



February 23, 2024

House Committee on Agriculture, Food Resiliency, and Forestry
Vermont General Assembly
115 State Street
Montpelier, VT 05633

By email to: slary@leg.state.vt.us

Re: H.706, An act relating to banning the use of neonicotinoid pesticides.

Dear Chair Durfee and Members of the Committee:

Conservation Law Foundation (“CLF”) is pleased to submit written testimony to the Vermont House Committee on Agriculture, Food Resiliency, and Forestry (“Committee”) in support of H.706, An act relating banning the use of neonicotinoid pesticides (“Pollinator Protection Bill”).

CLF advocates for a resilient food system that cares for the environment, creates opportunity for farmers and food professionals, and provides access to healthy, affordable, local food. Our work includes the Legal Food Hub, a unique service that connects New England’s income-eligible farmers, food professionals, and food nonprofits with free legal assistance. We believe that a thriving, innovative farm sector is crucial to Vermont’s wellbeing.

Neonicotinoids undermine Vermont’s food system by poisoning the pollinators whose products and services contribute “tens of billions of dollars” to the national agricultural economy.¹ Just “[o]ne teaspoon [of neonicotinoid] is enough to deliver a lethal dose to 1.25 billion honeybees.”² Excessive use spreads neonicotinoids everywhere. They contaminate Vermont farmland with no history of neonicotinoid use and adulterate pollen collected by Vermont bees. Worse, the corn and soybean seed treatments that drive neonicotinoid use provide farmers “inconsistent benefits in terms of yield and . . . no overall net income benefit.”³ Quebec, Ontario, the United Kingdom, and the European Union consequently restrict or prohibit neonicotinoids. In December 2023, New York joined them. Regulated farmers enjoy steady yields and access to inputs.

The Pollinator Protection Bill presents the Committee with an opportunity to strengthen Vermont’s food system. H.706 restricts unnecessary neonicotinoid use, facilitates a responsible transition to alternatives, and accounts for farmers’ needs. CLF therefore urges the Committee to report the Pollinator Protection Bill favorably.

¹ U.S. DEP’T OF AGRIC., USDA ANNUAL STRATEGIC POLLINATOR PRIORITIES REPORT at 6 (2022), link [here](#).

² Dave Goulson, *Are crops being devastated without neonicotinoid protection?*, UNIV. OF SUSSEX, link [here](#), (last visited Feb. 12, 2024).

³ TRAVIS A. GROUT ET AL., CORNELL UNIV., NEONICOTINOID INSECTICIDES IN NEW YORK STATE at 234–36 (2020), link [here](#) [hereinafter “2020 CORNELL STUDY”] (basing its conclusions on a review of 82 studies of neonicotinoids efficacy in corn and 176 studies of neonicotinoid efficacy in soybean).

I. NEONICOTINOIDS HARM VERMONT’S POLLINATORS AND UNDERMINE THE STATE’S FOOD SYSTEM.

Wild and managed pollinators are the food system’s foundation. According to the U.S. Department of Agriculture (“USDA”), pollinators “add tens of billions of dollars to the value of agricultural crops annually and . . . ensure that our diets are both diverse and plentiful with fruits, nuts, and vegetables.”⁴ More than one-third of food crops depend on pollinators,⁵ including apples, tomatoes, squash, pumpkins, strawberries, and blueberries. Pollinators also support the “healthy ecosystems needed for clean air, stable soil, [and] clean water[.]”⁶

Pollinator health is declining. According to the Vermont Center for Ecostudies, more than 30 percent of Vermont’s native bee species are “critically imperiled or imperiled,” and 55 native bee species “are in urgent need of conservation efforts.”⁷ Circumstances are equally dire for managed honeybees. On average, Vermont beekeepers lost 53.3 percent of colonies annually in each of the last five years.⁸ These losses are unsustainable.

A. Exposure to low concentrations of neonicotinoids is sufficient to kill pollinators, inhibit their reproduction, and disrupt their critical behaviors.

