harm soil health directly by changing the composition of soil microbial communities—harming beneficial bacteria crucial for plant growth and health and soil fertility and quality.[69]

V. Neonics Contribute to Mass Losses of Birds and Fish that Help Drive Minnesota's Economy

As losses of insects multiply, insect-eating animals suffer too. Birds appear particularly vulnerable—96% of land-based birds feed insects to their young, with many species also relying on insect food sources as adults.[70] In North America, 30% of birds have disappeared in the past fifty years,[71] with research linking neonics to annual losses of up to 12% in grassland species and 5% in insect-eating species.[72] Likewise in Europe, Dutch researchers have linked declining populations of insect-eating birds to the introduction of neonics—even in areas with exceptionally low neonic levels (20 parts per *trillion* in water)[73]—and the pesticides are also believed to play a key role in declines of French farmland birds.[74]

Neonics harm birds directly, too. Eating just one neonic-treated crop seed is enough to kill some songbirds.[75] And at nonlethal doses, neonics can damage birds' immune and reproductive systems, cause rapid weight loss, and impair navigation and migration ability—all reducing the likelihood of their surviving and reproducing in the wild.[76] With hundreds of millions of acres of U.S. farmland sown with neonic-treated seeds every year, birds are broadly at risk—particularly when, as commonly occurs, piles of seed are left out in the open or planted shallowly enough for birds to eat.[77] At least one assessment has made the case that bats can also be harmed directly or indirectly.[78]

Neonics are also devastating for aquatic ecosystems because they are highly toxic to aquatic invertebrates that fish and other species rely on for food. One study in Japan found that the introduction of the neonic imidacloprid to the area surrounding a longstanding fishery caused the collapse of that fishery in just one year.[79] Researchers found that after neonics contaminated the water, plankton populations plummeted, starving the fish that fed on that plankton.

While birds and fish are ecologically critical in their own right, they also help to support a $13.5 billion outdoor industry in Minnesota.[80] Boating and fishing alone generates $1.1 billion in economic activity each year.[81] Large-scale diminishment of Minnesota's wildlife is something the state simply cannot afford.

VI. The Most Widespread Neonic Uses Are Wasteful and Provide Little or No Economic Benefits to Farmers

Neonics are often applied to crop seeds prior to planting. The mixture of chemicals applied to the seed is commonly called a "seed treatment" and the resulting product is a "treated seed." The idea behind these treatments is simple: as a crop begins to grow, it absorbs the neonic seed coating, making the whole plant toxic to pests. This use pattern began in the mid-2000s and drove a massive increase in neonic use nationwide. Today, neonic seed treatments are used on hundreds of millions of acres nationwide—including nearly 100% of conventional corn acres and at least 44% of soybean aces—and likely more than 11 million acres of Minnesota farmland.

There are three fundamental problems with neonic-treated seeds. First, they target a pest problem that almost never exists, meaning farmers rarely see economic returns. Second, instead of replacing other insecticide applications, seed treatments have become a massive *additional* use of insecticides. Third, the vast majority of neonics applied as seed treatments do not enter the target plant as intended, making them incredibly wasteful.

A. Neonic-treated seeds rarely benefit the farmers using them

Research concludes that farmers rarely benefit from using neonic-treated seeds. An analysis of 1,100+ peer-reviewed studies across North America shows that the most common uses of neonic-treated seeds—i.e., for corn and soybean—typically provide *no economic benefit for farmers*.[82] Research finds that neonic seed treatments have no impact on yield in most cases,[83] and even if they do, those improvements are only minor and still do not allow farmers to recoup the costs associated from having to purchase the seed treatment.[84] This is because most farms generally have only a "low level of pest-associated pressure and damage," if at all.[85] These research findings conclude that due to these low risks, neonic seed treatments "should not be used prophylactically"[86] and that "[they] are not warranted for grain production outside of specific instances of high pest pressure."[87]

Research in Quebec, Canada, suggests that *any* insecticide seed treatment is unnecessary in the vast majority of circumstances. Labrie et al. (2020) demonstrated that although targeted pests (like wireworm) were more prevalent in fields without neonic seed treatments, yield was unchanged.[88] In other words, the presence of pests targeted by seed treatments did not reduce crop yields. Insecticide seed treatments were simply not necessary.

Though seed prices vary, farmers are likely paying a premium for seeds that ultimately do not provide an economic return. Using prices provided by Bayer CropScience, a 2020 literature review found that untreated corn seeds cost $20.15 less per acre than neonic-treated seeds, and fungicide-only seeds cost $6.80 less.[89] For soybeans, untreated seeds cost $20.70 less than neonic-treated seeds, and fungicide-only seeds cost $5.10 less based upon farm-level data from independent research.[90] Applying even the most conservative assumptions suggests that Minnesota farmers are paying more than $75 million per year for chemical treatments that rarely benefit them.

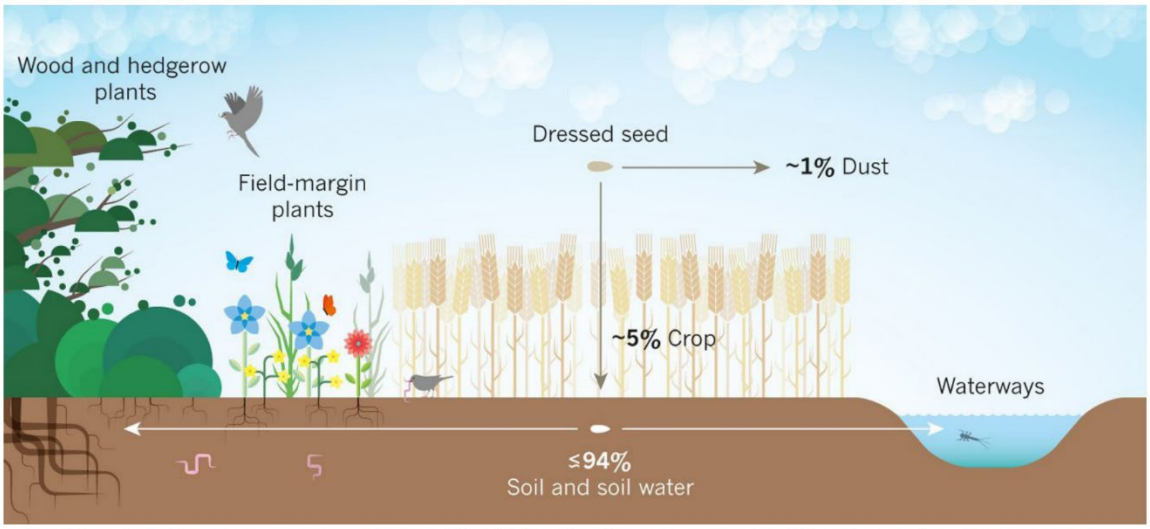
B. Neonic seed treatments have not replaced alternative insecticide uses

The amount of insecticides applied through methods other than seed treatment has remained constant or increased since widespread adoption of neonic seed treatments.[91] Prior to widespread use of neonic-treated seeds, only 35% of corn and 5% of soybean acreage was treated with an insecticide *all season*, versus 100% and over 50% today *just for seed treatments*.[92] This strongly suggests that neonic seed treatments have not replaced alternative pesticide uses; they are an *additional*, unnecessary use.

Neonic seed treatments provide a short window of protection against soil-borne pests—typically just 2-3 weeks.[93] As research and field trials repeatedly demonstrate, pests are not at economically damaging levels during this period. If insect pests become problematic after this early window of protection, farmers typically use spray-applied insecticides—just as they did before insecticide seed treatments became popular. In all, little has changed. The only difference is that many farmers are *adding* insecticide seed treatments to their pest control regimen—whether they benefit financially or not.

C. Neonic seed treatments are wasteful

Treated seed applications are remarkably inefficient and likely to lead to widespread pollution. Of the typical neonic treatment on a corn or soybean seed, only 2-5% of the active ingredient is absorbed into the target plant—leaving the other 95+% in the soil,[94] where the chemicals persist for years.[95] Once in the soil, neonics are easily carried considerable distances by rain or irrigation water to contaminate new soil, the plants in that soil (as they absorb the chemicals and also become toxic), and water supplies.[96]



Reprinted by permission from Springer Nature: Dave Goulson, "Pesticides Linked to Bird Declines," *Nature* 511, no. 7509 (July 2014): 295-96, https://go.nature.com/2rNOZcK.

VII. Widespread Seed Treatment Use Is Driven by Corporate Power

As demonstrated above, farmers rarely see economic returns from the use of neonic seed treatments. Nevertheless, their use is extremely widespread. This surprising result is explained largely by massive consolidation of the agrichemical industry. From 2018-2020, just two massive companies—Bayer Crop Science and Corteva Agriscience—supplied about 72% of corn

seed nationwide.[97] Those same companies manufacture neonics and other insecticides.[98] So they take corn seeds with the most advanced traits that many farmers want, and they package them with insecticide seed treatments—and then charge farmers a premium for this added 'protection.' As a result, many farmers have little choice but to purchase and use corn seeds pre-treated with neonics and other insecticides.

Even for crop seeds that are more commonly available untreated, pesticide manufacturers exert outsized influence over farmer decisionmaking. According to a 2023 study analyzing the sources of information farmers use to learn about agronomic practices and stewardship issues, "[t]he two most frequently reported information sources were agricultural retail suppliers, specifically chemical dealers and seed dealers, utilized by nearly all farmers in our sample (96% for each one)."[99] For example, Pioneer—a leading seed supply company owned by Corteva Agriscience—has "local Pioneer teams" across the country with "territory managers" and agronomists available to provide information to farmers.[100]

Despite common engagement with pesticide companies with seed dealers, farmers encounter limited transparency about the content of their seed treatments. A 2020 study found that whereas 97-99% of surveyed farmers could "name the field-applied pesticide(s) used on their cotton, corn, wheat, or soybean crops," only 65% of corn growers and 57% of winter wheat growers were able to name the seed treatment product used on their crop.[101]

VIII. Non-Agricultural Uses Needlessly Contaminate Urban and Suburban Areas

Lawn and garden neonic products are another high-cost, low benefit pesticide use. These products are often more concentrated than their agricultural counterparts, meaning these non-agricultural products can create toxic hotspots in heavily populated areas. Just one square foot of lawn treated with a neonic at EPA-approved rates can contain enough pesticide to kill over one million bees.[102] But because neonics are applied preventatively, they are often used in lawn and garden settings where there is no pest problem. Where a pest problem does exist, it does not threaten food supplies or farmer livelihoods—and there are less harmful pest control options available in these low-stakes settings.

IX. H.F. 3704 Follows Successful Models for Reducing Unnecessary Neonic Seed Coatings

If H.F. 3704 is enacted, Minnesota will not be alone in tackling the neonic problem. Quebec, Canada, provides a highly successful model for eliminating the needless use of neonicotinoid seed coatings in field crops. In 2019, Quebec required farmers to obtain an agronomic justification—basically, a prescription—before purchasing neonic-treated corn and soybean seeds. Within just two years, neonic-treated corn and soybean use was virtually eliminated and neonic contamination plummeted. Crucially, crop yields have remained constant or increased since the new restrictions.[103] In 2025, Quebec expanded the program to all insecticide seed treatments,[104] consistent with the research showing that insecticide seed treatments in corn and soybeans generally do not benefit farmers.

In 2024, New York and Vermont became the first states to pass bills to limit neonic-treated seed use, following the success in Quebec. The provisions of those bills regarding restrictions on neonic field crop seed coatings will take effect on January 1, 2029.[105]

Other states have also taken the lead in reining in lawn and garden neonic uses. New Jersey, Maine, Nevada, Vermont, and New York have prohibited non-agricultural neonic uses with a targeted exemption for treatment of invasive species. H.F. 3704 would follow this common-sense model to protect people and wildlife in urban and suburban areas.

X. A Yes Vote on H.F. 3704 Protects Minnesota – Now and in the Future

H.F. 3704 is a carefully tailored bill that limits neonic uses that are both harmful and unnecessary, while preserving flexibility for farmers to use seed treatments that will address real pest problems. It's a win for pollinators, pollinator-dependent farmers and beekeepers, Minnesota's environment, and all Minnesotans who value clean water, local produce, and a healthy environment. **For these reasons, NRDC strongly supports H.F. 3704 and urges you to advance this bill.**

---

[1] Margaret Douglas and John Tooker, "Large-scale Deployment of Seed Treatments has Driven Rapid Increase in Use of Neonicotinoid Insecticides and Preemptive Pest Management in U.S. Field Crops," Environ. Sci. Technol. 49 (2015): 5088–5097, https://pubs.acs.org/doi/10.1021/es506141g; Claudia Hitaj et al.,"Sowing Uncertainty: What We Do and Don't Know About the Planting of Pesticide-Treated Seed," Bioscience 70 (2020): 390–403, https://academic.oup.com/bioscience/ article-abstract/70/5/390/5805569?redirectedFrom=fulltext.

[2] John Tooker, *Why It's Time to Curb Widespread Use of Neonicotinoid Pesticides*, The Conversation (Jun. 26, 2018), https://theconversation.com/why-its-time-to-curb-widespread-use-of-neonicotinoid-pesticides-96620.

[3] Jessie Buckley et al, Exposure to Contemporary and Emerging Chemicals in Commerce among Pregnant Women in the United States: The Environmental influences on Child Health Outcome (ECHO) Program., Environ Sci Technol. 56(10), 6560-6573 (May 2022), https://pmc.ncbi.nlm.nih.gov/articles/PMC9118548/.

[4] Jennifer Sass, *Neonic Pesticide May Become More Toxic in Tap Water*, NRDC (Feb. 4, 2019), https://on.nrdc.org/3z9XE68; Robert Gunier et al., "Prenatal Residential Proximity to Agricultural Pesticide Use and IQ in 7-Year-Old Children," *Environ Health Perspect,* 125 no. 5 (May 25,2017) https://pubmed.ncbi.nlm.nih.gov/28557711/.

[5] Jennifer Sass, *Neonic Pesticides: Potential Risks to Brain and Sperm*, NRDC (Jan. 6, 2021), https://on.nrdc.org/3k8NUFb;

[6] Damian Carrington, *Global Pollinator Losses Causing 500,000 Early Deaths a Year – Study*, The Guardian (Jan. 9, 2023), https://www.theguardian.com/environment/2023/jan/09/global-pollinator-losses-causing-500000-early-deaths-a-year-study.

[7] *See* EPA, "Registration for Imidacloprid (NTN 33893)," March 10, 1994, p. 7, https://bit.ly/2K36Bbl (listing the honeybee LD50 as 0.0039 µg per bee). EPA, pesticide label for Gaucho 600 Flowable, p. 5, https://bit.ly/34FL8x2 (allowing up to 1.34 mg of imidacloprid per corn seed).

[8] Margaret Douglas, Jason Rohr, and John Tooker, "Neonicotinoid Insecticide Travels Through a Soil Food Chain, Disrupting Biological Control of Non-Target Pests and Decreasing Soya Bean Yield," Journal of Applied Ecology. 52 (December 4, 2014): 250–260, https://doi.org/10.1111/1365-2664.12372; Michael DiBartolomeis et al., "An Assessment of Acute Insecticide Toxicity Loading (AITL) of Chemical Pesticides Used on Agricultural Land in the United States," PLoS One, August 6, 2019, https://doi.org/10.1371/journal.pone.0220029; Thomas Wood and Dave Goulson, "The Environmental Risks of Neonicotinoid Pesticides: A Review of the Evidence Post 2013," Environmental Science and Pollution Research 24, no. 21 (June 7, 2017): 17285–17325, https://bit.ly/2Hpn8T5; Scott McArt et al., "High Pesticide Risk to Honey Bees Despite Low Focal Crop Pollen Collection During Pollination of a Mass Blooming Crop," Scientific Reports 7, no. 46554 (April 19, 2017), https://go.nature.com/2Ir0o9Y; Daniel Cressey, "Largest-Ever Study of Controversial Pesticides Finds Harm to Bees," Nature, June 29, 2017, https://go.nature.com/2sgJjDk; Cornell College of Agriculture and Life Sciences, "Pollinator Network at Cornell," (last accessed December 1, 2025), https://cals.cornell.edu/pollinator-network; Jean Marc Bonmatin et al., "Environmental Fate and Exposure; Neonicotinoids and Fipronil," Environ Sci Pollut Res Int 22 no.1 (August 7, 2014), https://pmc.ncbi.nlm.nih.gov/articles/PMC4284396/; Cláudia de Lima e Silva et al., "Toxicity of Neonicotinoids to Folsima candida and Eisenia andrei," Environmental Toxicol Chem 39 no. 3 (December 30, 2019): 548–555, https://pmc.ncbi.nlm.nih.gov/articles/PMC7064934.

[9] Adam Alford and Christian Krupke, "A Meta-Analysis and Economic Evaluation of Neonicotinoid Seed Treatments and Other Prophylactic Insecticides in Indiana Maize from 2000–2015 with IPM Recommendations," J. Econ. Entomology. 111 (January 29, 2018): 689–699, https://ag.purdue.edu/department/entm/extension/ field-crops-ipm/_docs/pubs/12_meta-analysis.pdf; Geneviève Labrie et al., "Impacts of Neonicotinoid Seed Treatments on Soil-Dwelling Pest Populations and Agronomic Parameters in Corn and Soybean in Quebec (Canada)," PLOS One, (February 26, 2020), https://doi.org/10.1371/journal.pone.0229136; Jacob Pencenka et al., "IPM Reduced Insecticide Applications by 95% While Maintaining or Enhancing Crop Yields Through Wild Pollinator Conservation," National Academy of Science USA 118 no. 44