While experts agree that climate change, habitat loss, pests, pathogens, and pesticides combine to cause pollinator losses,⁹ neonicotinoids present a uniquely potent threat. Neonicotinoids are extremely toxic to pollinators. Half of honeybees that consume material contaminated with less than 40 parts per billion (“ppb”) of clothianidin, imidacloprid, or thiamethoxam die.¹⁰ Put another way, “[o]ne teaspoon is enough to deliver a lethal dose to 1.25 billion honeybees.”¹¹

Neonicotinoids also reduce pollinator populations by preventing reproduction. Exposure to just 5.1 ppb of clothianidin, 6.4 ppb of imidacloprid, or 5.1 ppb of thiamethoxam is sufficient to compromise honeybee reproductive function.¹² For example, one study found that exposure to just 6.4 ppb of imidacloprid caused honeybee queens to lay 50 percent fewer eggs.¹³ Another found that exposure to 5.1 ppb of thiamethoxam and clothianidin made new queens 34 percent less likely to survive.¹⁴ Honeybee colonies collapse if they cannot reproduce.

More limited exposures to neonicotinoids affect honeybee behavior, foraging, navigation, and

⁴ U.S. DEP’T OF AGRIC., *supra* note 1.

⁵ *The Importance of Pollinators*, U.S. DEP’T OF AGRIC., link [here](#) (last visited Jan. 31, 2024).

⁶ U.S. DEP’T OF AGRIC., *supra* note 1.

⁷ SPENCER HARDY ET AL., VT. CTR. FOR ECOSTUDIES, STATE OF VERMONT’S WILD BEES (2022), link [here](#).

⁸ *E.g. 2022/23 Weighted Average Winter All Colony Loss*, BEE INFORMED P’SHIP, link [here](#) (last visited Feb. 1, 2024).

⁹ *See, e.g.*, U.S. DEP’T OF AGRIC., *supra* note 1; VT. CTR. FOR ECOSTUDIES, *supra* note 7; *Pollinators in Peril*, VT. DEP’T OF FISH AND WILDLIFE, link [here](#) (last visited Feb. 1, 2024); *What’s At Stake?*, XERCES SOC’Y, link [here](#) (last visited Feb. 1, 2024).

¹⁰ An LD₅₀ is the dose of a toxin that will kill half of exposed honeybees. The oral LD₅₀ for clothianidin, imidacloprid, and thiamethoxam are 36.8 ppb, 38 ppb, and 26.5 ppb. *Pesticides and Bee Toxicity*, MINN. DEP’T OF AGRIC., link [here](#) (last visited Feb. 1, 2024).

¹¹ Dave Goulson, *supra* note 2.

¹² 2020 CORNELL STUDY, *supra* note 3, at 209.

¹³ Judy Wu-Smart & Marla Spivac, *Sub-lethal effects of dietary neonicotinoid insecticide exposure on honey bee queen fecundity and colony development*, 6 SCI. REP. 32108 (2016), link [here](#).

¹⁴ Geoffrey R. William et al., *Neonicotinoid pesticides severely affect honey bee queens*, 5 SCI. REP. 14621 (2016), link [here](#).

memory. Adverse impacts are observed at 0.10 ppb of clothianidin, 0.50 ppb of imidacloprid, or 0.01 ppb of thiamethoxam.¹⁵ For example, one study found that worker honeybees exposed to 0.9 ppb of clothianidin were less likely groom for *Varroa* mites,¹⁶ “the most important world-wide pest of honey bees.”¹⁷

Critically, neonicotinoids combine with other stressors to generate devastating synergistic effects. For example, one study compared honeybee colonies exposed to “field-realistic doses” of neonicotinoids, colonies exposed to *Varroa* mites, and colonies exposed to both neonicotinoids and mites. It found that the colonies exposed to both neonicotinoids and mites suffered more severe harms than the other two types of colonies combined.¹⁸ In other words, neonicotinoids multiply the risks that pollinators encounter; they do not just add to those risks.

B. Wild and managed pollinators are regularly exposed to lethal and sublethal neonicotinoid concentrations throughout the environment.

Pollinators inhabit increasingly dangerous environments saturated with neonicotinoids. Between 1992 and 2014, the total honeybee oral toxicity of pesticides applied in the U.S. increased “48-fold.”¹⁹ Neonicotinoids, mainly corn and soybean seed treatments, are responsible for 99 percent of the increase.²⁰ This is no surprise. Neonicotinoid seed treatments “represent the most significant use of neonicotinoids in the [U.S.]”²¹ More than 90 percent of neonicotinoids applied as treatments ultimately contaminate surrounding soils, plants, air, and water.²²

Once neonicotinoids are applied, they disperse throughout the environment. Neonicotinoids dissolve in water, allowing crops to absorb the insecticide and express it in tissues and products, like leaves, flowers, and pollen. This property makes neonicotinoids “systemic,” and it offers treated crops resistance to pests. However, the “very properties that make neonicotinoids ideally suited for use as seed treatments—high water solubility and the potential for xylem transport in plant tissues—ensure that the majority of the neonicotinoid applied to crop seeds will, inevitably, wind up elsewhere.”²³

Neonicotinoids also drift into the environment. This may happen when insecticides are sprayed on crops. However, it also occurs when neonicotinoid-treated seeds are planted using common pneumatic equipment.²⁴ Treated seed coatings abrade throughout “transport, loading, and planting.”²⁵ As a result, planting can cause clouds of neonicotinoid-laden dust to drift across the

¹⁵ 2020 CORNELL STUDY, *supra* note 3, at 208–09.