(October 15, 2021), https://pmc.ncbi.nlm.nih.gov/articles/ PMC8612243/; Travis A. Grout et al., *Neonicotinoid Insecticides in New York State: Economic Benefits and Risk to Pollinators*, Cornell University (June 23, 2020), https://bit.ly/30AM5GZ.
[10] Government of Québec. "Understanding Agronomic Prescription," (May 16, 2025), https://www.quebec.ca/en/agriculture-environment-and-natural-resources/environmental-protection/pesticides/application-agricultural-areas/understanding-agronomic-prescription.
[11] Gouvernement du Québec, "Présence de pesticides dans les cours d'eau au Québec," (2025), https://www.environnement.gouv.qc.ca/Eau/flrivlac/pesticides-eaucultures-maraicheres-2019-2020.pdf. [On page 3, via Google Translate: "It is estimated that less than 0.5% of the area would be seeded with neonicotinoid-coated corn, compared to 100% in 2015" and on page 20, via Google Translate: ""Reductions in neonics have been observed..."].
[12] Institut de la statistique du Québec, "Area of Field Crops, Yield Per Hectare and Production, 2018–2022," (July 16, 2025), https://statistique.quebec.ca/en/ document/area-of-field-crops-yield-per-hectare-and-production-by-combined-administrative-regions/tableau/area-of-field-crops-yield-per-hectare-andproduction-by-combined-administrative-regions#tri_cult=10; Scott McArt, "Notes from the Lab: The Latest Bee Science Distilled," American Bee Journal, (May 2024): 305–310, https://bpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/8/5278/files/2024/02/03-McArt-article_March2024-c3e0b3a12669895e.pdf.
[13] Birds and Bees Protect Act, NY S1856/A7640, https://nyassembly.gov/leg/?default_fld=&leg_video=&bn=A08571&term=2023&Summary=Y&Text=Y; An Act Relating to Banning the Use of Neonicotinoid Pesticides, VT H.706/A182, https://legislature.vermont.gov/Documents/2024/Docs/ACTS/ACT182/ACT182%20As%20Enacted.pdf.
[14] *See* EPA, "Registration for Imidacloprid (NTN 33893)," March 10, 1994, p. 7, https://bit.ly/2K36Bbl (listing the honeybee LD50 as 0.0039 µg per bee). EPA, pesticide label for Gaucho 600 Flowable, p. 5, https://bit.ly/34FL8x2 (allowing up to 1.34 mg of imidacloprid per corn seed).
[15] Margaret R. Douglas and John F. Tooker, "Large-Scale Deployment of Seed Treatments Has Driven Rapid Increase in Use of Neonicotinoid Insecticides and Preemptive Pest Management in U.S. Field Crops," *Environmental Science Technology* 49, no. 8 (March 20, 2015): 5088-5097, https://bit.ly/35i3Z14. Michelle Hladik and Dana Kolpin, "First National-Scale Reconnaissance of Neonicotinoid Insecticides in Streams Across the USA*," Environmental Chemistry* 13, no. 1 (August 18, 2015): 12-20, https://bit.ly/31Mse6o. Thomas Wood and Dave Goulson, "The Environmental Risks of Neonicotinoid Pesticides: A Review of the Evidence Post 2013," *Environmental Science and Pollution Research International* 24, no. 21 (June 2017): 17285–17325, https://bit.ly/2Hpn8T5.
[16] *See* John F. Tooker et al., *Neonicotinoid Seed Treatments: Limitations and Compatibility with Integrated Pest Management*, Agriculture and Environmental Letters (October 1, 2017), https://bit.ly/2YLzEKh; *Benefits and Impacts of Potential Mitigation for Neonicotinoid Seed Treatments on Small Grains, Vegetable, and Sugarbeet Crops*. Environmental Protection Agency. (Feb 3, 2020) https://www.regulations.gov/document/EPA-HQ-OPP-2008-0844-1622; Hitaj et al. *Sowing Uncertainty: What We Do and Don't Know about the Planting of Pesticide-Treated Seed*. BioScience. 70 5 (May 2020) https://academic.oup.com/bioscience/article-abstract/70/5/390/5805569?redirectedFrom=fulltext.
[17] United States Department of Agriculture (hereinafter USDA), "2025 State Agriculture Overview – Minnesota," https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=MINNESOTA (last visited Mar. 9, 2026).
[18] Michael DiBartolomeis et al., *An Assessment of Acute Insecticide Toxicity Loading (AITL) of Chemical Pesticides Used on Agricultural Land in the United States*, PLoS ONE (Aug. 6, 2019), https://bit.ly/3hDBraV; Margaret R. Douglas et al., *County-Level Analysis Reveals a Rapidly Shifting Landscape of Insecticide Hazard to Honey Bees (Apis Mellifera) on U.S. Farmland*, Scientific Reports (Jan. 21, 2020), https://go.nature.com/3nzFYPp.
[19] Michelle Hladik & Dana Kolpin, First National-Scale Reconnaissance of Neonicotinoid Insecticides in Streams Across the USA, *Environmental Chemistry* 13, 12-20 (2015), https://doi.org/10.1071/EN15061.
[20] Dr. Pierre Mineau, Neonicotinoid Pesticides in Minnesota Water: Threats to the State's Aquatic Ecosystems (December 2024), available at https://www.nrdc.org/sites/default/files/2024-12/neonic-pesticides-in-minnesota-water.pdf.
[21] Minn. Dep't of Agriculture, 2024 Water Quality Monitoring Report Table 3-1 (June 1, 2025), https://wrl.mnpals.net/node/4355.
[22] Berens et al., Neonicotinoid Insecticides in Surface Water, Groundwater, and Wastewater Across Land-Use Gradients and Potential Effects, (2021), https://bit.ly/4fl5L67.
[23] Letter from Thom Petersen, MDA to U.S. Environmental Protection Agency (Feb. 9, 2024), Regulations.gov Docket No. EPA-HQ-OPP-2023-0420, available at https://www.regulations.gov/comment/EPA-HQ-OPP-2023-0420-0139.
[24] Dan Gunderson, Data Show Increasing Insecticide Levels in Minnesota Deer, MPR News (Aug. 23, 2022), https://www.mprnews.org/story/2022/08/23/data-show-increasing-insecticide-levels-in-minnesota-deer.
[25] *Id.*
[26] Meredith Anderson et al., Imidacloprid exposure is detectable in over one third of wild bird samples from diverse Texas ecoregions, Sci Total Environ. (Mar. 11, 2023), available at https://pmc.ncbi.nlm.nih.gov/articles/PMC10744339/.
[27] Eric Michel et al., Widespread exposure to neonicotinoid insecticide in bobcats (Lynx rufus), fishers (Pekania pennanti), and river otters (Lontra canadensis) in North Dakota, USA, 35 (36) Ecotoxicology (Jan. 21, 2026), available at https://link.springer.com/article/10.1007/s10646-025-03020-5.
[28] Maria Ospina et al., *Exposure to Neonicotinoid Insecticides in the U.S. General Population: Data from the 2015-2016 National Health and Nutrition Examination Survey*, Environmental Resources (Sept. 2019), https://bit.ly/3luO35i.
[29] *Id.*

[30] Jessie Buckley et al, Exposure to Contemporary and Emerging Chemicals in Commerce among Pregnant Women in the United States: The Environmental influences on Child Health Outcome (ECHO) Program., Environ Sci Technol. 56(10), 6560-6573 (May 2022), https://pmc.ncbi.nlm.nih.gov/articles/PMC9118548/.
[31] *See* Julie M. Miwa et al., *Neural Systems Governed by Nicotinic Acetylcholine Receptors: Emerging Hypotheses*, Neouron. (Apr. 14, 2011), https://bit.ly/3k7cgiv.
[32] Jennifer Sass, *Neonic Pesticides: Potential Risks to Brain and Sperm*, NRDC (Jan. 6, 2021), https://on.nrdc.org/3k8NUFb.
[33] *Id.*
[34] *Id.*; Andria Cimino et al., *Effects of Neonicotinoid Pesticide Exposure on Human Health: A Systematic Review*, Environmental Health Perspectives (Feb. 12, 2017), https://bit.ly/3tCsnYI.
[35] Jennifer Sass, *Neonic Pesticide May Become More Toxic in Tap Water*, NRDC (Feb. 4, 2019), https://on.nrdc.org/3z9XE68; Robert Gunier et al., "Prenatal Residential Proximity to Agricultural Pesticide Use and IQ in 7-Year-Old Children," *Environ Health Perspect,* 125 no. 5 (May 25,2017) https://pubmed.ncbi.nlm.nih.gov/28557711/.
[36] *See* Ann M Vuong, Cai Zhang, and Aimin Chen, "Associations of Neonicotinoids with Insulin and Glucose Homeostasis Parameters in U.S. Adults: NHANES 2015-2016, *Chemosphere* 286 (July 22, 2022):131642, https://doi.org/10.1016/j.chemosphere.2021.131642; Amruta M Godbole et al., "Exploratory Analysis of the Associations Between Neonicotinoids and Measures of Adiposity Among U.S. Adults: NHANES 2015-2016," *Chemosphere* 300 (August, 2022):134450, https://doi.org/10.1016/j.chemosphere.2022.134450.
[37] E. H. Berheim et al., "Effects of Neonicotinoid Insecticides on Physiology and Reproductive Characteristics of Captive Female and Fawn White-Tailed Deer," *Scientific Reports* 9, no. 1 (March 14, 2019): 4534, https://go.nature.com/2Q1I9Zf.
[38] *Id*.
[39] *See, e.g.,* Berheim et al. 2019; Emre Yagmur Arican et al., *Reproductive Effects of Subchronic Exposure to Acetamiprid in Male Rats*, Scientific Reports (June 2, 2020), https://go.nature.com/3hqAVN4; Lonare et al, *Evaluation of Ameliorative Effect of Curcumin on Imidacloprid-Induced Male Reproductive Toxicity in Wistar Rats* (Oct. 31, 2016), https://bit.ly/3Elsahs; Essam M. Hafez, *The Neonicotinoid Insecticide Imidacloprid: A Male Reproductive System Toxicity Inducer-Human and Experimental Study*, Toxicology Open Access (Feb. 18, 2016), https://bit.ly/3C8faJR.
[40] Vasiliki E. Mourikes et al., "The Effects of Imidacloprid Exposure on the Mouse Ovary In Vivo," *Reprod Toxicol*, 137 (October, 2025):109045, https://doi.org/10.1016/j.reprotox.2025.109045.
[41] Jennifer Sass & Daniel Raichel, Human acute poisoning incidents associated with neonicotinoid pesticides in the U.S. Incident Data System (IDS) database from 2018–2022 – frequency and severity show public health risks, regulatory failures, Environmental Health 23(102) (Nov. 2024), https://ehjournal.biomedcentral.com/articles/10.1186/s12940-024-01139-2.
[42] Jennifer Sass et al, Neonicotinoid pesticides: evidence of developmental neurotoxicity from regulatory rodent studies, Front. Toxicol. 6 (Oct. 2024), frontiersin.org/journals/toxicology/articles/10.3389/ftox.2024.1438890/full.
[43] Zhang H, Bai X, Zhang T, Song S, Zhu H, Lu S, Kannan K, Sun H. Neonicotinoid Insecticides and Their Metabolites Can Pass through the Human Placenta Unimpeded. Environ Sci Technol. 2022 Dec 6;56(23):17143-17152. doi: 10.1021/acs.est.2c06091. Available online https://pubmed.ncbi.nlm.nih.gov/36441562/.
[44] Go Ichikawa et al., "LC-ESI/MS/MS Analysis of Neonicotinoids in Urine of Very Low Birth Weight Infants at Birth," *PLoS One* 14, no. 7 (July 1, 2019), https://bit.ly/32XvmvP.
[45] *See, e.g.,* Olga Naidenko, "Neonic Pesticides: Banned in Europe, Common on U.S. Produce, Lethal to Bees," Environmental Working Group, July 26, 2018, https://bit.ly/2EejbSx. Friends of the Earth, "Toxic Secret: Pesticides Uncovered in Store Brand Cereal, Beans, Produce," http://bit.ly/2IlE26V (accessed May 31, 2019); Tamanna Sultana et al., "Neonicotinoid Pesticides in Drinking Water in Agricultural Regions in Southern Ontario, Canada," *Chemosphere* 202 (July 2018): 506-513, http://bit.ly/2JZawXI; Kathryn L. Klarich et al., "Occurrence of Neonicotinoid Insecticides in Finished Drinking Water and Fate During Drinking Water Treatment," *Environmental Science and Technology Letters* 4 (April 2017): 168-173, https://bit.ly/2PMRunk.
[46] *See* Klarich et al. 2017.
[47] *See id.*; Kathryn L. Klarich Wong et al., "Chlorinated Byproducts of Neonicotinoids and Their Metabolites: An Unrecognized Human Exposure Potential?" *Environmental Science and Technology Letters* 6, no. 2 (January 2019): 98-105, https://bit.ly/2sZnydm; Jennifer Sass, *Neonic Pesticide May Become More Toxic in Tap Water*, NRDC (Feb. 4, 2019), https://on.nrdc.org/3z9XE68.
[48] See Apiary Inspectors of America, "Preliminary Results from the 2024-2025 US Beekeeping Survey: Honey Bee Colony Loss and Management, https://auburnuniversity.maps.arcgis.com/apps/instant/compare/index.html?appid=027462259ffc45e5a66a370c94709807, and select "Maryland"; Samantha Watters, "U.S. Beekeepers Lost Over 40% of Colonies During the Last Year, With Annual Survey Showing Winter Losses as the Highest Ever Recorded," University of Maryland College of Agriculture and Natural Resources (June 19, 2019), https://agnr.umd.edu/news/us-beekeepers-lost-over-40-colonies-during-last-year-annual-survey-showing-winter-losses/.
[49] Apiary Inspectors of America, Preliminary Results from the 2024-2025 U.S. Beekeeping Survey: Honey Bee Colony Loss and Management, https://apiaryinspectors.org/US-beekeeping-survey-24-25.
[50] Douglas & Tooker 2015.
[51] *See id.*; DiBartolomeis et al. 2019.
[52] *See, e.g.*, Harry Siviter et al., *Field-Realistic Neonicotinoid Exposure has Sub-Lethal Effects on Non-Apis Bees: A Meta-Analysis*, Ecology Letters (Sept. 6, 2021), https://doi.org/10.1111/ele.13873; Lennard Pisa et al., *An Update of the Worldwide*

Integrated Assessment (WIA) on Systemic *Insecticides. Part 2: Impacts on Organisms and Ecosystems*, Envtl. Sci. Pollution Research Int'l (Nov. 9, 2017), https://bit.ly/2HqqHwB; David Goulson, *REVIEW: An overview of the environmental risks posed by neonicotinoid insecticides*, J Appl Ecol, 50: 977-987. https://doi.org/10.1111/1365-2664.12111; Wood & Goulson, *The environmental risks of neonicotinoid pesticides: a review of the evidence post 2013*, Environ Sci Pollut Res **24,** 17285–17325 (2017). https://doi.org/10.1007/s11356-017-9240-x.

[53] Daniel Cressey, *Largest Ever Study of Controversial Pesticides Finds Harm to Bees* (June 29, 2017), https://go.nature.com/3t8asHW; Ben A. Woodcock et al., *Country-specific Effects of Neonicotinoid Pesticides on Honeybees and Wild Bees*, 356 Science 6345, 1393-1395 (Jun. 30, 2017), https://politi.co/2HrEnDl; Ben A. Woodcock et al., *Impacts of Neonicotinoid Use on Long-Term Population Changes in Wild Bees in England*, 7 Nature Communications 12459 (Aug. 16, 2016), https://go.nature.com/2EU6Xho. *See also, e.g.*, Thomas Wood & Dave Goulson, *The Environmental Risks of Neonicotinoid Pesticides: A Review of the Evidence Post 2013*, Envtl. Sci. Pollution Research Int'l, 24(21): 17285–17325 (Jun. 7, 2017), https://bit.ly/2Hpn8T5.

[54] Travis A. Grout et al., *Neonicotinoid Insecticides in New York State*, Cornell University (June 23, 202), https://bit.ly/2XlFIZA [hereinafter "Cornell Report"].

[55] Laura Guzman et al., Impact of pesticide use on wild bee distributions across the United States, *Nat Sustain* 7, 1324–1334 (Aug. 2024), https://doi.org/10.1038/s41893-024-01413-8.

[56] Matthew L. Forister et al., "Increasing Neonicotinoid Use and the Declining Butterfly Fauna of Lowland California," *Biology Letters* 12, no. 8 (August 1, 2016), https://bit.ly/2XrSVM9. Andre Gillburn et al., "Are Neonicotinoid Insecticides Driving Declines of Widespread Butterflies?" *PeerJ* 3, e1402 (November 24, 2015), https://bit.ly/1lGvH0y. Penelope R. Whitehorn et al., "Larval Exposure to the Neonicotinoid Imidacloprid Impacts Adult Size in the Farmland Butterfly Pieris Brassicae," *PeerJ* 6, e4772 (May 18, 2018), https://bit.ly/2raBzY8. Jacob Pecenka and Jonathan Lundgren, "Non-target Effects of Clothianidin on Monarch Butterflies," *The Science of Nature* 102, no. 3-4 (April 2015), https://bit.ly/2O043g4. Kate Basley and Dave Goulson, "Effects of Field-Relevant Concentrations of Clothianidin on Larval Development of the Butterfly *Polyommatus icarus* (Lepidoptera, Lycaenidae)," *Environmental Science and Technology* 52, no. 7 (April 3, 2018): 3990-3996, https://bit.ly/2OpIgxq.

[57] Samantha M. Knight et al., *Experimental Field Evidence Shows Milkweed Contaminated with a Common Neonicotinoid Decreases Larval Survival of Monarch Butterflies*

[58] Braeden Van Deynze et al., *Insecticides, more than herbicides, land use, and climate, are associated with declines in butterfly species richness and abundance in the American Midwest,* PLOS ONE 19(6): e0304319 (June 2024), https://doi.org/10.1371/journal.pone.0304319.

[59] Damian Carrington, *Global Pollinator Losses Causing 500,000 Early Deaths a Year – Study*, The Guardian (Jan. 9, 2023), https://www.theguardian.com/environment/2023/jan/09/global-pollinator-losses-causing-500000-early-deaths-a-year-study.

[60] *Id.*

[61] J.R. Reilly et al., *Crop Production in the USA is Frequently Limited By a Lack of Pollinators*, *Proc. R. Soc. B.* **287** (July 29, 2020), http://doi.org/10.1098/rspb.2020.0922.

[62] BR Bradford, E Whidden, ED Gervasio, PM Checchi, KM Raley-Susman. *Neonicotinoid-containing Insecticide Disruption of Growth, Locomotion, and Fertility in Caenorhabditis Elegans*. PLoS One. 2020 Sep 9;15(9):e0238637. doi: 10.1371/journal.pone.0238637.

[63] Kai Wang, Sen Pang, Xiyan Mu, Suzhen Qi, Dongzhi Li, Feng Cui, Chengju Wang, *Biological Response of Earthworm, Eisenia Fetida, to Five Neonicotinoid Insecticides*, 132 Chemosphere 120-126 (2015), https://doi.org/10.1016/j.chemosphere.2015.03.002.

[64] Sara LaJeunesse, *Insecticides Foster 'Toxic' Slugs, Reduce Crop Yields*, Penn State News (Dec. 2, 2014), https://bit.ly/3fLGzt4.

[65] Kendra Klein & Anna Lappé, *America's Agriculture Is 48 Times More Toxic Than 25 Years Ago. Blame Neonics*, The Guardian (Aug. 7, 2019), https://bit.ly/3sTg7kW.

[66] Margaret Douglas et al., *Neonicotinoid Insecticide Travels Through a Soil Food Chain, Disrupting Biological Control of Non-Target Pests and Decreasing Soya Bean Yield*, Journal of Applied Ecology (Dec. 4, 2014), https://bit.ly/2IRr4MF.

[67] *Id.*

[68] Claire LaCanne & Jonathan Lundgren, *Regenerative Agriculture: Merging Farming and Natural Resource Conservation Profitably*, PeerJ (Feb. 28, 2018), https://bit.ly/2YNxiop.

[69] Mona Parizadeh et al., *Effects of Neonicotinoid Seed Treatments on Phyllosphere and Soil Bacterial Communities Over Time,* Research Square (Sep. 17, 2020), https://bit.ly/3sYtfVX.

[70] Anne Raver, "To Feed the Birds, First Feed the Bugs," *New York Times,* March 6, 2008, https://nyti.ms/2WnMKbj. Douglas W. Tallamy*, Bringing Nature Home: How Native Plants Sustain Wildlife in Our Gardens* (Portland, OR: Timber Press, 2007). "Insect-Eating Birds Consume 400–500 Million Metric Tons of Prey Annually," *Science News*, July 10, 2018, https://bit.ly/2khHYO5.

[71] *See* Kenneth V. Rosenberg et al., "Decline of the North American Avifauna," *Science*, September 19, 2019, https://bit.ly/2kvsV3o. *See also* John Fitzpatrick & Peter Marra, *The Crisis for Birds Is a Crisis for Us All*, New York Times (Sep. 19, 2019), https://nyti.ms/2kTTrnc.