¹⁶ Nuria Morfin et al., *Effects of sublethal doses of clothianidin and/or V. destructor on honey bee (Apis mellifera) self-grooming behavior and associated gene expression*, 9 SCI. REP. 5196 (2019), link [here](#).

¹⁷ 2020 CORNELL STUDY, *supra* note 3, at 209.

¹⁸ LARS STRAUB ET AL., *Neonicotinoids and ectoparasitic mites synergistically impact honeybees*, 9 SCI. REP. 8159 (2019), link [here](#).

¹⁹ 2020 CORNELL STUDY, *supra* note 3, at 199.

²⁰ *Id.*

²¹ *Id.* at 64.

²² Christian H. Krupke & John F. Tooker, *Beyond the Headlines: The Influence of Insurance Pest Management on an Unseen, Silent Entomological Majority*, 4 FRONTIERS IN SUSTAINABLE FOOD SYS. 595855 (2020), link [here](#).

²³ *Id.*

²⁴ *Id.*

²⁵ 2020 CORNELL STUDY, *supra* note 3, at 196.

landscape.²⁶

Once in the environment, neonicotinoids persist for years. Clothianidin’s half-life in soil ranges between 148 and 7,000 days; imidacloprid’s half-life ranges between 100 and 1,230 days; and thiamethoxam has a half-life that ranges between 7 and 335 days.²⁷ “Importantly, metabolism of neonicotinoids in soil and water does not render them harmless. For example, some metabolites of imidacloprid are more toxic than the parent compound. Thiamethoxam breaks down, in part, into clothianidin, which is similarly toxic to bees.”²⁸

Because neonicotinoids disperse throughout the environment and persist, scientists routinely find them in places and at concentrations that expose pollinators to toxic doses:

- *Pollen collected by pollinators.* Pollinators collect pollen to produce food for their workers and young. The Vermont Bee Lab has tested bee-collected pollen samples for neonicotinoids since 2021. 21 percent of pollen samples collected in 2021 and 2022 tested positive for clothianidin, thiamethoxam, or clothianidin. In 2023, 29.5 percent of samples tested positive for neonicotinoids. The percentage increased to 41 percent for pollen collected by bees foraging in areas where corn and soybeans were common. Further, bee-collected pollen was most likely to test positive during planting season.²⁹
- *Water that pollinators consume.* Pollinators consume guttation droplets, or water that plants secrete through pores. One study found guttation droplets on corn seedlings that contained average imidacloprid, thiamethoxam, and clothianidin concentrations of 47,000 ppb, 23,300 ppb, and 11,900 ppb.³⁰ These concentrations exceed lethal doses by orders of magnitude.
- *Soils that pollinators inhabit.* Most wild bees nest underground.³¹ In Vermont, imidacloprid was found at 641 ppb in soil surrounding treated soy seedlings,³² and clothianidin was found at 6.0 ppb farmland with no history of neonicotinoid use.³³ Similarly, a study of 25 cornfields in Ontario before planting found average clothianidin and thiamethoxam surface soil concentrations of 28.29 ppb and 31.58 ppb respectively.³⁴ These levels are concerning, particularly for ground-dwelling pollinators. They include lethal concentrations and doses sufficient to affect honeybee reproduction and behavior.

²⁶ Christian H. Krupke & John F. Tooker, *supra* note 22.

²⁷ J. M. Bonmatin et al., *Environmental fate and exposure; neonicotinoids and fipronil*, 22 ENVTL. SCI. AND POLLUTION RES. 35, 40 (2015), link [here](#).

²⁸ See 2020 CORNELL STUDY, *supra* note 3, at 198 (internal citations omitted).

²⁹ VT. GEN. ASSEMBLY, HOUSE COMM. ON AGRIC., FOOD RESILIENCY, AND FORESTRY (Jan. 25, 2024) (testimony of Samantha Alger, Research Assistant Professor, UVM), link [here](#).