[72] Yijia Li et al., *Neonicotinoids and Decline in Bird Biodiversity in the United States*, Nat. Sustain. (Aug. 10, 2020), https://go.nature.com/3C6m9TS; Stephen Leahy, *Huge Decline in Songbirds Linked to Common Insecticide*, Nat. Geo. (Sep. 12, 2019), https://on.natgeo.com/2mpTQy1; R. L. Stanton et al.," Analysis of Trends and Agricultural Drivers of Farmland Bird

Declines in North America: A Review," *Agriculture, Ecosystems and Environment* 254 (Feb. 2018): 244-254, https://bit.ly/2ko5JE0.
[73] Caspar A. Hallmann et al., "Declines in Insectivorous Birds Are Associated With High Neonicotinoid Concentrations," *Nature*, July 17, 2014, https://go.nature.com/2pBJayo; Jason Bittel, "Second Silent Spring? Bird Declines Linked to Popular Pesticides," *National Geographic*, July 9, 2014, https://on.natgeo.com/2QCbPhV.
[74] Laurianne Geffroy, *Where Have all the Farmland Birds Gone?*, CNRS News (Mar. 21, 2018), https://bit.ly/2GcNCL4.
[75] Pierre Mineau and Cynthia Palmer, *The Impact of the Nation's Most Widely Used Insecticides on Birds*, American Bird Conservancy, March 2013, p. 3, https://bit.ly/1jmQ7u0.
[76] Ana Lopez-Antia et al., "Imidacloprid-Treated Seed Ingestion Has Lethal Effect on Adult Partridges and Reduces Both Breeding Investment and Offspring Immunity," *Environmental Research* 136 (January 2015): 97-107, https://bit.ly/2kwUdWS. Margaret L. Eng et al., "A Neonicotinoid Insecticide Reduces Fueling and Delays Migration in Songbirds," *Science* 365, no. 6458 (September 2019): 1177-1180, https://bit.ly/2kGS1MA. Margaret L. Eng, Bridget J. M. Stutchbury, and Christy A. Morrissey, "Imidacloprid and Chlorpyrifos Insecticides Impair Migratory Ability in a Seed-Eating Songbird," *Scientific Reports* 7, (November 2017), https://go.nature.com/2QEWHA6.
[77] U.S. Department of Agriculture, "Corn Acres: United States," https://bit.ly/2kwMecn (accessed December 2, 2019). USDA, "Soybean Acres: United States," https://bit.ly/2lynS2m (accessed December 2, 2019). Charlotte Roy et al., "Neonicotinoids on the Landscape: Evaluating Avian Exposure to Treated Seeds in Agricultural Landscapes," Maryland Department of Natural Resources & Wildlife Restoration, https://bit.ly/337ENZK (accessed December 2, 2019) (documenting exposed neonic-treated seed in 25 percent of 48 fields sampled, and reporting that ring-necked pheasants, Canada geese, American crows, various species of sparrows, and blackbirds, as well as white-tailed deer, rodents, rabbits, and raccoons, were all observed eating the seeds). Ana Lopez-Antia et al., "Risk Assessment of Pesticide Seed Treatment for Farmland Birds Using Refined Field Data," *Journal of Applied Ecology* 53, no. 5 (October 2016): 1373-1381, https://bit.ly/2m0Z5Ef.
[78] Pierre Mineau and Carolyn Callaghan, *Neonicotinoid Insecticides and Bats: An Assessment of the Direct and Indirect Risks*, Canadian Wildlife Federation, 2018, https://bit.ly/2kSfs5K.
[79] Masumi Yamamuro et al., *Neonicotinoids Disrupt Aquatic Food Webs and Decrease Fishery Yields*, Science (Nov. 1, 2019), https://bit.ly/34rKCSG.
[80] State of Minnesota, Minnesota's Outdoor Recreation Economy Shows Resilience with Steady Growth (Dec. 5, 2024), https://www.exploreminnesota.com/media-room/news-releases/minnesotas-outdoor-recreation-economy-shows-resilience-steady-growth.
[81] *Id.*
[82] Travis A. Grout et al., *Neonicotinoid Insecticides in New York State: Economic Benefits and Risk to Pollinators*, Cornell University (June 23, 2020), https://bit.ly/30AM5GZ.
[83] Jacob Pecenka et al., "IPM Reduces Insecticide Applications by 95% While Maintaining or Enhancing Crop Yields Through Wild Pollinator Conservation," PNAS Sustainability Science, 118 no. 44 (October 25, 2021), https://doi.org/10.1073/pnas.2108429118; Aditi Dubey et al., "Ecological Impacts of Pesticide Seed Treatment on Anthropod Communities in Grain Crop Production."*Journal of Applied Ecology* (2020), https://besjournals.onlinelibrary.wiley.com/doi/pdf/10.1111/1365-2664.13595; Maria Cramer & Kelly Hamby, "Preventative Insecticides Reduce Seedling Injury But Do Not Increase Yield in Bt and non-Bt Corn Growing Regions of the Mid-Atlantic," 81 no. 6 *Pest Management Science* (June 2025), https://pubmed.ncbi.nlm.nih.gov/39901597/.
[84] Travis A. Grout et al., *Neonicotinoid Insecticides in New York State: Economic Benefits and Risk to Pollinators*, Cornell University (June 23, 2020), https://bit.ly/30AM5GZ.
[85] Jocelyn L. Smith et al., Quantifying Early-Season Pest Injury and Yield Protection of Insecticide Seed Treatments in Corn and Soybean Production in Ontario, Canada, Journal of Economic Entomology (Jul. 11, 2020), https://bit.ly/31BoMMB; Geneviève Labrie et al., "Impacts of Neonicotinoid Seed Treatments on Soil-Dwelling Pest Populations and Agronomic Parameters in Corn and Soybean in Quebec (Canada)," PLOS One, (February 26, 2020), https://doi.org/10.1371/journal.pone.0229136.
[86] Geneviève Labrie et al., "Impacts of Neonicotinoid Seed Treatments on Soil-Dwelling Pest Populations and Agronomic Parameters in Corn and Soybean in Quebec (Canada)," PLOS One, (February 26, 2020), https://doi.org/10.1371/journal.pone.0229136.
[87] Aditi Dubey et al., "Ecological Impacts of Pesticide Seed Treatment on Anthropod Communities in Grain Crop Production."*Journal of Applied Ecology* (2020), https://besjournals.onlinelibrary.wiley.com/doi/pdf/10.1111/1365-2664.13595.
[88] Labrie et al., *Impacts of neonicotinoid seed treatments on soil-dwelling pest populations and agronomic parameters in corn and soybean in Quebec (Canada)*, PLoS ONE 15(2): e0229136. https://doi.org/10.1371/journal.pone.0229136.
[89] J. H. North et al., Value of neonicotinoid insecticide seed treatments in mid-South corn (Zea mays) Production Systems, Journal of Economic Entomology, 111(1): 187–192 (Feb 2018). https://academic.oup.com/jee/article-abstract/111/1/187/4645293?redirectedFrom=fulltext
[90] W. J. Cox and J. H. Cherney, Soybean seed treatments interact with locations for populations, yield, and partial returns, Agronomy Journal, 106(6):2157–2162 (Dec 2014), https://acsess.onlinelibrary.wiley.com/doi/abs/10.2134/agronj14.0074.
[91] Margaret R. Douglas and John F. Tooker, "Large-Scale Deployment of Seed Treatments Has Driven Rapid Increase in Use of Neonicotinoid Insecticides and Preemptive Pest Management in U.S. Field Crops," *Environmental Science Technology* 49, no. 8 (March 20, 2015): 5088-5097, https://bit.ly/35i3Z14.
[92] John Tooker, Why It's Time to Curb Widespread Use of Neonicotinoid Pesticides, MinnPost (July 3, 2018), https://www.minnpost.com/community-voices/2018/07/why-its-time-curb-widespread-use-neonicotinoid-pesticides/.

[93] Alford & Krupke, Translocation of the neonicotinoid seed treatment clothianidin in maize, PLoS One (Mar 10, 2017), https://europepmc.org/article/pmc/pmc5345846.
[94] *See Written Testimony Prepared by Christian Krupke, Ph.D, Regarding N.J. Senate Bill 2288 Professor of Entomology, Purdue University* (June 6, 2019), https://on.nrdc.org/38X3bT5.
[95] *See* Giorio, "An Update of the Worldwide Integrated Assessment (WIA) on Systemic Insecticides Part 1: New Molecules, Metabolism, Fate, and Transport," *Environmental Science and Pollution Research International* (July 15, 2017), https://bit.ly/2qVqciQ.
[96] *Id*.
[97] USDA Economic Research Service, Two companies accounted for more than half of corn, soybean, and cotton seed sales in 2018–20 (Oct. 2, 2023), https://www.ers.usda.gov/data-products/charts-of-note/chart-detail?chartId=107516 (last visited Feb. 11, 2026).
[98] *See, e.g.*, Bayer Crop Science, Gaucho 600 Flowable Seed Treatment, https://www.cropscience.bayer.us/crop-protection/seed-treatment/gaucho-600-flowable-seed-treatment (last visited Feb. 11, 2026) (containing imidacloprid, a neonic); Corteva Agriscience, Lumivia Insecticide Seed Treatment, https://www.corteva.com/us/products-and-solutions/seed-treatments/lumivia.html (last visited Feb. 11, 2026) (containing chlorantraniliprole, a systemic insecticide in the anthranilic diamide class).
[99] Kristina Beethem et al., Navigating the Information Landscape: Public and Private Information Source Access by Midwest Farmers 40 Ag. and Human Values 1117-1135 (Jan. 7, 2023), available at https://link.springer.com/article/10.1007/s10460-022-10411-5.
[100] Pioneer, Find Your Local Pioneer Team, https://www.pioneer.com/us/sales-representatives/my-local-team.html.
[101] Aimee Code, Xerces Society, Sowing Uncertainty: What We Do and Don't Know about the Planting of Pesticide-Treated Seed (Mar. 18, 2020), https://xerces.org/blog/sowing-uncertainty-pesticide-treated-seed; *see also* Claudia Hitaj et al., Sowing Uncertainty: What We Do and Don't Know about the Planting of Pesticide-Treated Seed, 70(5) BioScience 390-403 (May 2020), https://academic.oup.com/bioscience/article-abstract/70/5/390/5805569?redirectedFrom=PDF.
[102] *See* EPA, "Registration for Imidacloprid (NTN 33893)," March 10, 1994, p. 7, https://bit.ly/2K36Bbl (listing the honeybee LD50 as 0.0039 µg per bee); Bayer, Merit 2f Insecticide, https://label.westernpest.com/files_techservices/live/bayer.merit2f102416.label.pdf (prescribing up to .4 lbs. of imidacloprid per acre).
[103] Institut de la statistique du Québec, "Area of Field Crops, Yield Per Hectare and Production, 2018–2022," (July 16, 2025), https://statistique.quebec.ca/en/ document/area-of-field-crops-yield-per-hectare-and-production-by-combined-administrative-regions/tableau/area-of-field-crops-yield-per-hectare-andproduction-by-combined-administrative-regions#tri_cult=10; Scott McArt, "Notes from the Lab: The Latest Bee Science Distilled," American Bee Journal, (May 2024): 305–310, https://bpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/8/5278/files/2024/02/03-McArt-article_March2024-c3e0b3a12669895e.pdf.
[104] Marc Fawcett-Atkinson, Inside Quebec's fight over bee-killing pesticides, *Canada's National Observer* (Jan. 2025), https://www.nationalobserver.com/2025/01/31/news/quebec-fight-neonics-bee-killing-pesticides
[105] Birds and Bees Protect Act, NY S1856/A7640, https://nyassembly.gov/leg/?default_fld=&leg_video=&bn=A08571&term=2023&Summary=Y&Text=Y; An Act Relating to Banning the Use of Neonicotinoid Pesticides, VT H.706/A182, https://legislature.vermont.gov/Documents/2024/Docs/ACTS/ACT182/ACT182%20As%20Enacted.pdf.

Minnesota House of Representatives

State Office Building

St. Paul, MN 55155. March 4, 2026

To: Chairs Hansen and Anderson, and Members of the House Agriculture Finance and Policy Committee

Subject: Support for HF 3704 – Regulating Systemic Insecticide-Treated Seeds and Neonicotinoid Use

Introduction

American Bird Conservancy (ABC) is a 501(c)(3) non-profit organization dedicated to conserving wild birds and their habitats throughout the Americas.

We are writing today to express our **strong support for HF 3704**. This legislation represents a critical, common-sense step toward protecting Minnesota's avian populations, pollinators, and water quality from the pervasive and often unnecessary use of neonicotinoid insecticides (neonics). By modernizing the oversight of treated seeds and non-essential ornamental applications, HF 3704 ensures that these potent chemicals are used only when a documented need exists, rather than as a default pre-emptive strike that lacks environmental accountability.

The Critical Threat to Minnesota's Birds

For over a decade, ABC has sounded the alarm on the unique risks posed by neonicotinoids. Unlike traditional contact pesticides, neonics are **systemic**: they are absorbed by the plant and translocated into all tissues, including nectar, pollen, and the very fruit or grain the plant produces.

1. Direct Toxicity: The One Seed Reality

The primary route of exposure for many birds is the direct ingestion of treated seeds. During the spring planting season, seeds are often spilled at field corners or left inadequately buried. The Minnesota Department of Natural Resources, has confirmed that:

- **A single corn seed** coated with neonicotinoids contains enough active ingredient to kill a songbird the size of a Blue Jay.
- Even **sub-lethal doses**—amounts too small to kill outright—can be devastating. These chemicals are neurotoxins that impair a bird's ability to fly, navigate during migration, and successfully reproduce.

2. Indirect Collapse: The Loss of the Food Web

Beyond direct poisoning, neonics are driving a quiet catastrophe by decimating the insect populations that birds rely on for food. Roughly 96% of North American terrestrial birds feed insects to their young. When neonicotinoids leach into Minnesota's soil and water—where they can persist for years—they create biological deserts by killing off the aquatic and terrestrial invertebrates that form the foundation of the food chain.

HF 3704: A Common Ground, Common Sense Approach

Opponents of pesticide regulation often frame the conversation as a choice between farming and the environment; HF 3704 proves that this is a false dichotomy. This bill is not a ban; it is a smart-regulation framework designed to protect farmers' autonomy while ending the era of unregulated, ubiquitous chemical saturation.

A Measured Waiver System

The core of HF 3704 is the requirement for a pest risk assessment before using treated seeds. Currently, it is nearly impossible for many Minnesota farmers to purchase high-quality corn or soybean seeds that are *not* pre-treated with neonics, regardless of whether they have a pest problem.

- **Targeted Use:** This bill allows farmers to use these tools when a demonstrable pest issue exists.
- **Data-Driven:** It empowers the Commissioner of Agriculture to grant waivers based on actual need, mirroring a prescription model rather than a one-size-fits-all mandate.

Focus on Non-Essential Uses

By prohibiting the application of neonics to ornamental plants and turf (except in emergencies), the bill targets uses that are purely aesthetic and offer no contribution to the state's food security. This is a common-sense trade-off: we should not be poisoning our backyard birds and pollinators for the sake of a slightly greener golf course or a pest-free rose bush.

Not Overly Burdensome

We recognize the importance of the agricultural economy. HF 3704 includes clear exemptions for environmental emergencies and provides a multi-year lead time (effective January 1, 2029) for the industry to adapt. This gives seed dealers and producers the necessary window to adjust their inventories and for the Department of Agriculture to establish the waiver process.

Conclusion

Minnesota has a proud history of environmental stewardship, yet recent studies on Minnesota prairie grouse, specifically sharp-tailed grouse and greater prairie-chickens, found that 65% to 93% of sampled birds had detectable levels of at least one neonicotinoid pesticide in their system. The treated article loophole has allowed millions of pounds of these chemicals to enter our environment without the standard tracking required of other pesticides.

HF 3704 closes that loophole. It is a balanced, evidence-based measure that protects our birds from a preventable death while ensuring Minnesota farmers have the tools they need when—and only when—they truly need them.

American Bird Conservancy urges a YES vote on HF 3704.

Respectfully submitted,

American Bird Conservancy

Minnesota State Capitol

75 Rev. Dr. Martin Luther King Jr. Blvd

St. Paul, MN 55155 **March 10, 2026**

Subject: **Support for H.F. 3704 / S.F. 4052 – Protecting Minnesota's Birds and Ecosystems from Systemic Insecticides**

Dear Members of the Minnesota Agriculture Committees,

On behalf of American Bird Conservancy and the undersigned organizations, we are writing to express our strong support for **H.F. 3704 / S.F. 4052**. This critical legislation addresses the pervasive threat that systemic and neonicotinoid insecticides pose to Minnesota's bird populations, pollinators, and overall ecosystem health.

The Need for Action

Systemic insecticides are designed to be absorbed by plants and translocated throughout their entire tissue, making the plant itself toxic to insects. While intended for pests, these chemicals have devastating non-target effects. Neonicotinoids, a specific class of these insecticides, are particularly mobile in the environment and are known to contribute to the decline of bird and pollinator populations.

Key Provisions of H.F. 3704 / S.F. 4052

This bill provides a common-sense, phased approach to reducing chemical dependency while providing flexibility for genuine emergencies:

- **Restricting Treated Seeds:** Beginning January 1, 2029, the bill prohibits the sale or distribution of major crop seeds (including corn, soybean, and wheat) coated with systemic insecticides.
- **Protecting Urban Landscapes:** It prohibits the application of neonicotinoid insecticides on outdoor ornamental plants and turf, where such chemicals are often used for purely aesthetic reasons at the expense of local biodiversity.

- **A Balanced Waiver System:** The bill allows for farm-specific waivers in cases where a demonstrable pest issue exists, provided the applicant completes integrated pest management training and a professional risk assessment.
- **Emergency Safeguards:** The Commissioner of Agriculture retains the authority to permit use during environmental emergencies to protect agricultural crops or public health from significant harm.

Collective Concern for Minnesota's Birds and Ecosystems

As organizations dedicated to the protection of wild birds and their habitats, we are deeply concerned by the systemic nature of neonicotinoids. Unlike traditional pesticides, these chemicals permeate the entire plant—including the pollen, nectar, and seeds—creating a landscape that is toxic to wildlife.

- **Direct Impact on Avian Health:** Scientific evidence confirms that neonicotinoids are acutely toxic to birds. Ingestion of even small amounts can lead to immediate mortality, while sub-lethal exposure impairs a bird's ability to migrate, navigate, and reproduce.
- **Destabilizing the Food Web:** By design, neonicotinoids are highly effective at killing insects. For many Minnesotan birds, the loss of their primary food source leads to indirect starvation and reduced fledgling survival.
- **Watershed Contamination:** Due to their high water solubility, these chemicals easily leach into sensitive watersheds and aquatic environments, threatening not just terrestrial species but aquatic ecosystems as well.

We believe that **H.F. 3704 / S.F. 4052** strikes a necessary balance between supporting our agricultural heritage and fulfilling our duty to protect the natural world for future generations.

We urge you to support the passage of H.F. 3704 / S.F. 4052.

Sincerely,

American Bird Conservancy

Audubon Upper Mississippi River

American Bird Conservancy

Roots Return Heritage Farm LLC

Midwest Farmers of Color Collective

Minnesota River Valley Audubon

Urban Bird Collective

Zumbro Valley Audubon Society

Xerces Society

Reducing Neonic Use in Minnesota

Neonicotinoid insecticides ("neonics") are a class of **neurotoxic chemicals** widely used as seed coatings on vast swaths of agricultural land. In Minnesota, neonicotinoids are used on over **12 million acres**, primarily on corn and soybean crops.

This legislation aims to reduce environmental and health risks by restricting the **unnecessary use** of systemic insecticides, particularly neonicotinoids, in agriculture and outdoor landscaping. This bill prioritizes Integrated Pest Management by ensuring these chemicals are used only when a demonstrable pest threat exists.

H.F. 3704 / S.F. 4052

- **Protect Water Quality:** Neonics are water-soluble and frequently contaminate surface water, groundwater, and drinking water sources. Conventional treatment often fails to remove them.
- **Save Pollinators:** These chemicals are a leading driver of massive declines in bee and butterfly populations, which are critical for ecosystems and food production.
- **Protect Human Health:** Exposure is linked to neurological and developmental harms in humans, especially pregnant women and babies.
- **Protect Soil Health:** Neonics can degrade soil health by killing beneficial microbes.
- **Economic Efficiency:** Research suggests that the routine use of neonic-coated seeds often provides no net economic benefit to farmers.

Q&A

Q: Will this ban all uses of these pesticides?
A: No. The bill targets unnecessary preventative use. Farmers can still obtain waivers if they prove a specific pest problem exists. And certified applicators can still treat invasive species on woody plants.

Q: How does a farmer get a waiver?
A: A farmer must complete training and have a third-party assessment verify that the pest pressure on their specific farm requires the use of treated seeds because no other method will work.

Q: When does this take effect?
A: The prohibition on treated seeds begins on January 1, 2029.

Major Provisions

1. Agricultural Seed Use

- Beginning January 1, 2029, it will be unlawful to sell, use, or distribute seeds coated with systemic insecticides for specific field crops.
- Crops: Barley, canola, corn, millet, oat, rye, safflower, sorghum, soybean, sunflower, and wheat.
- Farmer Exemptions (Waivers): The Commissioner may grant a one-year waiver for a specific farm if certain conditions are met.

2. Outdoor Ornamental & Turf

- General Prohibition: It will be unlawful to apply neonicotinoid insecticides to outdoor ornamental plants and turf.
- Restricted Use: Any non-agricultural systemic insecticide registered for outdoor plants will be designated as a restricted use pesticide.
- Exceptions:
  - Invasive Species: Certified applicators may still treat invasive species affecting woody plants.
  - Environmental Emergencies: The Commissioner may authorize use for up to one year to address significant risks to the environment, health, or agriculture

3. Training & Enforcement

- Civil Penalties: In line with existing pesticide law, violators may be subject to a fine.
- Training Requirements: Applicators using systemic insecticides must take an annual department-approved course and maintain records for three years.