³⁰ Vincenzo Girolami et al., *Translocation of Neonicotinoid Insecticides From Coated Seeds to Seedling Guttation Drops: A Novel Way of Intoxication for Bees*, 102 J. OF ECON. ENTOMOLOGY 1808 (2009), link [here](#).

³¹ See 2020 CORNELL STUDY, *supra* note 3, at 198.

³² Samantha Alger, Research Assistant Professor, UVM, *VT Pesticide Monitoring* (Jan. 27, 2024) (presentation given at the Vermont Beekeepers Association annual meeting).

³³ VT. GEN. ASSEMBLY, HOUSE COMM. ON AGRIC., FOOD RESILIENCY, AND FORESTRY (Feb. 2, 2024) (testimony of Heather Darby, Associate Professor, UVM Extension), link [here](#).

³⁴ Victor Limay-Rios et al., *Neonicotinoid insecticide residues in soil dust and associated parent soil in fields with a history of seed treatment use on crops in southwestern Ontario*, 35 J. OF ENVTL. TOXICOLOGY AND CHEM. 303 (2016), link [here](#).

- *Flowers that pollinators forage on.* In Vermont, clothianidin residues have been found on flowering dandelion, apple, and golden rod at 8.23 ppb, 7.88 ppb, and 1.07 ppb.³⁵ These levels are sufficient to inhibit honeybee reproduction and behavior.
- *Crops that pollinators forage on.* Although corn is wind-pollinated, pollinators collect corn pollen. In Vermont, corn tassels tested for clothianidin returned concentrations ranging from 1.79 ppb to 7.53 ppb.³⁶ These levels are sufficient to inhibit honeybee reproduction and behavior.
- *Planting dust that drifts over pollinators.* Planting neonicotinoid-treated seeds can produce contaminated dust that exposes pollinators. One study examined foraging bees after treated seeds were planted nearby. It found clothianidin, thiamethoxam, and imidacloprid in the bees at average concentrations of 5,700 ppb, 1,890 ppb, and 3,250 ppb.³⁷ These levels exceed lethal doses by orders of magnitude.

Widespread neonicotinoid use has already made the environment hazardous to pollinators. Pollinators regularly suffer exposure to toxic concentrations. No less than “118 studies have found neonicotinoids in bee-collected pollen . . . nectar, honey, wax, dead bees, soil contacted by bees, planting dust contacting bees, or plant guttation fluids contacted by bees.”³⁸ Of the exposures these studies document, 75 percent were sufficient to affect physiology, 62 percent were sufficient to affect behavior, and 41 percent were sufficient to affect reproduction.³⁹ It is no wonder that Vermont’s wild and managed pollinators are in crisis.

II. NEONICOTINOID-TREATED CORN AND SOYBEAN SEEDS ARE THE MOST IMPORTANT SOURCE OF NEONICOTINOIDS IN VERMONT, AND THEY OFFER FARMERS ALMOST NO BENEFIT.

A. Neonicotinoid-treated corn and soybean seeds are the primary source of neonicotinoids that contaminate Vermont’s environment and threaten its pollinators.

Neonicotinoid-treated corn and soybean seeds are the most important source of neonicotinoids in the environment. Almost all conventional corn is treated with a neonicotinoid, and treated soybeans seeds are common.⁴⁰ Consequently, seed treatments account for most neonicotinoid use, including more than 95 percent of clothianidin and 80 percent of thiamethoxam.⁴¹

The rise of neonicotinoid-treated seeds has harmed pollinators. Rapid adoption since the early 2000s drove a “48-fold” increase in the total honeybee oral toxicity of pesticides applied throughout the country.⁴² In Vermont, for example, treated seeds propelled clothianidin use from

³⁵ Samantha Alger, *supra* note 29.

³⁶ Samantha Alger, *supra* note 32.

³⁷ Vincenzo Girolami et al., *Fatal powdering of bees in flight with particulates of neonicotinoids seed coating and humidity implication*, 136 J. OF APPLIED ENTOMOLOGY 17 (2011), link [here](#).

³⁸ See 2020 CORNELL STUDY, *supra* note 3, at 210–21.

³⁹ *Id.*

⁴⁰ *Id.* at 56, 82–83.

⁴¹ *Id.* at 59, 61.

⁴² *Id.* at 199.