Serena Chenery
Advocacy Coordinator
schenery@abcbirgs.org

American Bird Conservancy

ENVIRONMENT MINNESOTA
Clean air. Clean water. Open space.

6417 Penn Ave. S., Ste. 8 iPMB 1016
Minneapolis, MN 55423-1196
(612) 331-8404

www.EnvironmentMinnesota.org
info@EnvironmentMinnesota.org
/EnvironmentMinnesota
/EnvironmentMN

March 11th, 2026

Representatives Rick Hansen and Paul Andersen, Co-Chairs
House Agriculture Finance and Policy, Minnesota Legislature

Re: Environment Minnesota supports H.F. 3704

Chair Putnam, Co-chair Hansen, and Co-chair Andersen,

Environment Minnesota is a policy and action group with one mission: to restore and protect the natural world. Our staff works for clean air, clean water, clean energy, wildlife, open spaces and a livable climate. Our members across the state put grassroots support behind our research and advocacy. We support HF 3704 because we recognize the vital role that pollinators play in sustaining ecosystems and food production.

Bees and other pollinators are essential to Minnesota's agriculture and biodiversity, yet they face alarming declines due to habitat loss, climate change and toxic pesticides. Research shows that neonicotinoids (aka, neonics) and other harmful chemicals contribute to bee die-offs by impairing reproduction, navigation and immune function. Without urgent action, these declines threaten food security and Minnesota's natural heritage.

Over the past few years, Environment America, our national organization, has sent out canvassers across the country to talk to communities about the threats that face pollinators, including neonics. Whether we're connecting with gardeners, academics, folks at a farmer's markets, everyday Americans on their doorstep, or students from the elementary all the way to the college level, we've seen an outpouring of support for restricting the use of these toxic insecticides to help save pollinators.

Creating a verification of need program for insecticide-coated seeds, alongside prohibiting neonic application on gardens and lawns are common-sense solutions that will keep these dangerous products out of the hands of people that don't understand the havoc they can wreak. It will also reduce harmful neonics contamination by 90%. By passing HF 3704, Minnesota can join New York and Vermont in restricting neonics to protect both pollinators and our citizens. Passage of HF 3704 could ensure a healthier environment for future generations of Minnesotans.

Thank you,

Sincerely,
Katelynn Rolfes
Conservation Advocate
Environment Minnesota

Cornell IPM
New York State Integrated Pest Management

Cornell CALS
College of Agriculture and Life Sciences

Subject: Testimony Re: HF 3704 March 5, 2026

Rep. Paul Anderson
Co-Chair, Agriculture Finance & Policy Cmte.
State Office Building100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155
Rep. Rick Hansen
Co-Chair, Agriculture Finance & Policy Cmte.
State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155

Dear Co-Chairs Anderson and Hansen,

My name is Alejandro Calixto, and I serve as the Director of the Cornell Integrated Pest Management Program. I am an entomologist with 25 years of experience working in both university and the private-sector. I am here to highlight key findings from Cornell University's extensive research assessing the risks of pests in field crops, evaluating alternatives to neonicotinoid insecticide seed treatments and assessing both their risks and their real-world benefits.

Cornell's studies make several points clear. First, consistent with the findings presented by my colleagues in the most comprehensive review to date (Grout, T. A., P. A. Koenig, J. K. Kapuvari, and S. H. McArt. 2020. *Neonicotinoid insecticides in New York: Economic benefits and risk to pollinators*. 432 pp.), neonicotinoids can provide benefits to certain crops. However, the review also emphasized that these benefits come with significant ecological risks, particularly when neonicotinoids are used as seed treatments, where they pose documented threats to pollinators and other beneficial insects. Federal assessments further reinforce these concerns, concluding that neonicotinoid seed treatments provide little or no benefits at all, but that may jeopardize the survival of more than 200 threatened and endangered species (C. Myers and E. Hill. *Benefits of Neonicotinoid Seed Treatments to Soybean Production.* 2014 Office of Chemical Safety and Pollution Prevention, U.S. Environmental Protection Agency, Washington, District of Columbia),

To better support growers, reduce reliance on these insecticides, and return to foundational Integrated Pest Management (IPM) practices, including assessing pest risk before selecting a management tool, Cornell IPM, with support from the New York State Department of Agriculture and Markets, has conducted the largest multi-farm, multi-year field studies to date, spanning 2022 to the present. These studies, carried out on nearly 80 farms across New York State, evaluated both actual pest pressures and the performance of neonicotinoid seed treatments compared to alternative products, including the option of no insecticide seed treatment, with a strong emphasis on determining pest risk.

Cornell IPM
College of Agriculture and Life Sciences
Cornell University

607 W. North Street
Geneva, NY 14456

nysipm.cornell.edu

One of the most important preliminary findings is that the risk of **pest damage is less than 1%** in field corn, sweet corn, and soybean. Several IPM tactics, including using **no insecticide seed treatment at all, provided benefits equivalent to those of neonicotinoid treatments**, **and yields were not compromised**. This demonstrates that effective pest management begins with evaluating pest risk, which helps determine the need for any management tactic—risk that, in this case, appears to be extremely low.

Taken together, Cornell's research shows that the ecological risks of neonicotinoid seed treatments are high, while their practical benefits are inconsistent and often limited in real-world agricultural settings. At the same time, effective alternatives, including risk-based decision-making and, when appropriate, no seed treatment at all, demonstrate that agriculture can reduce reliance on these insecticides while maintaining productive, resilient farming systems.

Thank you.

Alejandro Calixto, Ph.D.
Director, Cornell Integrated Pest Management Program

To: Members of the House Committee on Agriculture Finance and Policy

From: Frank Plescia, CropLife America (CLA)
Jon Gaeta, Responsible Industry for a Sound Environment (RISE)
Jordan Gregory, American Seed Trade Association (ASTA)

Date: March 9, 2026

RE: HF 3704; Prohibit the sale and distribution of certain seeds coated or treated with systemic insecticides

Position: OPPOSE

Co-Chair Hansen, Co-Chair Anderson, and distinguished members of the House Agriculture Finance and Policy Committee:

Thank you for the opportunity to provide written testimony regarding **HF 3704**, legislation that would prohibit the sale and distribution of certain seeds treated with systemic insecticides unless approved by the Commissioner of Agriculture. CropLife America, RISE and ASTA respectfully oppose this legislation and urge the committee to carefully consider the unintended consequences it may create for Minnesota agriculture, pest management, and regulatory consistency.

Our associations support science-based policy and regulatory processes for pesticide products at both the federal and state levels. Pesticides used in the United States undergo an extensive and ongoing review process under the **Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)**, administered by the U.S. Environmental Protection Agency (EPA). Through this process, pesticides are evaluated using rigorous scientific standards to ensure they perform their intended function **without unreasonable adverse effects on human health or the environment**.

Neonicotinoid insecticides and other systemic products used as seed treatments have undergone this comprehensive review and are registered for use when the EPA determines they meet these safety standards. This federal process is supplemented by state regulatory oversight. The Minnesota Department of Agriculture already has authority and expertise to regulate pesticides within the state and ensure products are used safely and appropriately.

HF 3704 risks creating a duplicative and potentially conflicting regulatory structure that could undermine the existing science-based system. Restricting treated seed sales through a new approval framework could disrupt well-established regulatory processes and introduce uncertainty for farmers, seed suppliers, and agricultural retailers.

Seed treatments are an important component of Integrated Pest Management (IPM). They provide targeted protection against early-season pests, often reducing the need for additional pesticide applications later in the growing season. In many cases, seed treatments represent one

of the most precise and efficient pest management tools available, allowing growers to protect crops while minimizing environmental exposure compared with alternative application methods.

Beyond agriculture, restrictions on neonicotinoid products can also have significant consequences for Minnesota's green industry, including professional landscapers, arborists, golf courses, lawn care providers, nurseries, and greenhouse operators. These professionals rely on targeted pest management tools to control destructive insects that damage trees, shrubs, turfgrass, and ornamental plants in residential landscapes, parks, and community spaces. Neonicotinoid products are often used as precise, low-volume applications—such as soil drenches or trunk injections—that minimize off-target exposure while effectively controlling pests. Removing these tools may force professionals to rely on older or less targeted pest control options, potentially requiring more frequent applications or products with different environmental profiles.

Limiting access to treated seeds could also place Minnesota farmers at a competitive disadvantage compared with growers in neighboring states who retain access to the same crop protection tools. This could lead to increased pest pressure, reduced yields, and greater reliance on older or less targeted pest control options.

Additionally, policies that restrict commonly used pest management tools can disproportionately impact smaller farms and cost-sensitive producers, who rely on affordable and effective seed technologies to maintain productivity. If farmers are forced to switch to more expensive or less effective alternatives, the resulting costs may ultimately be passed on to consumers through higher food prices.

For these reasons, CropLife America, RISE and ASTA believe that pesticide policy should continue to rely on established scientific review processes and regulatory expertise at the federal and state levels. Creating new restrictions outside of this framework risks undermining the balanced, science-based system already in place.

We respectfully request that the committee **oppose HF 3704.**

Sincerely,

Frank Plescia	Jon Gaeta	Jordan Gregory
CLA	RISE	ASTA
FPlescia@croplifeamerica.org	Jgaeta@Pestfacts.org	JGregory@betterseed.org

CropLife America (CLA) represents the manufacturers, formulators and distributors of crop protection products in the United States. CLA member companies produce, sell and distribute virtually all the crop protection products used by American farmers.

RISE (Responsible Industry for a Sound Environment) is the national trade association representing manufacturers, formulators, distributors and other industry leaders engaged with specialty pesticides and fertilizers used by professionals and consumers.

Founded in 1883, ASTA represents over 650 companies involved in seed production and distribution, plant breeding, and related industries in North America. ASTA members research, develop, produce, and distribute all varieties of seeds – including grasses, forages, flowers, vegetables, row crops, and cereals.

Dear Chair Putnam, Co-Chair Hansen, and Co-Chair Andersen,

Writing as Co-President of the St Croix Oak Savanna Chapter, Wild Ones Native Landscaping, I am asking you to support H.F. 3704. I am almost 80, I grew up in St Louis, MO, and Silent Spring came out in 1962, when I was 16. It affected me deeply then and it still does. I'm guessing that people now have not idea how abundant insects and birds used to be in the 1950's and 1960's. Giant Junebugs were very common at street lights at night and there used to be lots of fireflies. People now have no idea how it used to be and what they are missing. Unfortunately, we now not only have a silent Spring but also a silent Summer and a silent Fall.

Our bird and insect populations have plummeted to a scary level. We used to visit Monarch sanctuaries along the West coast and now Park staff there say not to bother visiting any more — there is very little to see. That is very different from when we first went to these parks, and very sad. I just skimmed an article about the Rusty Patch and their only refugia seem to be in cities; farmlands are killing fields.

Our birds and insects have a right to healthy communities - they are not just externalities that can be ignored: **we are fouling the nest we all live in, and that has to change**. Please accept the science that neonics are a serious health hazard for all living things, and a waste of money. Thank you.

Howard Markus, Ph.D.; P.E. retired
9175 Pinehurst Road
Woodbury, MN 55125

March 9, 2026

House Agriculture Finance and Policy Committee

Chairs Anderson and Hansen, Committee members:

Re: **Support for HF 3704 (Pursell) / SF 4052 (Kunesh): To limit and Regulate Unnecessary Neonicotinoid Pesticide Contamination**

The neonicotinoids (neonics) are a class of systemic pesticides with several different chemical formulations and are some of the most commonly used pesticides worldwide.

When these chemicals are used to coat the corn and soybean seeds, planted on 11 million acres in MN, a small amount is taken up by the entire plant from roots to flowers, but a large portion is left contaminating the soil and leading to runoff harming wildlife in adjacent wetlands and waterways. In addition, the neonics are found in many products sold in hardware and garden centers and are absolutely unnecessary in home gardens and landscapes - I have found them in the contents of products sold to control predatory beetles and boxelder bugs! As an entomologist this is totally irresponsible and a harmful use of these chemicals which can kill beneficial insects and spiders.

Over the last 10 years scientific research has increasingly shown harm to pollinators and other beneficial insects, mammals, birds, fish, and more recently harming humans.

It is the responsibility of the Minnesota Department of Agriculture to regulate chemicals in pesticides harmful to our natural resources, including water, wildlife and human health. However, it has *not considered pesticide coated seeds as pesticides,* so these seeds are unregulated, without proper oversight and have become a serious threat to ecosystem integrity.

In two decades the neonics have profoundly changed our landscapes by contaminating our soils and waters and degrading our natural resources.

As an entomologist I have seen the changes in the invertebrate fauna in rivers and streams and so its reflection in the birds, fish, and other animals dependent on these organisms for food.

Time and again research has proven the connection between neonics and the losses in beneficial insect and bird populations, and more recently they have been found in deer. The coated seeds have been restricted in NY and VT and banned for non-

agricultural use in NJ, NH, and ME. They have also been banned in France and restricted in other European countries.

It is time for MN to take this issue seriously. **Please support HF 3704 restricting the sale and distribution of neonic coated seeds and prohibit the application to ornamental outdoor plants and turf.**

Sincerely,

Margot Monson, entomologist

St Paul, MN

The attached references represent only a short list of peer reviewed research papers.

--

Resources Cited

i Dr. Jennifer Sass, Neonic Pesticides: Potential Risks to Brain and Sperm (Jan. 6, 2021), https://www.nrdc.org/bio/jennifer-sass/neonic-pesticides-potential-risks-brain-and-sperm.

ii Jessie Buckley et al., Exposure to Contemporary and Emerging Chemicals in Commerce among Pregnant Women in the United States: The Environmental influences on Child Health Outcome (ECHO) Program (May 10, 2022), https://pubs.acs.org/doi/10.1021/acs.est.1c08942.

iii J.R. Reilly et al., Crop production in the USA is frequently limited by a lack of pollinators (July 29, 2020), https://winfreelab.com/wp-content/uploads/2020/07/Reilly2020_PRSB.pdf.

iv Harvard T.H. Chan School of Public Health, Pollination loss removes healthy foods from global diets, increases chronic diseases causing excess deaths (Dec. 14, 2022), https://hsph.harvard.edu/news/pollination-loss-removes-healthy-foods-from-global-diets-increases-chronic-diseases-causing-excess-deaths/.

v Genevieve Labrie et al., Impacts of neonicotinoid seed treatments on soil-dwelling pest populations and agronomic parameters in corn and soybean in Quebec (Canada) (Feb. 26, 2020), https://pmc.ncbi.nlm.nih.gov/articles/PMC7043745/.

vi USDA, Agriculture Marketing Service, More and Better Choices for Farmers: Promoting Fair

Competition and Innovation in Seeds and Other Agricultural Inputs (Mar. 2023), https://www.ams.usda.gov/sites/default/files/media/SeedsReport.pdf.

vii Laura Guzman et al., Impact of pesticide use on wild bee distributions across the United States (Aug. 27, 2025), https://www.nature.com/articles/s41893-024-01413-8; Braeden Van Deynze et al., Insecticides, more than herbicides, land use, and climate, are associated with declines in butterfly species richness and abundance in the American Midwest (June 20, 2024), https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0304319.

viii Yijia Li et al., Neonicotinoids and decline in bird biodiversity in the United States (Aug. 10, 2020), https://www.nature.com/articles/s41893-020-0582-x#citeas; Masami Yamamuro et al., Neonicotinoids disrupt aquatic food webs and decrease fishery yields (Nov. 1, 2019), https://www.science.org/doi/10.1126/science.aax3442.

ix Natural Resources Defense Council, Need-Based Use Programs for Insecticides Work (Dec. 2025), https://www.nrdc.org/sites/default/files/2025-12/Need_Based_Pesticides_FS_25-12-B_06_locked.pdf

Trout Unlimited
Twin Cities Chapter
P.O. Box 2786
Minneapolis, MN 55402

March 7, 2026

Senator Aric Putnam, Chair
Senate Agriculture, Veterans, Broadband, and Rural Development Committee
Representatives Rick Hansen and Paul Anderson, Co-Chairs
House Agriculture Finance and Policy Committee

Re: Support for H.F. 3704 (Pursell) to Limit Unnecessary Pesticide Use

Dear Chair Putnam, Co-Chair Hansen, and Co-Chair Anderson,

On behalf of the two-thousand members of the Twin Cities Chapter of Trout Unlimited, I am writing to support **H.F. 3704 (Pursell)** to address unnecessary uses of insecticides, especially neurotoxic neonic pesticides.

One of the best-kept secrets in the Land of Ten Thousand Lakes is our world-class trout fishing. That's right, along with the great Walleye, Bass and Musky fishing, there are terrific trout streams flowing into Lake Superior on the North Shore and into the Mississippi River in the Driftless Region of Southeast Minnesota. The Straight River, near Park Rapids, may be the best trophy trout stream between the Rockies and the Appalachians. There is no better place to be than a bend in the Straight at twilight on a June evening. Gigantic brown trout rise to *Hexagenia limbata*, America's largest mayfly species, while lighting bugs flash and wolves howl in the distance. Aquatic insects form the base of the food chain for all of our streams, and that food chain is threatened by neonics.

I am attaching a document that explains why we, and other hunting- and fishing-related conservation organizations, are concerned about neonics. The document contains numerous peer-reviewed references, but the bottom line is that we are poisoning our soil, groundwater and waterways. We have heard countless stories from our chapter members about the recent dramatic declines in insect hatches, and what it portends for the future of our trout streams in particular and our environment in general. In ten years of volunteering with Trout Unlimited, including serving as the chapter president for four years, I have never heard of an issue that resonated as much with our membership as neonics.

Most of our trout streams run through farmland, and Minnesota farmers have been amazing stewards of their land. Thanks to their efforts, erosion has been reduced, clogged springs are flowing freely again, and we have more miles of trout streams now than we did 30, 50 or 100 years ago. We want farmers to thrive. Neonic-treated seeds are not helping them to do so. There is no good evidence that treated seeds improve agricultural yields or farm profitability in Minnesota, but nearly 100% of corn seeds and over 50% of soybean seeds are treated with neonics—often without the farmers' knowledge. We believe that **H.F. 3704 (Pursell)** is a common-sense approach that will protect our environment in a way that works for Minnesota farmers. It would also

prohibit lawn and garden uses that create toxic hotspots—eliminating the vast majority of neonic contamination by reining in high-cost, low-benefit neonic uses.

We urge your support for this important bill.

Bob Luck
Chair, Neonics Advocacy Team
023 - Twin Cities Chapter of Trout Unlimited
www.twincities tu.org
info@twincitiestu.org

Attention hunters, anglers, nature lovers and outdoors folks

Neonic-coated seeds: Why do we care?

- Widespread use of neonicotinoid insecticides threatens the health of Minnesota ecosystems.
- Neonicotine seed coatings are currently exempt from regulation, though studies show negligible financial benefit to farmers.[5]
- We are advocating for a targeted approach (**not an all-out ban**) to the regulation of neonicotinoid-coated seeds, benefiting wildlife while maintaining farmer's bottom lines.
- Follow the QR code below and the Notes on page 2 to learn more about neonics.

What are neonics?

- Nicotine-based insecticides acting as neurotoxins
- Water soluble, easily leaching into streams, lakes, groundwater and drinking water
- Toxic seed coating on nearly all corn seeds and most soybean seeds
- Indiscriminate poisons having lethal and important sub-lethal effects on ability to reproduce, escape prey and acquire food[2, 3]

What does research suggest?

- Minnesota Department of Agriculture found at least one neonic in 95 percent of regularly sampled flowing-water sites, and 87 percent of sites showed two or more neonics present.[3]
- At a minimum, 80 percent of neonics seed treatment leaches into water sources.
- Sustained levels of neonics sampled in urban lakes and streams
- Half of the U.S. population is exposed to at least one neonic chemical.[2]
- Children 3-5 years olds are subject to higher exposures, and therefore, higher risk.[6]
- Sub-lethal exposure in people and animals may lead to reproductive difficulty, neurological and developmental issues.[6]

How are fish and their food sources impacted?