33.4 kg in 2005 to 1,517.8 kg in 2014, a 45-fold increase.⁴³ This corresponds to the period when Vermont’s beekeepers report beginning to observe more frequent colony losses.⁴⁴

B. Vermont’s farmers gain little by using neonicotinoid-treated seeds.

Farmers who plant neonicotinoid-treated corn and soybean seeds rarely benefit from their investment. Researchers at Cornell analyzed 82 studies of neonicotinoid efficacy in corn and 176 studies of neonicotinoid efficacy in soybean. They concluded that neonicotinoid-treated seeds provide “inconsistent benefits in terms of yield and . . . *no overall net income benefit.*”⁴⁵

Large studies in Quebec and Ontario confirm their conclusion. In Quebec, a four-year study compared neonicotinoid-treated and neonicotinoid-free corn and soybean seeds grown in 84 fields distributed throughout the province. It concluded that neonicotinoid seed treatments are unnecessary:

This study provides a strong demonstration that insecticide seed coatings on corn and soybean are *not needed as a prophylactic control measure* against soil-dwelling insect pests in field crops in Quebec, Canada. Overall, the abundance of such pests, including wireworms, was low in most fields monitored and no yield difference was observed between neonicotinoid seed treatments and control plots in corn or soybean.⁴⁶

In Ontario, another four-year study compared neonicotinoid-treated and neonicotinoid-free corn and soybean in 160 fields. Its conclusions echoed the Quebec study:

[T]here is *no need or economic benefit for widespread [neonicotinoid seed treatment] or [diamide seed treatment] use* in Ontario corn and soybean production. . . . These data highlight an opportunity for reducing input costs, environmental loading, and nontarget effects without adverse outcomes for the majority of corn and soybean producers in Ontario.⁴⁷

Early-stage research in Vermont comparing neonicotinoid-treated corn and neonicotinoid-free corn across five planting dates repeats what the Cornell, Quebec, and Ontario researchers found: “*No statistical difference* in corn populations between treated and untreated corn seed.”⁴⁸

EPA agrees. In 2014, nearly a decade ago, it released a report stating that imidacloprid, clothianidin, and thiamethoxam seed treatments “provide negligible benefits to soybean production in most situations. . . . In comparison to the next best alternative pest control

⁴³ Christin M. Wieben, U.S. Geological Survey, *Estimated Annual Agricultural Pesticide Use by Major Crop or Crop Group for States of the Conterminous United States, 1992-2017* (2020), link [here](#) (low estimate for pesticide usage).

⁴⁴ VT. GEN. ASSEMBLY, HOUSE COMM. ON AGRIC., FOOD RESILIENCY, AND FORESTRY (Jan. 30, 2024) (testimony of Andrew Munkres, Beekeeper, former President of the Vermont Beekeepers Association), link [here](#).

⁴⁵ 2020 CORNELL STUDY, *supra* note 3 at 234–36 (emphasis added).

⁴⁶ 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 (2020), link [here](#) (emphasis added).

⁴⁷ 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*, 113 J. OF ECON. ENTOMOLOGY 2197 (2020), link [here](#) (emphasis added).

⁴⁸ Heather Darby, *supra* note 33 (emphasis added).

measures, neonicotinoid seed treatments likely provide \$0 in benefits to growers”⁴⁹

III. OTHER JURISDICTIONS ALREADY RESTRICT OR PROHIBIT NEONICOTINOID USE, AND THEIR FARMS CONTINUE TO THRIVE.

Quebec, Ontario, the United Kingdom, and the European Union already restrict or prohibit neonicotinoids. New York recently joined them when Governor Hochul signed the Birds and Bees Protection Act in December 2023. Critically, regulated farmers enjoy increasing yields and reliable access to inputs, often at lower prices that reflect costs saved when neonicotinoids are removed from seed treatments.

The European Commission prohibited all outdoor uses of clothianidin, imidacloprid, and thiamethoxam beginning in April 2018. Their decision followed the European Food Safety Authority’s finding that outdoor use of these neonicotinoids “could no longer be considered safe due to the identified risks to bees.”⁵⁰ Europe’s commitment to the ban remains strong. A 2023 ruling by the European Court of Justice confirmed the European member states may not authorize the sale or use of prohibited neonicotinoids.⁵¹

Quebec prohibits all agricultural uses of clothianidin, imidacloprid, and thiamethoxam—including the use of treated corn, soybean, wheat, oat, canola, and barley seeds—without an “agronomic prescription” issued by a licensed agronomist.⁵² Agronomic prescriptions are valid for one year and must be accompanied by an “agronomic justification” that evaluates pest pressure, weighs alternative pest management techniques, and justifies using neonicotinoids.⁵³