- Neonics are highly toxic to aquatic and terrestrial invertebrates that serve as a food source to many animals including, but not limited to, fish.
- Over the past 10 years, anglers report drastically reduced, more sporadic insect hatches.
- Radar imagery of the Hexagenia hatch on the Mississippi River shows a nearly 50 percent reduction in hatch volume.
- In 2002, MN stream anglers had an economic impact of over $47 million and 820 jobs.[8]

What are the impacts on pollinators, birds and bees?

- One neonic treated corn seed can kill 80,000 bees.[1]
- Sharp-tailed grouse and prairie-chicken livers (90 % and 76 %, respectively) sampled in Minnesota had detectable concentrations of more than one neonicotinoid.[7]
- Insect mortality threatens human food production and reduces food available for birds, fish, wild turkeys, pheasants and other animals that forage for insects.

Are large mammals like deer impacted?

- In 2019, 29 percent (64 percent in 2021) of deer sampled had levels associated with fawn mortality and birth defects."[4]
- Deer spleen neonic incidence increased from 61 percent of deer sampled in 2019 to 94 percent in 2021.[4]

Notes:

1. Bolt, Clay. “Pesticide-Free Seeds Could Be Critical to Helping Native Bees | Blog | Nature | PBS.” Nature, May 22, 2025. https://www.pbs.org/wnet/nature/blog/pesticide-free-seeds-could-be-critical-to-helping-native-bees/.

2. Lindwall, Courtney. “Effects of Neonicotinoids on Humans and Bees.” Natural Resources Defense Council (NRDC), June 11, 2025. https://www.nrdc.org/stories/neonicotinoids-101-effects-humans-and-bees.

3. Mineau, Ph.D., Pierre. Neonic Pesticides in Minnesota Water - Their Contamination of and Threats. https://www.nrdc.org/sites/default/files/2024-12/neonic-pesticides-in-minnesota-water.pdf. (Minnesota), December 2024, 51.

4. Gunderson, Dan. “Data Show Increasing Insecticide Levels in Minnesota Deer.” MPR News, Minnesota Public Radio, August 23, 2022. https://www.mprnews.org/story/2022/08/23/data-show-increasing-insecticide-levels-in-minnesota-deer.

5. Mourtzinis, Spyridon, Christian H. Krupke, Paul D. Esker, et al. “Neonicotinoid Seed Treatments of Soybean Provide Negligible Benefits to US Farmers.” Scientific Reports 9, no. 1 (2019): 11207. https://doi.org/10.1038/s41598-019-47442-8.

6. “Neonic Pesticides: Potential Risks to Brain and Sperm.” January 6, 2021. https://www.nrdc.org/bio/jennifer-sass/neonic-pesticides-potential-risks-brain-and-sperm.

7. Roy, Charlotte L., and Da Chen. “High Population Prevalence of Neonicotinoids in Sharp-Tailed Grouse and Greater Prairie-Chickens across an Agricultural Gradient during Spring and Fall.” Science of The Total Environment 856 (January 2023). https://doi.org/10.1016/j.scitotenv.2022.159120.

8. Gartner, PhD, William C, Lisa L Love, PhD, Daniel Erkkila, PhD, David C Fulton, PhD, Tourism Center, University of Minnesota Extension Service, and Minnesota Cooperative Fish and Wildlife Research Unit. “Economic Impact and Social Benefits Study of Coldwater Angling in Minnesota.” “Final Report.” Report (Minnesota), 2002, 129. https://files.dnr.state.mn.us/fisheries/management/coldwateranglingreport.pdf

Minnesota
Crop Production Retailers

1020 Innovation Lane | Mankato, MN 56001 | P: 763.235.6466
www.mcpr-cca.org

March 11, 2026

To: MN House Agriculture Finance and Policy Committee

Re: HF 3704 – Opposed

Minnesota Crop Production Retailers (MCPR) is a statewide trade association representing the agricultural co-ops and ag retailers in Minnesota.

MCPR opposes HF 3704, and we continue to believe there is a solid use case for maintaining the availability of treated seeds.

Seeds treated with insecticides contain very small amounts of active ingredients that are precisely calibrated to support seed germination and provide crop protection during early growth phases. Additionally, the treated seeds reduce exposure to non-target organisms by direct application to the seed, which is planted into the ground. Seed treatments are carefully regulated for both safety and efficacy.

MCPR supports the science-based approach to regulated treated articles. Our retailers and industry partners are well-positioned to provide our farmer customers with the agronomic advice, crop-protection tools, and operational support they need to produce their crops responsibly and efficiently.

Again, thank you for your thoughtful consideration and ongoing support for agriculture in Minnesota.

Sincerely,

Lee Helgen

Lee Helgen, Executive Director
Minnesota Crop Production Retailers

March 10, 2026

Representative Purcell, Hansen, Fischer, Momanyi-Hiltsley, Cha, Kraft, Gottfried, Frazier, Vang, Lee, Agbaje, Smith, Falconer, Liebling, Johnson

Dear House Agriculture Committee,

Re: Support of HF 3704 (Purcell) to Limit Unnecessary Pesticide Use.

Representative Purcell and members of the committee, my name is Monta Hayner. I am a member of Trout Unlimited and an MN Master Naturalist. I am the President of the local Fly Fishers International Club as well as our Council's Vice President. I am an Orvis Endorsed guide through the Driftless Fly Fishing Company in Preston MN and I have been fly-fishing in SE MN for 27 years. I support HF 3704 because clean water is essential for healthy fish populations and healthy humans, but runoff from neonic treated seeds threatens that.

Knowledge of aquatic insects is crucial to successful fly fishing and guiding. I have not seen large hatches of aquatic insects since 2019. I remember the last big caddis hatch was when I was teaching fly casting for Fly Fishing Women of Minnesota at the park in Preston. Suddenly there were caddis flies rising from the river in great hoards. The swallows were flying to eat them, and the trout were rising. The hatches since then are much more sporadic. They do not hatch in the same numbers as before. There are a few and then a few and then a few. I've heard similar stories from other fly anglers. This decrease is supported by the radar images of Hexagenia mayflies on the Mississippi River which are down 50 percent.

I regularly pick up rocks from the streams to examine the larval stage of aquatic insects. What concerns me the most is these rocks have about half the aquatic insects that were there 10 years ago. I'm talking about mayflies and caddis flies which are indicator species of the quality of the stream. This really concerns me. Eighty to ninety percent of what trout eat are insects in the larval stage. Aquatic insects are crucial to aquatic ecosystems in Minnesota especially fish populations.

When I attended the Neonic Forum put on by the Minnesota Extension Agency. I learned, based on the Department of Agriculture monitoring, neonics are getting into our ground water and our streams in alarming amounts that diminish the aquatic ecosystems. When there are heavy rains early in the growing seasons the neonicotoid clothianidin spikes in the rivers.

Having fished in SE MN for 27 years I've seen steady economic growth in this region because of the outdoors activities available: including fly fishing, biking, kayaking,

canoeing, inner tubing, camping and hunting. The increased number of campsites really reflects the increase in visitors. Most of these campgrounds are family owned.

These visitors are keeping owner operated stores, restaurants and shops like my brothers fly shop going. Employing local people. Outdoor recreation is a growing segment of our Gross Domestic Product, contributing $454 billion nationally in 2021. In 2024 it is 2.7% of our state GDP. Bureau of Economic Analysis.

In 2008 Trout Unlimited contracted to study the economic impact of trout fishing in the Driftless region. Microsoft Word - TU Impact - Final.doc The following are research numbers for fishing in Minnesota. Minnesota is a top ranked fishing state and outdoor recreation is important to our economy. Minnesota in-state angling participants 1.1 million participants (rank 5th among states), out of state angling participants 319,000 (rank 4th among states), spending by anglers: $2.8 billion (ranked 3rd among states). The ripple effect is $5.8 billion. Much of this ripple effect is in independent local stores, restaurants, and resorts, keeping the money in the communities. Significantly decreasing aquatic insects will decrease fish and the contribution fishing makes to our state gross domestic product. Since this study Minnesota's outdoor recreation continues to grow.

In addition, I learned from scientists at the forum these neonic insecticides are dangerous to birds and mammals including humans. They are neurotoxins. They break down in the water and in the human livers then affect our nervous systems.

House File 3704 limits the use of these, very effective non-discriminating, neonicotoid insecticides seed coating to occasions when there is evidence of need. Giving farmers a choice to not use these when they are not necessary.

Sincerely,

Monta Hayner

Vice President

Upper Midwest Council Fly Fishers Internationsl

March 10, 2026

Representative Purcell, Hansen, Fischer, Momanyi-Hiltsley, Cha, Kraft, Gottfried, Frazier, Vang, Lee, Agbaje, Smith, Falconer, Liebling, Johnson

Dear House Agriculture Committee,

Re: Support of HF 3704 (Purcell) to Limit Unnecessary Pesticide Use.

Representative Purcell and members of the committee, my name is Monta Hayner. I am a member of Trout Unlimited and an MN Master Naturalist. I am the President of the local Fly Fishers International Club as well as our Council's Vice President. I am an Orvis Endorsed guide through the Driftless Fly Fishing Company in Preston MN and I have been fly-fishing in SE MN for 27 years. I support HF 3704 because clean water is essential for healthy fish populations and healthy humans, but runoff from neonic treated seeds threatens that.

Knowledge of aquatic insects is crucial to successful fly fishing and guiding. I have not seen large hatches of aquatic insects since 2019. I remember the last big caddis hatch was when I was teaching fly casting for Fly Fishing Women of Minnesota at the park in Preston. Suddenly there were caddis flies rising from the river in great hoards. The swallows were flying to eat them, and the trout were rising. The hatches since then are much more sporadic. They do not hatch in the same numbers as before. There are a few and then a few and then a few. I've heard similar stories from other fly anglers. This decrease is supported by the radar images of Hexagenia mayflies on the Mississippi River which are down 50 percent.

I regularly pick up rocks from the streams to examine the larval stage of aquatic insects. What concerns me the most is these rocks have about half the aquatic insects that were there 10 years ago. I'm talking about mayflies and caddis flies which are indicator species of the quality of the stream. This really concerns me. Eighty to ninety percent of what trout eat are insects in the larval stage. Aquatic insects are crucial to aquatic ecosystems in Minnesota especially fish populations.

When I attended the Neonic Forum put on by the Minnesota Extension Agency. I learned, based on the Department of Agriculture monitoring, neonics are getting into our ground water and our streams in alarming amounts that diminish the aquatic ecosystems. When there are heavy rains early in the growing seasons the neonicotoid clothianidin spikes in the rivers.

Having fished in SE MN for 27 years I've seen steady economic growth in this region because of the outdoors activities available: including fly fishing, biking, kayaking,

canoeing, inner tubing, camping and hunting. The increased number of campsites really reflects the increase in visitors. Most of these campgrounds are family owned.

These visitors are keeping owner operated stores, restaurants and shops like my brothers fly shop going. Employing local people. Outdoor recreation is a growing segment of our Gross Domestic Product, contributing $454 billion nationally in 2021. In 2024 it is 2.7% of our state GDP. Bureau of Economic Analysis.

In 2008 Trout Unlimited contracted to study the economic impact of trout fishing in the Driftless region. Microsoft Word - TU Impact - Final.doc The following are research numbers for fishing in Minnesota. Minnesota is a top ranked fishing state and outdoor recreation is important to our economy. Minnesota in-state angling participants 1.1 million participants (rank 5th among states), out of state angling participants 319,000 (rank 4th among states), spending by anglers: $2.8 billion (ranked 3rd among states). The ripple effect is $5.8 billion. Much of this ripple effect is in independent local stores, restaurants, and resorts, keeping the money in the communities. Significantly decreasing aquatic insects will decrease fish and the contribution fishing makes to our state gross domestic product. Since this study Minnesota's outdoor recreation continues to grow.

In addition, I learned from scientists at the forum these neonic insecticides are dangerous to birds and mammals including humans. They are neurotoxins. They break down in the water and in the human livers then affect our nervous systems.

House File 3704 limits the use of these, very effective non-discriminating, neonicotoid insecticides seed coating to occasions when there is evidence of need. Giving farmers a choice to not use these when they are not necessary.

Sincerely,

Monta Hayner

Vice President

Upper Midwest Council Fly Fishers Internationsl

Roots Return Heritage Farm LLC

14525 County Road 40 • Carver, MN 55315
Phone: 425-241-2515 • E-Mail: rootsreturn@gmail.com

Date: March 11, 2026

TO: **MN House Agriculture Finance and Policy Committee**
RE: **HF 3704 / SF 4052 –** ***Sale and distribution of certain seeds coated or treated with systemic insecticides without the approval of the commissioner of agriculture, and application or treatment of ornamental outdoor plants and turf with neonicotinoid insecticides prohibited.***

Co-Chairs Hansen and Anderson, members of the Committee: Thank you for the opportunity to submit my support of this bill. I respectfully request the Agricultural Finance and Policy Committee support this common-sense legislation which creates an important first step to improve air, soils, water quality from agricultural pollution and damage caused by perennial neonicotinoid coated seeds in corn, soy, and other grain crops. Neonics are utilized in other areas to a much lesser extent, but deliver the same damage to wildlife, birds, pollinators, beneficial insects, and us. MDA has reported this impairment in surface waters and groundwater (drinking water) for years.

As a true land steward, I have great responsibility for the environment on and around my farm. Whatever I implement on my farm could be cause for concern, so one will not find neonics or systemic pesticides here. This farm is rented to new and emerging food farmers, some choosing to pursue organic certification. If surrounding field neonic dust or waters used for irrigation contaminated with neonics is found on organically grown crops (plant tissue testing occurs at random) those farmers lose their certification and higher value markets for 3yrs or more. This includes hay, forage, any crop certified organic. Through no fault of their own, a farmer or rancher's only recourse is through personal legal channels, if they can afford it (they've lost their markets). No protection or subsidy is provided by USDA (federal organic certifier) for losing organic certification.

Our state agencies and NGOs have tracked ripple effects of neonic pollution for years. Utilizing this seed has been prophylactic, not prescriptive on millions of MN agricultural acres annually. These seeds are marketed as 'removing risk', yet provide no real benefit. The coating is a dust, easily transferred from the seed and target area. One can see colored dust plumes from planters in a field. This is a cause of domesticated honeybee reduction (=livestock per USDA), native pollinator declines necessary for food farmer's crops, local economic growth, native birds, mammals, and ecosystem disruptions, impaired water quality in surface waters and groundwater. It persists in the human body as a harmful neurotoxin.

I urge your support of this common-sense bill to help all Minnesotans with cleaner air, soils, water quality for generations to come.

Sincerely,
Lori D. Cox, owner/operator Roots Return Heritage Farm LLC

Vote Climate's letter of support for HF3704-SF4052 to rein in unnecessary uses of neonicotinoid pesticides & insecticides

Neonicotinoid pesticides and insecticides are an existential threat to our ability to produce food and to the whole web of life. This class of pesticides has been scientifically proven to lower IQs and increase birth defects in children and sperm counts in men, severely reduce crop yields due to pollinator die-offs, and increase chronic diseases cause excess deaths from exposure. A very possible collapse of the insects that pollinate 1/3 of our food crops would be devastating to farmers and food supplies. There are serious concerns about the cascading effect of beneficial insect loss that birds, fish and other wildlife that depend on for food - threatening fishing, birding and hunting.

We already have serious water pollution issues in the southern part of our state from industry enforced agricultural mismanagement that's had terrible health outcomes from drinking contaminated well water in those areas. We have spent massive amounts of taxpayer dollars to clean up the aquifers and groundwater and have seen little improvement. Let' stop the needless pollution!

HF 3704/SF 4052 would help adopt proven, common sense solutions to eliminate more than 90% of the contamination statewide by creating a verification of need program for neonic coated seeds and ban needless lawn and garden neonic applications.

Thank you for your consideration,
Jean Ross
Board Chair
Vote-Climate.org
612-242-3457

POLLINATOR FRIENDLY ALLIANCE
PO BOX 934, STILLWATER, MN 55082
WWW.POLLINATORFRIENDLY.ORG

March 6, 2026

WRITTEN TESTIMONY for March 11 2026; Agriculture Finance and Policy Meeting

Re: **Support for H.F. 3704 (Pursell) / S.F. 4052 (Kunesh) to Limit and Regulate Unnecessary Neonicotinoid Pesticide Contamination**

Pollinator Friendly Alliance is a conservation organization involved in land restoration and pollinator conservation for a healthy Minnesota. Our extensive membership is keenly aware of the continued contamination caused by neonicotinoid pesticides and pesticide-treated seed to our water, land, and plants which is toxic for pollinators, bird, fish, wildlife and people.

We strongly support Bill H.F. 3704 to limit and regulate unnecessary neonicotinoid pesticide use. The proposed rulemaking and limits on neonicotinoid use are a first step to help curb further contamination of habitat and waterways, and to safeguard pollinator, wildlife, fish and human health.

Minnesota state agencies are responsible for protecting natural resources, clean water, and protecting wildlife and human health from polluters. The Department of Agriculture is charged with the oversight of regulations and rules for pesticides, but the MDA has been negligent in their responsibility to protect us from unnecessary contamination by neonicotinoid pesticides. MDA has refused to regulate pesticide-coated seed as a pesticide, for instance, which is entirely within their purview.

Neonicotinoids enter the environment and contaminate our world in a variety of ways including plant treatments, crop applications, landscape applications, and neonic-treated crop seed (specifically corn and soy). Pesticide-coated seeds are not regulated as a pesticide, which allows the powerful pesticide industry to use this loophole (treated article exemption) to make treated seed easy to use without proper oversight. Regulations for polluters and pesticides are critical to protect us. Neonicotinoids have changed agriculture and the urban landscape in a few short decades coinciding with the loss of more than 50% of animal species including invertebrates, birds, fish and mammals.

Meanwhile, outside the meeting rooms, our Minnesota environment continues to be contaminated unnecessarily by neonicotinoid pesticides. Neonicotinoid contamination has been studied for decades – it is no secret that neonic insecticides are toxic:

- Pollinators continue to decline; pesticides kill pollinators outright and/or sicken them at sublethal doses (1)
- Studies show mammals such as deer, otters and grassland birds are sickened by neonic contaminated forage, habitat and water. (2)
- Birds eat neonic-treated seed, become sick and/or perish. (3)
- Fish are disappearing from loss of food (aquatic invertebrate decline due to neonics in waterways). (4)
- Animals and humans are exposed to and sickened by neonics. (5)
- Researchers report pollinators are at a critical point for extinction, putting entire ecosystems at risk and requiring immediate action. (6)
- The 2025 monarch count reports monarchs occupied less than one hectare - not enough to survive as a species. (7)
- 25%-90% of North American bumble bee species have disappeared and 58% of native bee species are at risk of extinction. (8)
- Neonicotinoid pesticides continue to contaminate Minnesota waters. (9)

We strongly urge the State of Minnesota to step up and regulate neonicotinoid pesticide use to protect the environment, for pollinators, wildlife and human health.

Signed,

Dr. Sandy Law, DDS, MS, Chair, Board of Pollinator Friendly Alliance

Laurie Schneider, Co-Founder and Program Director

Pollinator Friendly Alliance

Scientific support:

1 POLLINATOR DECLINE: Xerces Society: *The science behind the role neonics play in harming bees*. Jennifer Hopwood, et al. (2016)
https://xerces.org/sites/default/files/2018-05/16-023_01_XercesSoc_ExecSummary_How-Neonicotinoids-Can-Kill-Bees_web.pdf

2 NEONIC EFFECTS ON LARGE MAMMALS: Scientific Reports: *Effects of Neonicotinoid Insecticides on Physiology and Reproductive Characteristics of Captive Female and Fawn White-tailed Deer*. Elise Hughes Berheim, et al (2019)
https://www.nature.com/articles/s41598-019-40994-9

2 MINNESOTA DNR RESULTS OF PESTICIDE STUDY OF NEONIC EXPOSURE TO WHITE-TAILED DEER

August, 2022, MPRNews, Dan Gunderson regarding Minnesota DNR study results
https://www.mprnews.org/story/2022/08/23/data-show-increasing-insecticide-levels-in-minnesota-deer?fbclid=IwAR1h0HyV7idLMC_zkl9rfkuUTRxn4q8tacaBwlXqxaol5LU4srNiYiS9PBA

3 **IMPACTS OF NATION'S MOST WIDELY USED INSECTICIDES ON BIRDS,** American Bird Conservancy, Dr. Pierre Mineau et al.
https://www.abcbirds.org/wp-content/uploads/2015/05/Neonic_FINAL1.pdf?

3 **NEONIC EFFECTS ON SONGBIRDS:** Science: *A neonicotinoid insecticide reduces fueling and delays migration in songbirds.* Margaret L. Eng, et al.
https://science.sciencemag.org/content/365/6458/1177

4 **NEONIC PESTICIDES IN MINNESOTA WATER:** Their Contamination of and Threats to the State's Aquatic Ecosystems, Dr. Perre Mineau, December 2024.
https://www.nrdc.org/sites/default/files/2024-12/neonic-pesticides-in-minnesota-water.pdf

5 **HUMAN HEALTH EFFECTS OF NEONICS** National toxicology report from US Dept. of Health and Human Services ISSN: 2473-4756 https://ntp.niehs.nih.gov/ntp/results/pubs/rr/reports/rr15_508.pdf

5 **NRDC BRIEFING TO CONGRESS** on Neonic Pesticide Human Health Harms, October 2019.
https://www.nrdc.org/experts/jennifer-sass/nrdc-briefs-congress-neonic-pesticide-human-health-harms

6 **AN UPDATE OF THE WORLDWIDE INTEGRATED ASSESMENT ON SYSTEMIC INSECTICIDES: PART 2: IMPACTS ON ORGANISMS AND ECOSYSTEMS:** 2021 Pisa, Goulson, Yang, et al
https://link.springer.com/article/10.1007/s11356-017-0341-3

7 **WESTERN MONARCH NUMBERS REMAIN AT HISTORIC LOW,** Xerces Society for Invertebrate Conservation, January 29, 2026
https://www.xerces.org/press/western-monarch-numbers-remain-at-historic-low

8 **NATIVE BEE THREATENED STATUS,** Center for Biological Diversity, *Review of North American Native Bees:* https://www.biologicaldiversity.org/campaigns/native_pollinators/pdfs/Pollinators_in_Peril.pdf

8 **BUMBLE BEE DECLINE:** Research Gate, Center for Biological Diversity, *Petition to List American Bumble Bee as Endangered Species.*
https://www.researchgate.net/figure/Decline-in-relative-abundance-of-the-American-bumble-bee-with-historic-and-recent_fig5_349064530

9 **PESTICIDES IN MINNESOTA WATERS:** Minnesota Department of Agriculture, *surface water pesticides of concern* (2020)
https://www.mda.state.mn.us/surface-water-pesticides-concern

Chairs Anderson and Hansen, and the Members of the Committee,

Thank you for the opportunity to testify in support of HF 3704. MCEA is a non-profit advocacy and public interest law firm that has been defending Minnesota's environment and people for over 50 years. MCEA supports this bill, because it addresses and reigns in unnecessary uses of neonic pesticides in both rural and suburban settings. The current widespread use of this pesticide has contaminated Minnesota's environment, in both rural and urban settings.

Neonicotinoid-coated corn and soybean seeds are responsible for approximately 90% of neonic contamination in Minnesota and are present in nearly all cornfields and about half of soybean acres in the state. The scientific consensus is that these neonic coated seeds do not provide economic benefits to farmers on average, especially in northern states like Minnesota. These high-cost products provide minimal benefits to Minnesota agriculture, while the human health and environmental impacts are severe.

This is a serious human health concern. Children and pregnant women are especially vulnerable to the neurotoxic effects of these chemicals in the environment. There are many routes of exposure, such as through contaminated soil, dust, and water, and these chemicals can pass from the mother to the fetus. Chronic exposure to neonic chemicals is associated with neurological, reproductive, and developmental problems for both the mother and the child.

Widespread use of neonic insecticides in Minnesota corn and soybean fields is correlated with concerning levels of neonics in streams, lakes, and rivers. Exposure to neonic pesticides in the environment is extremely toxic to aquatic and non-aquatic insects. As fish, birds, and other wildlife rely on these insects as food sources, fishery and bird population collapses have been linked to environmental contamination of these neonic pesticides.

This bill does not ban neonics broadly, only restricts the use to the places of most need. These high-cost inputs are pushed onto famers as a primary tool for pest control, yet field studies across the Midwest, including Minnesota, show little to no return on investment for the majority of farmers. Limiting the use of these coatings, and prohibiting their use in lawn and garden products, encompass the most high-risk, low-benefit uses of these chemicals.

Similar regulations have been implemented in Quebec, where neonic contamination has decreased while maintaining crop yields. New York and Vermont are also planning implementation of similar need verification programs as this bill proposes for neonics.

Passage of this bill would provide benefits across the state. The health of people who live in agricultural communities, the resilience of our food systems, and the populations of our important fish, game, and wildlife can be protected using this proven, common-sense approach that preserves the use of these chemicals where the pest risk demands it.

MCEA urges this committee to support this bill to protect Minnesota's human and environmental health from unnecessary uses of these chemicals.

Sincerely,

Andrew Hillman
Water Resources Specialist - MCEA
ahillman@mncenter.org

March 11, 2026

Rep. Paul Anderson
Co-Chair, Agriculture Finance & Policy Cmte.
State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155

Rep. Rick Hansen
Co-Chair, Agriculture Finance & Policy Cmte.
State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155

Testimony of Louis Robert, Former Agronomist at the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ), and Dr. Geneviève Labrie, PhD, Principal Investigator, Le Centre d'Expertise et de Transfert en Agriculture Biologique (CETAB+)

Dear Co-Chairs Anderson and Hansen, and Members of the Committee:

We are Louis Robert – an agronomist and grain crops specialist who worked with the Department of Agriculture[i] in the Province of Québec, Canada, for 33 years – and Dr. Geneviève Labrie, PhD – a Principal Investigator with the Centre d'Expertise et de Transfert en Agriculture Biologique (CETAB+). Dr. Labrie has published extensively on the subject of crop pests and pest control methods.

We write to inform your consideration of HF 3704. Our testimony conveys our experience with neonicotinoid (neonic)-treated field crop seed in Québec, Canada – where these seed coatings have become virtually obsolete. We also explain the science regarding their lack of benefit to farmers.

In summary:

- In response to a "prescription" program for neonic seed coatings similar to HF 3704, farmers in Québec have almost completely stopped using neonic seed treatments in corn, soybean, and other field crops (wheat, oats, barley, canola). Whereas nearly 100% of corn grown in Québec was grown with neonic-treated seeds prior to 2019, today, virtually none (0.003%) is grown from neonic-treated seed.

- After neonic seed treatments disappeared, crop yields remained constant, and no crop failures have been attributed to the lack of neonic-treated seeds.

- Seed companies reacted quickly to the regulatory restrictions when they took effect, providing alternative seed treatment products to farmers.

- Leading research by Dr. Labrie, which includes side-by-side field trials on 83 sites, as well as monitoring at over 1,000 sites, finds that neonic seed treatments provide no yield benefit for corn and soybean farmers. Early season pest presence does not typically impact yield, so insecticides are not necessary at this stage.

- The prescription program has been so successful at reducing neonic pollution, without negative impacts on farmers, that in August 2025, the province expanded it to all insecticide coatings.

- Although there was significant pushback from the chemical industry before 2019, today, farmers and seed dealers are convinced that these coatings don't provide much value and have long ago moved on to other concerns.

Our more detailed comments are as follows:

The Experience in Québec and the Science Regarding Insecticide-Treated Seeds

In April 2019, the Department of Environment of the Province of Québec made it mandatory for anyone wishing to use a neonic pesticide coating on field crop seed (corn, wheat, barley, oat, soybean, and canola) to obtain a written recommendation from one of the province's registered agronomists. In its consultations before the restrictions took effect, the Department had made it clear that the use of those coatings would be restricted based on their proven acute toxicity to the environment and public health concerns. At the time, the vast majority (70-90%) of the corn, soybean, and canola acreage (approximately 2 million acres) in Québec were planted with seed coated with the neonicotinoids clothianidin, imidacloprid, or thiamethoxam. Residues of any one or combinations of those molecules were detected in significant concentrations in over 90% of samples collected in rivers and streams being monitored by the Department.

This "prescription" requirement resulted in substantial reduction in use of neonic coatings on crop seeds. The seed suppliers reacted very swiftly to this regulatory change, having seen it coming. As soon as 2019, most field crop seeds used in Québec were no longer carrying any neonicotinoids. (All corn seed and a major part of the soybean seed sold in Québec is grown in Ontario or the U.S. Midwest). Surveys from the Department of Environment report Québec farmers used neonicotinoids on about 0.2% of their fields in 2020, and as little as 0.003% in 2023, with no use either year in soybeans.[ii, iii] As a result, neonicotinoid contamination of surface waters decreased significantly.

Prior to those regulatory initiatives, word had already spread around that insecticide-treated seeds may not bring any advantages to Québec farmers, at least among crop advisers and top cash croppers. Dr. Labrie led a large research project carried out from 2012 through 2016 (5 cropping seasons) in 7 different regions, which found no significant difference in yield between plots with treated and untreated seeds.[iv] This result held for both corn and soybean (see attached study). Thanks to continued public funding, the network was expanded to just short of 1000 sites, with no difference in the results or conclusions.

Dr. Labrie's findings are consistent with other studies conducted across the U.S. and Canada. For example, Pacenka et al. (2021) found in another four-year study that "the absence of a neonicotinoid [corn] seed treatment had no impact on yields."[v] Smith et al. (2020) concluded after a four-year study of 160 corn and soybean fields in Ontario "that widespread use of seed-applied insecticides in corn and soybean is unlikely to provide benefit to producers."[vi] Krupke et al. (2017) found that three years of field studies in Indiana "failed to demonstrate a significant benefit of planting treated maize seeds."[vii] Dubey et al. (2020) found that "neonic seed treatments are not warranted for grain production in the Mid-Atlantic" because of overall low pest pressure and lack of yield improvement for maize, winter wheat, and soybean.[viii] And Grout et al. 2020, a review of hundreds of studies across North America, found there was "no overall net economic benefit" for using neonicotinoid coatings on corn and soybean seeds.[ix] Each supports the conclusion that neonic seed treatments in corn, wheat,

and soybean almost always fail to provide benefit to farmers, but unnecessary pollution that contaminates ecosystems.

Given the success of the program, as of August 2025, the prescription requirement was extended to all insecticide seed coatings.[x] This came after the Department of Environment noted a partial switch by farmers to seeds treated with another class of insecticides: diamides (cyantraniliprole, chlorantraniliprole). Based on an in-house survey of suppliers, farmers, and agronomists in early 2025 and conversations that we have had with seed dealers and agronomists across Québec, it is likely that less than a third of corn seed and little to no soybean or wheat seed was treated with a diamide in 2025. For 2026, those numbers will likely be even lower. Although this marks a considerable decrease in the total use of insecticide-treated seeds from the period before the neonicotinoid restrictions took effect and diamides are not as dangerous as neonics in many ways, they do pose some of the same risks. They are equally persistent and water soluble, are extremely toxic to butterflies, and now appear in rivers and streams at levels that reach toxicity thresholds for freshwater invertebrates.[xi, xii]

But Dr. Labrie's research suggests that other insecticides, like diamides, are no more useful to farmers than neonicotinoid-treated seeds. Neonicotinoids were the active ingredients in all trials, but the fact that the non-treated plots did not yield less than the treated ones (despite the presence of significantly more targeted insects) made it clear that the conclusions would hold true for any class of insecticides. **Early season pest presence did not decrease yield, so insecticide use was not necessary at all.**

Since the neonicotinoid regulations were implemented in Québec and other research has emerged, farmers, agronomists, and the general public are much more aware of the risks of insecticide-treated seeds from an environmental and public health standpoint, as well as their uselessness. In fact, most seed dealers and growers we are in communication with openly acknowledge that these seed treatments don't provide much value.

Indeed, despite there being intense pressure and outcry from the chemical industry before the prescription program took effect in 2019, in the past year there was little to no opposition to the expansion of the program to cover all insecticides on seeds. As such, we believe wasteful insecticide use will be further reduced in the coming seasons.

Importantly, since the verification of need program was first implemented for treated seeds, yields for field crops across the province have stayed the same or increased, adding yet further support for the shift towards less pesticides. Of course, farmers themselves are the ones benefiting the most from a reduction of risks associated with direct exposure to toxic compounds, in addition to paying $5 to $10 less for a bag of seed.

Agricultural Production in Québec After the Prohibition

Based upon conversations with crop advisors and FADQ, we can say that no crop failures have been documented based upon the 2019 restrictions on neonic coated seeds. Although some cases were brought up, after investigation, there were no cases of damage to seedlings, stand (population of plants/acre), or yield that could be traced back to the absence of neonics (or any insecticide for that matter).

This reality is reflected in the total yields produced in Québec, which have been roughly consistent over the past fifteen years, although influenced by climatic factors. For corn and

soybean, those factors made 2019 and 2020 poor growing seasons, similar to those experienced during 2011-2014, a period of high use of neonic seed treatments. Several of the last seasons, however, have produced higher than average yields, even as the total use of insecticide treatments on seeds continues to fall.[xiii]

Personal Experience with Industry Interference with Research

On January 24, 2019, Mr. Robert was fired for having leaked (in March 2018) an internal memo to the press. In that memo, Mr. Robert warned the deputy minister that the industry exerted its influence to prevent the publication of publicly funded research that showed no advantages from the use of neonicotinoids. His firing sparked a cascade of news reports in various medias and the installment of an official inquiry by the inspector general of Québec. The report issued June 2019 publicly cleared him: in the months and years prior to going to the media, he had gone through (unsuccessfully) all the appropriate procedures detailed in the Whistleblowers Act of May 2017, and was fully in his right in going to the press.

Official apologies from the Minister (Secretary) André Lamontagne and Prime Minister François Legault shortly followed, along with full compensation and his re-installment at his position, on August 6, 2019.

He carried on his duties at MAPAQ until his retirement in 2023. Since the time that he initially leaked the memo, the science showing that seeds treated with neonicotinoids provide no benefits to Québec farmers has only grown stronger.

Dr. Labrie has faced significant harassment from the industry as well as from the research center's board of directors where she worked. She was forced to leave her position in 2017 due to relentless pressure, along with five out of the seven researchers on her team. They had just been banned from publishing any scientific research. Upon leaving the research center, Dr. Labrie was also required to leave behind all of her data. In 2019, she requested copyright over the data from the Québec government, and in 2020, she published the results of her research in the journal *PLOS One*, with the support of her colleagues who had also left the research center. An investigation by the Québec Ombudsman concluded that the research center, while obstructing Dr. Labrie's research: (1) seriously breached ethical and professional standards, (2) misused public funds, and (3) was guilty of mismanagement within a public institution. Following this report, corrective measures were implemented to improve governance and research ethics standards across all semi-public agricultural research centers in Québec.[xiv]

Conclusion

Prior to its passing, the industry had warned that Québec's proposed restrictions on neonic-treated seeds would mean the collapse of the grain sector, and the Farmers Union's director went as far as calling for a government blanket payback matching at least the 5% overall reduction in grain production they expected. Since its implementation in 2019, however, the restriction on the use of neonics in Québec has not been disputed at all. To our knowledge, it is not even mentioned in the press (general or farm) anymore, nor amongst the field crop advisors.

This is because the experience of farmers, as well as the scientific literature, has made it abundantly clear that insecticide coatings, including neonics, are not useful in corn and soybean production.

The reality in Québec has been that seed companies reacted quickly to the regulatory change with no effect on production or a switch to more harmful agricultural practices. While some farmers have switched to diamide coatings, the science shows that even these are unnecessary, and the growing trend has been toward abandoning insecticide treatments altogether.

If you have any questions, please do not hesitate to contact us.

Sincerely,

/s/ Louis Robert
Louis Robert Agronomist (retired)
Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec- MAPAQ

Dr. Geneviève Labrie, PhD Researcher
Centre de Recherche Agroalimentaire de Mirabel

[i] Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec- MAPAQ.

[ii] Ministère de L'Environnemnet et de la Lutte Contre Les Changements Climatiques, *Bilan des Ventes de Pesticides Au Québec* (2020), https://www.quebec.ca/nouvelles/actualites/details/publication-de-ledition-2020-du-bilan-des-ventes-de-pesticides-au-quebec-41246.

[iii]Ministère de L'Environnemnet et de la Lutte Contre Les Changements Climatiques, *Bilan des Ventes de Pesticides Au Québec* (2023). https://cdn-contenu.quebec.ca/cdn-contenu/environnement/pesticides/bilan-ventes-pesticides-quebec.pdf.

[iv] G. Labrie, A-È. Gagnon, A. Vanasse, A. Latraverse, G. Tremblay (2020), *Impacts of Neonicotinoid Seed Treatments on Soil-Dwelling Pest Populations and Agronomic Parameters in Corn and Soybean in Quebec* (Canada). PLoS ONE 15(2): e0229136. https://doi.org/10.1371/journal.pone.0229136.

[v] J.R. Pecenka, L.L. Ingwell, R.E. Foster, C.H. Krupke, & I. Kaplan, *IPM Reduces Insecticide Applications by 95% While Maintaining or Enhancing Crop Yields Through Wild Pollinator Conservation*, Proc. Natl. Acad. Sci. U.S.A. 118 (44) e2108429118, https://doi.org/10.1073/pnas.2108429118 (2021).

[vi] J.L. Smith, T.S. Baute, A.W. Schaafsma, *Quantifying Early-Season Pest Injury and Yield Protection of Insecticide Seed Treatments in Corn and Soybean Production in Ontario, Canada*, Journal of Economic Entomology, Volume 113, Issue 5, October 2020, Pages 2197–2212, https://doi.org/10.1093/jee/toaa132.

[vii] C.H. Krupke, J.D. Holland, E.Y. Long, and B.D. Eitzer, *Planting of Neonicotinoid-Treated Maize Poses Risks for Honey Bees and Other Non-Target Organisms Over a Wide Area Without Consistent Crop Yield Benefit*. (2017) J Appl Ecol, 54: 1449-1458. https://doi.org/10.1111/1365-2664.12924.

[viii] A. Dubey, M.T. Lewis, G.P. Dively, K.A. Hamby, *Ecological Impacts of Pesticide Seed Treatments on Arthropod Communities in a Grain Crop Rotation*. *J Appl Ecol*. 2020; 57: 936–951. https://doi.org/10.1111/1365-2664.13595.

[ix] T.A. Grout, P.A. Koenig, J.K. Kapuvari, S.H. McArt, *Neonicotinoid Insecticides in New York State: Economic Benefits and Risks to Pollinators* (Jun. 23, 2020) https://cornell.app.box.com/v/2020-neonicotinoid-report.

[xi] Ministère de L'Environnemnet et de la Lutte Contre Les Changements Climatiques, *Bilan des Ventes de Pesticides Au Québec* (2023). https://cdn-contenu.quebec.ca/cdn-contenu/environnement/pesticides/bilan-ventes-pesticides-quebec.pdf.

[xii] GIROUX, I. (2022). *Présence de pesticides dans l'eau au Québec : Portrait et tendances dans les zones de maïs et de soya – 2018 à 2020*, Québec, ministère de l'Environnement et de la Lutte contre les changements climatiques, Direction de la qualité des milieux aquatiques, 71 p. + 15 ann.<, https://www.environnement.gouv.qc.ca/eau/flrivlac/mais_soya/rapport-mais-soya-2018-2020.pdf.

[xiii] Statistics Canada, *Estimated Areas, Yield, Production of Corn For Grain and Soybeans, Using Genetically Modified Seed, in Metric and Imperial Units* (release date Dec. 4, 2025), https://www150.statcan.gc.ca/t1/tbl1/en/cv!recreate.action?pid=3210004201&selectedNodeIds=1D1,1D2,2D5&checkedLevels=2D1,2D2&refPeriods=20100101,20220101&dimensionLayouts=layout2,layout2,layout2,layout3&vectorDisplay=false.

[xiv] Protecteur Du Citoyen, *Rapport Annuel d'Activites 2022-2023* https://console.vpaper.ca/protecteur-du-citoyen/rapport_annuel_2023/page/102/#102/.

Co-Chairs Anderson and Hansen and Members of the House Agriculture and Finance Committee

I am writing, as a physician, in support of HF 3704, and to express concern about the known and potential deleterious human health effects of neonicotinoids.

Minnesotans in recent decades have had an enormous chronic exposure to neonicotinoids.

Since their development in the 1990s—and especially since 2010—neonicotinoids have become the most widely-used insecticide in the United States. The four most commonly used neonicotinoid insecticides are imidacloprid, acetamiprid, thiamethoxam, and clothianidin. The Minnesota Department of Agriculture (MDA) estimates that, in 2020, 40,000 kilograms of neonicotinoids were sold in Minnesota for agricultural use. Of this, 90% was neonic-coated seed, present on almost all the corn and half the soybean seeds (1). After approximately 5% is absorbed in the plant the rest goes into the soil and subsequently the surface- and groundwater. The MDA found neonicotinoids in 95% of flowing water sites that they frequently sampled around Minnesota between 2011 and 2022 (1). More concerningly, a recent study found neonicotinoids in 10–41% of the springs and wells (i.e., sources of drinking water) sampled in Minnesota. Higher levels were found in Southeast and Central Minnesota (2). Neonicotinoids are found on 72% of fruits and 45% of vegetables bought in the US (3).

Neonicotinoid insecticides are synthetic nicotine derivatives that bind selectively to the nicotine acetylcholine receptors (nAChR) in the nervous system of insects, causing death to a wide variety of insects. Initially it was thought that this selectivity to insects prevented any toxicity to humans or other mammals. However, there is increasing data that this is not the case.

If other mammals show toxicity from neonicotinoid exposure it is very likely that humans would also be affected. Indeed, the data shows this to be true. Dozens of rodent studies have shown deleterious effects of neonicotinoid exposure on reproductive function. In female rodents, ovaries exposed to neonicotinoids showed decreased reproductive ability with decreased follicular growth and decreased hormones (4)(5). In male rodents, studies show decreased sperm count and motility as well as impaired testicular function (6). A study of female deer and fawns chronically exposed to levels of a neonicotinoid similar to surface-water levels were found to have smaller weight, less activity, smaller ovaries, and lower thyroid hormone levels (7). Of most concern are multiple studies that expose pregnant rats to neonicotinoids and study the effect on the brain and nervous system of the offspring. These studies have shown developmental neurotoxicity in the offspring (8), (9). Even the studies of pregnant rats submitted to the EPA by neonicotinoid manufacturers to obtain approval showed developmental neurotoxicity. The rat pups showed brain-tissue thinning, decreased auditory startle reflex, decreased motor activity, and effects on learning and behavior (10). Multiple studies have looked closer at the cells and parts of the brain and have found detrimental effect of neonicotinoid exposure in the hippocampus of the rodent brains (11). This is very concerning as the hippocampus is the part of the brain that processes learning and memory.

So what information is now available linking neonicotinoids to toxic effects in humans? There are multiple studies looking at human exposure during pregnancy. Neonicotinoid exposure has been associated with an increased risk of gestational diabetes (12), fetal growth restriction (13) and a 1.17-1.41(OR) higher risk of preterm delivery (14). Outcome of pregnancy is also affected epidemiologically. Neonicotinoid exposure during pregnancy is associated with decreased birth weight (15)(16) and decreased head circumference (17)(18). The risk of Tetrology of Fallot (a cardiac birth defect) was 2.4 times higher in pregnant women with residential proximity to agricultural use of imidacloprid (19). The risk of anencephaly was 2.9 times higher in pregnant women with residential proximity to imidacloprid agricultural use (20). The risk of autism spectrum disorder was 2.0 times higher in the babies of women who frequently used flea and tick collars (imidacloprid) on their pets during pregnancy (21). I find very concerning a recent study linking neonicotinoid levels in pregnant women to adverse neurodevelopmental effects in their preschool age offspring (22). They linked a higher neonicotinoid level in the first trimester of pregnancy with lower neurodevelopmental scores in their 2-year-old children. In a different study (23), 3–6-year-olds with higher levels of imidacloprid and metabolites of thiamethoxam and acetamiprid in their urine showed significantly more hyperactivity and emotional symptoms.

What information for toxicity of neonicotinoids in adult humans is available? In a group of non-pregnant Japanese patients with neurologic symptoms (memory loss, tremor), there was a significant association (14 times higher risk) of the prevalence of the symptoms and the urine levels of a metabolite of acetamiprid (24). In addition, there are studies suggesting detrimental reproductive effects in humans (25) such as decreased sperm count/motility, lower testosterone and lower semen quality. Multiple studies associate neonicotinoids to altered insulin regulation (26), thyroid hormone dysregulation (27) and changes to fat metabolism sometimes associated with obesity (28).

Studies on human cells studied outside the body also show effects of neonicotinoids. Two studies have shown chromosomal aberrations in human white blood cells exposed to neonicotinoids (29)(30). Concerningly, a study found that a metabolite of imidacloprid exhibited an effect on the nAChR of human nerve cells equivalent to that of nicotine (31).

In conclusion, the use of neonicotinoid-coated seeds is chronically exposing Minnesotans to neonicotinoids. There is good evidence that neonicotinoids are toxic not only to insects but to mammals as well. Especially vulnerable is the developing mammal brain. There are also growing epidemiologic associations of neonicotinoids with human toxicity, again most strongly associated with fetal toxicity. In a way, the chronic exposure to neonicotinoids in Minnesota is enrolling all of us, unwittingly, in an experiment which is likely to ultimately show very significant toxicity from neonicotinoids. It is for this reason that we should support passage of their restriction as proposed in HF3704

Dawn Georgieff M.D.

Assistant Professor of Medicine

University of MN, Retired

References

1 MDA, Pierre Mineau, 2024

2 GJ Goedjen, Science of the total Envirn,2024, 954:176411

3 F Li, J of Environmental Management, 2025

4 VE Mourikes, Toxics, 2023, 11 :349-366

5 E Vasiliki, Reproductive Toxicology 2025, 137 :109045

6 S Sumaiya, Environmental Research, 2025, 286 :1222903

7 EH Berheim, Scientific Reports, 2019, 9 :4534

8 W Han et al, Chemosphere, 2018, 192:59-65

9 DA Thompson, Envirn Sci, 2020, 00:1-32

10 JB Sas, Front Toxicol 2024, 6 :1-12

11 DS Borkar, International J of Developmental Neuroscience, 2026, 86:e70096

12 J Wen, Envirn Pollution, 2025, 384:126965

13 D Pan, 2023, Chemosphere, 2023, 336 :139217

14 D Pan , Envirn Pollution, 2025

15 G Ichikawa, PLos One, 2019

16 JI Oladosu, Toxicological Sciences, 2025, 203 : 131

17 C Pan, Envirn International, 2022, 163 :107180

18 D Zhang Envirn International, 2024, 193 : 109111

19 SL Carmichel et al , Envirn Res 2014, 135 :133-138

20 W Yang et al, A J Epidem, 2014, 179: 740-748

21 AP Kiel, Envirn Health 2014, 13:3

22 D Wang, Envirnmental Health Perspectives, 2023, 131:107011

23 Y Zhou, Toxics, 2025, 13:872

24 JT Marfo et al, PLos One 2015

25 I Jadesola, Toxicological Sciences, 2025, 203, no.2

26 AM Vuong, Chemosphere 2022, 286:131642

27 LC Guo, Ecotoxicology and Envirn Safety, 2025, 290:117788

28 M Amruta, Chemosphere, 2022, 300:134450

29 AY Kocaman, Envirn Mol Mutagen, 2007, 48:483-490

30 AY Kocaman, Envirn Tosicol, 2014, 29: 631-641

31 D Loser, Archives of Toxicol, 2021, 95:3695-3716

March 9, 2026

WRITTEN TESTIMONY for March 11 2026; Agriculture Finance and Policy Meeting

Re: Support for H.F. 3704 (Pursell)/S.F. 4052 (Kunesh) to Limit and Regulate Unnecessary Neonicotinoid Pesticide Contamination

The Climate Land Leaders Initiative is a group of farmers and landowners who know our climate is changing rapidly and we need to do whatever we can to diversify the landscape with land use practices that will provide habitat for pollinators and other creatures, clean water and air, and climate resiliency. The Initiative currently includes 240 land stewards who own 53,600 acres in the Midwest. 91 Minnesota Climate Land Leaders from 42 counties who own 23,400 acres participate. More landowners join our cohort weekly.

The Climate Land Leaders Initiative strongly supports Bill H.F. 3704 to limit and regulate unnecessary neonicotinoid pesticide use. The proposed rulemaking and limits on neonicotinoid use are a first step to help curb further contamination of habitat and waterways and to safeguard pollinator, wildlife, fish and human health.

Neonics are neurotoxic pesticides that poison more than 11 million acres across Minnesota each year. They are likely the most widely used insecticides in U.S. history and among the most lethal to beneficial insects. Neonics pose risks to children's health. They contaminate our food, water, and lawns and have been found in the bodies of 95% of pregnant women tested nationwide. Prenatal exposure is associated with increased risk of birth defects and cognitive impairments. Neonics jeopardize access to healthy and affordable food. They are driving massive losses of pollinators that are responsible for one in three bites of food we eat. Pollinator losses already limit crop yields and foreshadow a future where healthy fruits and vegetables are less abundant and affordable.

The most common neonic uses do not help farmers. Neonic-coated corn and soybean seeds do not provide economic benefits for farmers in northern climates. They are used because a few

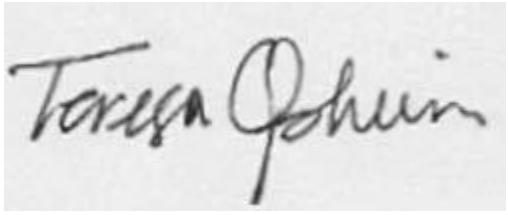
multinational corporations dominate the seed market and package seeds with unnecessary pesticide coatings, making the seeds toxic by default—and costing farmers tens of millions of dollars per year. Neonics' harms to pollinators, earthworms, and other beneficial bugs further hurt farmers' bottom line.

Neonics hollow out ecosystems that support outdoor industries. Neonics are a leading driver of declines in bees, butterflies, and other insects. Insect losses have ripple effects on populations of birds, fish, and other wildlife that depend on insects for food—threatening Minnesota's multi-billion-dollar fishing, birding, and hunting industries.

H.F. 3704 (Pursell) / SF 4052 (Kunesh) would adopt proven, common-sense solutions to tackle needless neonic use by (1) creating a verification of need program for insecticide-treated seeds—like the one successfully implemented in Quebec, Canada, and being adopted in New York and Vermont; and (2) prohibiting lawn and garden neonic uses that needlessly contaminate places Minnesotans live, work, and play. *If passed, this legislation would eliminate more than 90% of neonic contamination statewide.*

We must do more to care for all of our human and non-human relatives and to protect our amazing natural resources that are loved by all Minnesotans. We strongly urge the State of Minnesota to step up and regulate neonicotinoid pesticide use to protect the environment, pollinators, wildlife and human health.

Thank you,



Teresa Opheim, Executive Director
The Climate Land Leaders Initiative
3129 36 Ave. S., Minneapolis, MN 55406
515/451-1704

March 11, 2026

To: Representatives Rick Hansen and Paul Andersen, Co-Chairs

House Agriculture Finance and Policy Committee

From: Courtney Tchida, Program Associate, Wild Farm Alliance

Re: Support for H.F. 3704 (Pursell) to Limit Unnecessary Pesticide Use

Dear Chair Putnam, Co-Chair Hansen, Co-Chair Andersen, and Members of the Committee,

My name is Courtney Tchida, and I live in St. Paul, Minnesota. I am a Program Associate with Wild Farm Alliance (WFA), a nonprofit organization that works with farmers to create habitat on farms for birds, pollinators, and other wildlife. I am writing to express my strong support for H.F. 3704 (Pursell), legislation that would limit unnecessary pesticide use.

Through our work with farmers, we see firsthand how important beneficial insects are to healthy agricultural ecosystems. Many of the farmers we work with are actively adopting habitat-based pest management practices that support beneficial insects and birds as natural pest control allies.

Neonicotinoid pesticides affect a broad spectrum of insects, including not only crop pests but also beneficial species that support fish, birds, and other wildlife. These insects also provide essential ecosystem services such as pollination and natural pest control. Many bird species rely heavily on insects to feed their young, meaning declines in insect populations can have cascading effects throughout agricultural ecosystems. Research has also shown that neonicotinoids can directly harm birds through exposure to treated seeds and contaminated food sources.

At a time when bird populations have already declined 70% over the past 50 years, and many insect populations are also declining, it is critical that we reduce avoidable threats to the insects and habitats on which these species depend. Because insects form the foundation of many food webs and are essential for pollination and pest control, their loss can be devastating for farmers. Without policies that address unnecessary pesticide use, we risk further harming ecosystems and the wildlife that rely on them.

Passing H.F. 3704 (Pursell) is an important step toward reducing unnecessary pesticide use and protecting Minnesota's ecosystems. Thank you for your leadership and for considering this testimony. I respectfully urge you to give this bill a favorable report.

Sincerely,

Courtney Tchida
Program Associate
Wild Farm Alliance
courtneyt@wildfarmalliance.org

Anne Pierce
12135 24th Ave N
Plymouth, MN 55441
annesbees2024@gmail.com

Agriculture, Finance and Policy Committee
MN House of Representatives
St Paul, MN

To Members of the Agriculture, Finance and Policy Committee:

I am writing to express my fully support of HF3704 (Pursell) Sale and distribution of certain seeds coated or treated with systemic insecticides without the approval of the commissioner of agriculture, and application or treatment of ornamental outdoor plants and turf with neonicotinoid insecticides prohibited.

I am a hobby beekeeper; my father and his father were commercial beekeepers of some renown in southern Minnesota; I grew up knowing about pesticides' effects on all pollinators. In my growing up it was DDT, now it is neonicotinoids or "neonics." I am also a Hennepin County Master Gardener, which has enhanced my understanding on pesticides, especially neonics.

On a following page is a list of states which have restricted the use of neonics. Minnesota has studied this issue for years; it is past time to act. I would hope Minnesota would follow other states' leads.

As I would guess you are all aware, these are some of the issues with neonics:

1. There is widespread neonic contamination in Minnesota waters.
2. Neonic treated seeds which spill out of planting devices are consumed by wildlife.
3. Neonics are lethal to honey bees. From Iowa State University Extension and Outreach: "...a single corn kernel with a 1,250 rate of neonicotinoid seed treatment contains enough active ingredient to kill over 80,000 honey bees." If this is true of honey bees, it is likely true of all pollinators.
4. Mammalian studies have shown that neonics cross the placenta and can cause multiple physiological changes, both acute and chronic.
5. Studies done both the the U.S. and other countries do not provide sound evidence of the benefit of the universal use of neonics on farm crops.

Please promote this legislation. If there is nay way I can assist, please contact me.

Sincerely,

Anne Pierce

States with Significant Restrictions on Neonicotinoids

- Colorado: Enacted a law to restrict the sale and use of neonicotinoid pesticides, restricting consumer access from retail shelves.
- Connecticut: Prohibits residential neonic application and has passed laws (such as Bill No. 120) concerning the use of neonics in non-agricultural areas.
- Maine: Restricts non-agricultural outdoor uses of neonics, such as on gardens and turf grass.
- Maryland: One of the early states to pass restrictions in 2016.
- Massachusetts: Implemented restrictions in 2021.
- Minnesota: Has implemented restrictions on the use of neonicotinoids.
- Nevada: Enacted legislation (2023) restricting the sale and use of neonicotinoids, including a prohibition on non-agricultural outdoor uses (turf, gardens).
- New Jersey: Prohibits non-agricultural, outdoor use of neonics.
- New York: As of 2022, restricted non-agricultural use and is poised to pass the Birds and Bees Protection Act, which would ban the sale of neonic-treated seeds for soy, corn, and wheat.
- Rhode Island: Implemented restrictions in 2022.
- Vermont: Became the second state to ban the main agricultural uses of neonicotinoids (H 706). The state also regulates treated seeds and restricts the registration ofCertain pesticides, requiring certified applicator status for certain outdoor uses (Act 182).
- Washington: Became the 11th state to ban the residential use of neonicotinoids via SB 5972.

Specific Restrictions and Trends

- Retail Ban: Several states (e.g., CO, NV) have prohibited the sale of neonics for consumer use, restricting them from retail shelves.
- Treated Seeds: New York is taking steps to ban the sale of neonic-treated seeds (corn, soy, wheat).
- Usage Bans: New Jersey, Maine, and Nevada have taken steps to ban non-agricultural, outdoor applications on turf and in gardens.
- Timing: Restrictions often specifically target applications during bloom to protect bees.
- The Xerces Society for Invertebrate Conservation
+4

To:
Chair Pursell and All Honorable Members
House Agriculture Finance and Policy Committee
Minnesota House of Representatives

From:
Rosemary Malfi, Ph.D.
Director of Conservation Policy
The Xerces Society for Invertebrate Conservation

Re: Support for HF 3704 / SF 4052 – Reducing Harm from Systemic Insecticides

Dear Chair Pursell and all Honorable Members of the Committee,

The Xerces Society for Invertebrate Conservation is a national nonprofit organization that uses science-based approaches to protect invertebrate wildlife and their habitat. We work with farmers, land managers, and policymakers across the United States—including in Minnesota—to conserve pollinators and other beneficial insects while supporting productive agricultural systems.

The Xerces Society supports HF 3704 / SF 4052, which would establish important safeguards to address the environmental harms associated with systemic insecticides, including neonicotinoids. These pesticides are widely used in agriculture and landscaping, yet mounting scientific evidence shows that their widespread use is harming pollinators, birds, aquatic life, and other wildlife.

Neonicotinoids ("neonics") are a class of synthetic nicotine-like neurotoxic pesticides that are broadly toxic to insects. They are also **systemic**, meaning the insecticide is absorbed by the plant and expressed throughout its tissues—including the pollen and nectar that pollinators rely on for food. Even very small concentrations in pollen and nectar can negatively affect bee health and reproduction (Hopwood et al. 2016).

Neonics are also the most common type of insecticide used as a coating on crop seeds. Across the Midwest, treated seeds are used to grow nearly all corn and the majority of soybeans planted on roughly 148 million acres (Hopwood et al. 2016).

Seed treatments are a particularly concerning use of neonicotinoids and other systemic insecticides because they are typically applied **as a form of insurance**, rather than in response to an identified pest problem. Because less than five percent of the active ingredient in many seed treatments is absorbed by the crop plant, most of the insecticide enters surrounding soils

and waterways. These chemicals degrade slowly and can persist in soil for months to years after application, contributing to widespread environmental contamination.

At the same time, the agronomic benefits of these treatments have increasingly been called into question. For example, after Québec implemented a system requiring agronomist approval before using treated seed, subsequent research found that neonicotinoid seed treatments were beneficial in fewer than five percent of fields (Labrie et al. 2020). Additional studies have raised similar questions about the effectiveness of insecticide seed treatments in soybeans and cereal crops (EPA 2014; Milosavlijevic et al. 2019; Bekelja et al. 2023).

The ecological consequences of widespread neonicotinoid use are also well documented. Neonicotinoids have been detected in waterways throughout agricultural regions, often at concentrations that pose risks to aquatic species (Hladik et al. 2018a; Schepker et al. 2020; Kuechle et al. 2022). Elevated pulses of these insecticides have also been documented following the planting of treated seeds (Hladik et al. 2014; Berens et al. 2021).

Evidence suggests that contamination can also move through terrestrial wildlife. In Minnesota, surveys conducted by the Department of Natural Resources detected the neonicotinoid imidacloprid in a majority of sampled white-tailed deer, with many individuals exceeding a threshold associated with increased risk of fawn mortality (Berheim et al. 2019).

HF 3704 addresses these concerns in a targeted and balanced way. The bill would **restrict the sale or distribution of seeds coated with systemic insecticides unless approved by the Commissioner of Agriculture**, while also **prohibiting the use of neonicotinoid insecticides on outdoor ornamental plants and turf**, where these chemicals are frequently used for aesthetics, not economic purposes.

Importantly, the legislation maintains flexibility for producers. HF 3704 allows the **Minnesota Commissioner of Agriculture to authorize treated seed use where a demonstrable pest threat exists**, ensuring that farmers retain access to tools when they are truly needed. This approach supports more targeted pest management while reducing unnecessary, prophylactic pesticide use.

Minnesota has already taken important steps to address threats to pollinators and ecosystems, including legislation regulating pollinator-friendly plant labels and improving the management of pesticide-treated seed waste. HF 3704 represents an important next step in ensuring that pesticide policy reflects current science while protecting Minnesota's natural resources.

Thank you for your time and consideration. The Xerces Society respectfully urges the committee to support **HF 3704 / SF 4052**.

Sincerely,

Rosemary Malfi, Ph.D.
Director of Conservation Policy
The Xerces Society for Invertebrate Conservation

Citations:

Berens, T., Smalling, K. L., Hladik, M. L., & Kolpin, D. W. 2021. **Pesticide concentrations in agricultural streams during planting periods of treated seed crops.** *Environmental Pollution* 268: 115–125.

Berheim, E. H., Jenks, J. A., Lundgren, J. G., Michel, E. S., Grove, D., & Jensen, W. F. 2019. **Effects of neonicotinoid insecticides on white-tailed deer (Odocoileus virginianus): Evidence from field exposure and experimental dosing.** *Scientific Reports* 9: 4534.

Bekelja, J., et al. 2023. **Evaluation of neonicotinoid seed treatment efficacy in cereal crop production systems.** *Journal of Economic Entomology* 116(2): 589–600.

U.S. Environmental Protection Agency (EPA). 2014. **Benefits of Neonicotinoid Seed Treatments to Soybean Production.** Office of Chemical Safety and Pollution Prevention, Washington, DC.

Hladik, M. L., Kolpin, D. W., & Kuivila, K. M. 2014. **Widespread occurrence of neonicotinoid insecticides in streams in a high corn and soybean producing region, USA.** *Environmental Pollution* 193: 189–196.

Hladik, M. L., Main, A. R., & Goulson, D. 2018. **Environmental risks and challenges associated with neonicotinoid insecticides.** *Environmental Science & Technology* 52(6): 3329–3335.

Hopwood, J., Vaughan, M., Shepherd, M., Biddinger, D., Mader, E., Hoffman Black, S., & Mazzacano, C. 2016. **How Neonicotinoids Can Kill Bees: The Science Behind the Role These Insecticides Play in Harming Bees.** 2nd Edition. The Xerces Society for Invertebrate Conservation, Portland, OR.

Kuechle, V. B., et al. 2022. **Neonicotinoid contamination of Midwestern surface waters and associated ecological risk.** *Environmental Toxicology and Chemistry* 41(9): 2175–2185.

Labrie, G., Gagnon, A. E., Vanasse, A., Latraverse, A., & Tremblay, G. 2020. **Impacts of neonicotinoid seed treatments on pest pressure and crop yields in Québec field crops.** *PLOS ONE* 15(2): e0229136.

Milosavljević, I., Esser, A. D., & Crowder, D. W. 2019. **Effects of neonicotinoid seed treatments on soybean pest management and yield outcomes.** *Journal of Applied Ecology* 56(9): 2172–2181.

Schepker, T. J., Hladik, M. L., & Kolpin, D. W. 2020. **Neonicotinoid insecticides in agricultural surface waters: Occurrence, transport, and ecological risk.** *Science of the Total Environment* 740: 140–147.

XERCES SOCIETY
for Invertebrate Conservation

What We Can Learn From Québec's Success With Regulating Pesticide-Treated Seed

By Rosemary Malfi on May 16, 2024

In human medicine, doctors aim to prescribe antibiotics to patients only when needed, and when expected benefits outweigh the risk of harmful side effects. Overusing antibiotics — prescribing too high of a dose, or using them to treat every issue that *might* be bacteria-related — can quickly give patients new health issues, and result in drug-resistant bacteria that are much more dangerous. The same idea applies to pesticides: when use is routine and widespread, the intended target (whether insect, plant, or fungus) is likely to evolve a resistance, all while the pesticides *also* cause lasting harm to other wildlife in the area.

Although using pesticides only when there is a verified need seems like a sensible strategy, applying pesticides "just in case" is commonplace. However, this is beginning to change — in recent years, Québec has adopted this approach for seeds treated with neonicotinoid insecticides ("neonics"), with impressive results.

In 2019, the Canadian province prohibited the use of neonic-treated seeds for corn and soybean crops unless growers obtain a "prescription" from an independent agronomist. Like a doctor decides whether an illness warrants a prescribed medication, an agronomist determines if relevant soil pests are present at levels that could cause economic harm. Shifting to this "justification of need" framework was one of several stricter pesticide regulations implemented by Québec to protect pollinators and public health.

The bright colors used to indicate that a seed has been treated with pesticides stands in contrast with the risks that these seeds pose. (Photo: Emily May / Xerces Society)

Using pesticides "just in case" harms wildlife without helping agriculture

Before this landmark policy change, almost all of Québec's corn and half of its soybean crops were grown from neonic-treated seed. In the United States, this remains the case. Nearly 100% of corn, 60-80% of soybeans, and about half of wheat crops are grown from seed coated with neonicotinoid insecticides. The high usage rates result from the "prophylactic", or "just in case", use of neonic seed in fear of *potential* damage from crop pests. For these three crops alone, this means insecticide seed coatings are used on tens of millions of acres of land every year — whether or not there is a pest present.

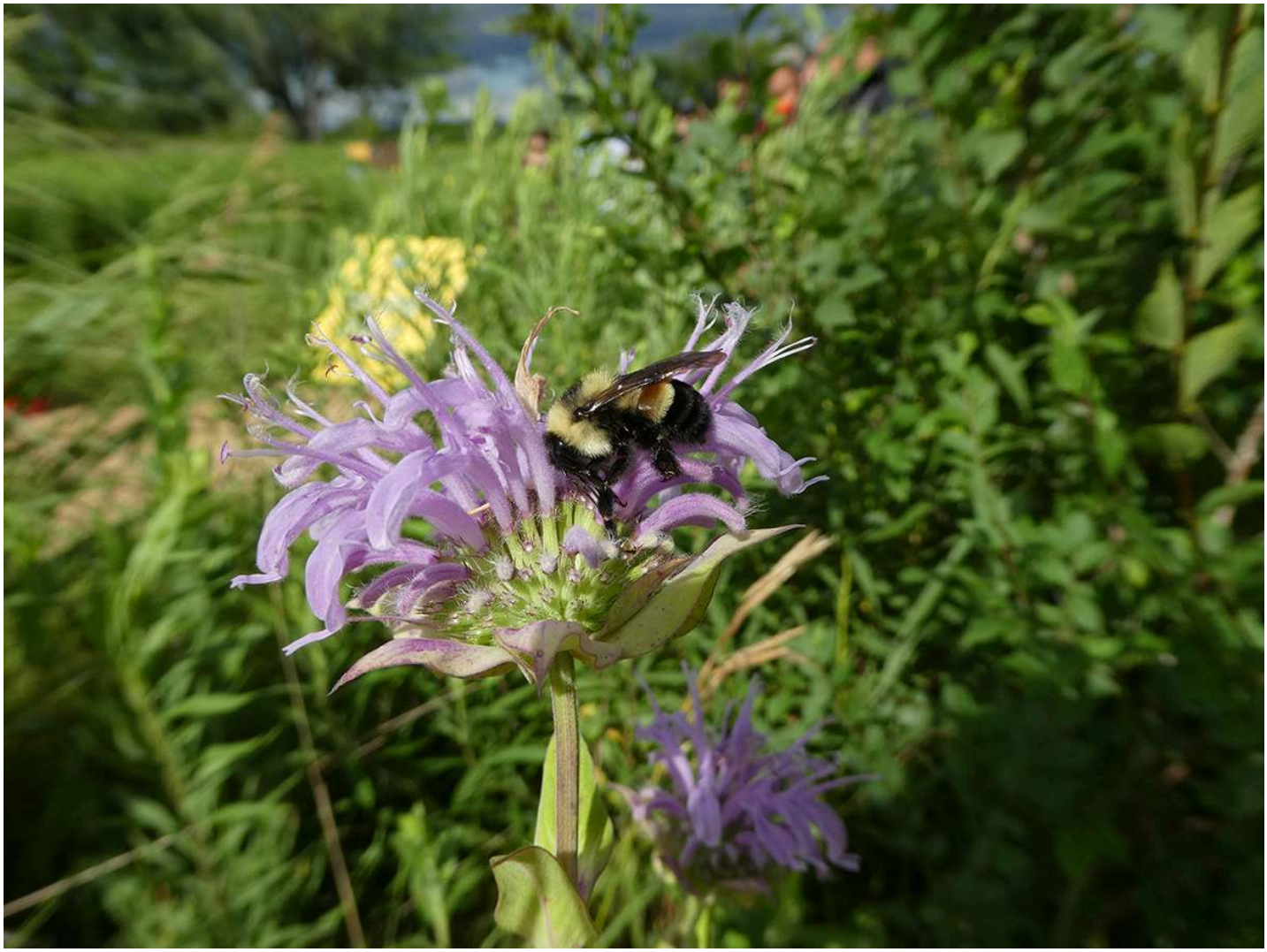
Prophylactic pesticide use assumes that all of the effort and costs involved will actually provide a benefit, such as having more crops to harvest. However, Québec's policy change was motivated, in part, by a growing amount of research showing that using neonic-treated seed just in case, does not offer any economic benefit. For example, neonic-treated seeds didn't have any benefit on crop yields for over 95% of corn and soybean fields in Québec, because pest populations were actually already low. In the United States, on-farm research trials on soybeans conducted by Practical Farmers of Iowa likewise found no benefit.

Even though neonic-treated seeds are widely used on farms in North America, research has shown that alternatives, such as cover-cropping, can be more effective at managing pests. (Photo: USDA-NRCS/Lance Cheung).

These are not outliers, either. Researchers at Cornell University released a comprehensive report on neonicotinoids, which examined over 300 studies and concluded that neonic seed treatments in corn and soy do not provide consistent benefits on how much grain is produced. Another study conducted by Penn

State Extension researchers found that neonic seed treatments actually decreased soy yield because they reduced the populations of the predators that would have eaten the pest insects.

While the economic benefits of prophylactic seed treatments are in question, the ecological costs of widespread neonic use are well documented. Neonics are highly toxic to bees, and they are specifically implicated in wild bee population declines. Because only a small fraction of the pesticide coating is absorbed by the crop plant, over 90% ends up in soil, water, and plants elsewhere in the environment. As a result, neonics pose a growing threat to aquatic ecosystems and waterways. Neonic-coated seeds can also harm birds when eaten. The EPA itself has determined that the three neonics most commonly used as seed treatments put over 200 threatened and endangered species at risk of extinction.



The rusty patched bumble bee (*Bombus affinis*) is one of the many species impacted by neonic seed. Xerces successfully petitioned to list this bee as a federally endangered species in 2014. (Photo: Sarah Foltz Jordan / Xerces Society)

Regulating pesticide-treated seeds benefits both growers and wildlife

So what happened in Québec once neonic seed treatments were prohibited? Former agronomist with the Canadian Ministry of Agriculture Louis Robert has described the successful transition away from neonicotinoid treated seeds and Québec's corn and soy growers are reaching out to other regions to share their positive experience. In spite of vigorous opposition from seed companies and the pesticide industry (which are often one and the same), they were able to adjust quickly to the new market conditions. Claims that grain crops would fail were not realized, and yield has not been affected by the change. Since 2019, neonicotinoid detections have dropped in surface water sampling. Québec growers report that they are spending less by buying untreated seeds, as have soybean growers in Iowa who also have chosen to forgo insecticide seed treatments.

In the US, a loophole prevents the EPA from tracking and regulating the use of pesticide seed treatments on the federal level, as they do for other pesticide applications. Unless this changes (which unfortunately seems unlikely), it is up to states to develop solutions to deal with excessive pesticide use. New York state heard this call and in 2023 passed the Birds and the Bees Act, which directs state agencies to develop a "justification of need" program analogous to Québec's. Presently, Vermont is on the cusp of enacting similar legislation. In both states, the program is scheduled to go into effect in 2029.

Prophylactic use of pesticide-treated seed is harmful to pollinators and ecosystems and it contributes to resistance, which in turn poses challenges for food production. Doing away with "just in case" treatments is a sensible way to reduce overall pesticide use, protecting both wildlife and crop systems. And it might put some money back in the pockets of farmers, too.

More Information

- https://www.xerces.org/pesticides/understanding-neonicotinoids
- Four key gaps in pesticide regulation for protecting pollinators

Authors

Rosemary Malfi

Director of Conservation Policy

Rosemary Malfi (she/her) is the director of conservation policy at the Xerces Society. In this role, she collaborates with scientists and policy experts to advance evidence-based solutions that safeguard invertebrates and promote biodiversity. Rosemary is a trained ecologist with a strong background in both scientific research and grassroots advocacy.

Tel: (855) 232-6639

Main Office Mailing Address: 1631 NE Broadway Street, #821 Portland, OR 97232 USA • Donation Mailing Address: P.O. Box 97387, Washington, D.C. 20090-7387

March 9, 2026

Mac Ehrhardt
73485 224th St.
Albert Lea, MN 56007

To: Representatives Rick Hansen and Paul Andersen, Co-Chairs
House Agriculture Finance and Policy Committee

Re: Considerations on H.F. 3704 (Pursell) to Limit Unnecessary Pesticide Use

Dear Co-Chair Hansen, and Co-Chair Andersen,

Thank you for the opportunity to submit my personal support for this bill. I am writing this letter of support as someone who deeply respects farmers after working with them in the seed industry for 35 years and as a person who believes we owe it to future generations to protect the web of life that sustains creation. I believe we all must work together to find practical regulatory solutions that protect the livelihoods of farm families and maintain a safe, healthy, and abundant food supply while also minimizing our impact on insects.

I support the passage of this bill and its fair implementation because it provides a workable framework for farmers to utilize neonicotinoids in specific situations where these chemicals are needed, while reducing the use of them where they are not. Of the 8.6 million acres of corn seed planted in Minnesota each year, I estimate over 90 percent of it is treated with neonicotinoids, even though these chemicals are often unneeded and provide no value to farmers. Currently, when farmers buy seed corn, most have no choice but to use seed coated with insecticides. Seed companies do not want to offer choice for two reasons. One, they believe insecticides are cheap insurance against the potential for insect damage and two, offering choice makes seed company supply chains more complicated (because seed companies apply insecticides early in the supply chain, long before the seed is delivered and planted).

I am here to tell you that, if this bill passes, seed companies will rise to the challenge and provide choice to farmers. The 8.6 million acres of corn in Minnesota present a $900 Million market every year. There are no seed corn companies that are going to walk away from that market opportunity. The case is even stronger for soybeans and wheat, where the supply chain is much simpler because the seed is usually treated late in the supply chain by ag retailers, shortly before delivery and planting.

Although I would advocate that this bill contain a provision providing an insurance option for farmers to make claims on seed stands damaged by soil insects, I support it and urge its passage.

Respectfully,

Mac Ehrhardt

John P. Lenczewski, Executive Director
Minnesota Trout Unlimited
PO Box 845
Chanhassen, MN 55317
612.670.1629
John.lenczewski@mntu.org

March 10, 2026

House Agriculture Finance and Policy Committee
75 Rev Dr Martin Luther King Jr Boulevard
St. Paul, MN 55155

Sent via Email

Re: Support of HF 3704

Dear Co-Chair Hansen, Co-Chair Anderson, and members of the Committee:

I write today on behalf of Minnesota Trout Unlimited's thousands of members around the state to express support of HF 3704 which would reduce harmful and unnecessary uses of neonicotinoids. Neonicotinoids are highly toxic to the aquatic insects that form the base of food webs that support valuable trout fisheries in Minnesota. The Minnesota Department of Agriculture's own data shows that concentrations of these pesticides in Minnesota streams routinely exceed safe levels for aquatic invertebrates.

Minnesota Trout Unlimited is a grassroots conservation organization working to protect, restore and sustain coldwater fisheries and their watersheds across Minnesota. Our several thousand members living and working in communities around the state understand that activities on the land determine the quality of the water in streams and lakes, and the health of trout and aquatic organisms that live in these waters. We regularly work with agricultural producers to improve streams flowing through their land. They care deeply about the land and water. Several have indicated that they share our concerns about the impacts neonicotinoids are having on our public trout streams.

Aquatic insects provide the essential food which supports trout fisheries. Aquatic insects form the base of food webs that support trout fisheries. Neonicotinoid chemicals ("neonics") are engineered to kill insects indiscriminately. They continue to kill insects after they wash into public waters. The concentrations of two neonics – clothianidin and imidacloprid - are routinely found in Minnesota streams at levels harmful and lethal to aquatic insects. The MDA has determined that seeds coated with neonics are the leading source of these highly toxic, persistent neonics in Minnesota waters. Yet the MDA is not regulating neonic-treated seeds. Protecting and improving trout fisheries requires the State act to protect the aquatic insect populations that trout depend on.

Neonics decimate aquatic ecosystems. Neonics are highly toxic to the aquatic insects that form the base of aquatic food webs. MDA's own data show "elevated and concerning" neonic concentrations in Minnesota's surface waters. Levels routinely exceed the U.S. Environmental Protection Agency's chronic aquatic life benchmark (ALB) for harm to aquatic invertebrates. MDA concluded that its analysis strongly suggests that clothianidin and imidacloprid concentrations over the EPA's chronic ALB are sustained for periods more than 21 days in rivers and streams across western and southern Minnesota." These elevated neonic concentrations are correlated with corn and soybean planting season, which "strongly suggests that neonicotinoids from seed treatments are the primary source of detections and are rapidly transported to rivers and streams after planting."

Neonics are pervasive. Neonics are "systemic," meaning they are water soluble, and long lasting. This allows them to rapidly contaminate surface and groundwater and stick around for up to three years. Recent research in Minnesota showed neonics in 97% of water samples from rivers and streams, and 74% of groundwater samples, including at levels above that kill aquatic insects. Data collected by MDA confirms that neonic-treated seeds are the leading source of harmful neonic contamination in Minnesota waters. Highest levels are detected in May, June and July and following the agricultural crop planting season.

Most Neonic use is unregulated. Neonics are used in several ways, including as coatings on seeds. Although neonics are regulated as a pesticide, treated seeds are exempt from regulation by EPA under its "treated article exemption." The MDA does not regulate treated seeds either. Most of the corn and soybean seeds sold in Minnesota are treated with neonics but escape regulation. When neonics are applied to seeds, a small percentage of the insecticide is absorbed by the plant as it grows, providing systemic protection against insect pests. However, most of these chemicals are not absorbed by the plants. Typically less than 10% is absorbed, leaving over 90% on the surface of the seeds or in the surrounding soil. When it rains or when irrigation water is applied, these surface residues can be washed off the treated seeds and soil and into nearby aquifers, streams, and public water bodies. MDA water samples have shown spikes in neonics following rainfall-runoff events.

Neonics do not make economic sense. Neonic treated seeds have not been shown to offer any overall economic benefit to farmers compared to untreated seeds. The increased cost of treated seeds is greater than any marginal increase in yield. **In contrast, trout fishing in southeast Minnesota contributes nearly 1 billion dollars per year to the State's economy.** It makes no sense to needlessly destroy this part of the economy by using a practice that has not been shown to provide increased economic benefits to local farmers.

HF 3704 would protect people, pollinators, public fisheries, and producers by reining in unnecessary uses of neonics in both urban and rural settings. Section 5 directs the Minnesota Department of Agriculture (MDA) to develop a regulatory program restricting the use of treated seeds to locations where the necessity for using these persistent insect killers is demonstrated. Implementation is delayed for more the two and a half years, which is ample time for MDA to undertake public rulemaking in which farmers will have a voice. MDA can ensure that pesticide-treated seeds are used only where needed and design the program in a way that works for Minnesota farmers. This could eliminate most of the neonic contamination by reining in high-cost, low-benefit coated seed uses.

On behalf of trout anglers across the state, I urge your support for this important bill, which takes a common-sense approach to tackling the neonicotinoid contamination crisis.

Respectfully,

John Lenczewski

Attachment: “Detection Patterns of Neonicotinoid Insecticides in Minnesota Rivers and Streams, 2018 through 2022”, MDA