Since Quebec instituted its agronomic justification program, use of neonicotinoid-treated seeds has plummeted from nearly 100 percent for corn to less than 0.5 percent and from about 50 percent for soybean to almost none.⁵⁴ Quebec’s farmers continue to enjoy steady yields, finances, and access to inputs.⁵⁵ Indeed, agronomic justification has proved so successful that Quebec plans to expand the program to include diamide-treated seeds on January 1, 2025.⁵⁶

New York recently became the first U.S. state to restrict neonicotinoid-treated seeds.⁵⁷ Beginning on January 1, 2029, New York will prohibit the sale or use of corn, soy, and wheat seeds treated with clothianidin, imidacloprid, or thiamethoxam. The New York Department of Environmental Conservation (“NY-DEC”) may extend the prohibition to include other

⁴⁹ U.S. ENVTL. PROT. AGENCY, BENEFITS OF NEONICOTINOID SEED TREATMENTS TO SOYBEAN PRODUCTION at 1–2 (2014) link [here](#).

⁵⁰ *Neonicotinoids*, EUR. COMM’N, link [here](#) (last visited Feb. 7, 2024).

⁵¹ Judgement of 19 Jan. 2023, *Pesticide Action Network v. Belgium*, Case C-162/21, EU:C:2023:30, ¶ 54, link [here](#).

⁵² Pesticide Management Code, R.R.Q., p-9.3, r. 1, s. 74.1 (Can.), link [here](#); Pesticide Management Code, R.R.Q., p-9.3, r. 2, ss. 5(1), 5.1 (Can.), link [here](#).

⁵³ Pesticide Management Code, R.R.Q., p-9.3, r. 1, s. 74.1(7)–(11) (Can.), link [here](#).

⁵⁴ MINISTÈRE DE L’ENVIRONNEMENT, DE LA LUTTE CONTRE LES CHANGEMENTS CLIMATIQUES, DE LA FAUNE ET DES PARCS, BILAN DES VENTES DE PESTICIDES AU QUÉBEC: ANNÉE 2021 at 7 (2023), link [here](#).

⁵⁵ *2024 Quebec Farmer Panel on Transition Away from Neonics Treated Seeds*, UVM, link [here](#) (Jan. 23, 2023).

⁵⁶ *Understanding agronomic justification and prescription*, MINISTÈRE DE L’ENVIRONNEMENT, DE LA LUTTE CONTRE LES CHANGEMENTS CLIMATIQUES, DE LA FAUNE ET DES PARCS, link [here](#) (last visited Feb. 7, 2024).

⁵⁷ Although New York’s Birds and Bees Protection Act is law, Governor Hochul signed the Act based on an agreement that New York’s legislature would make certain changes. These changes, known as “chapter amendments,” can be found here: An act to amend the environmental conservation law, in relation to regulation of certain coated or treated seeds, S08031, 2023–2024 Reg. Sess. (N.Y. 2024), link [here](#). The chapter amendments are almost certain to become law. For that reason, this testimony treats the chapter amendments as law.

neonicotinoids, and it may issue temporary waivers to farmers who complete integrated pest management training, conduct a pest risk assessment, and develop a pest risk assessment report. Waivers will be valid for no more than two years.⁵⁸

New York’s law will also prohibit the outdoor application of clothianidin, imidacloprid, thiamethoxam, dinotefuran, and acetamiprid to ornamental plants, turf grass, and all blooming plants, including agricultural crops. NY-DEC may temporarily lift the prohibition in response to an environmental emergency.⁵⁹

Groups representing farmers support New York’s law. For example, the New York Farm Bureau applauded the law’s “balanced approach that ensures farms will have safe risk management tools that they need to grow food for our state.” Similarly, the New York Corn and Soybean Growers Association commented that “Governor Hochul struck the right balance.” And the Good Farmers Guild of Western New York described the law as “critical legislation to protect farmers . . . from needless neonicotinoid use.”⁶⁰

IV. THE COMMITTEE SHOULD REPORT H.706 FAVORABLY BECAUSE THE BILL PROTECTS VERMONT’S FOOD SYSTEM AND POLLINATORS AT NO COST TO FARMERS.

The Pollinator Protection Bill presents the Committee with an opportunity to make Vermont’s food system more resilient and to protect ecosystems at no cost to farmers. H.706 achieves this by restricting unnecessary neonicotinoid use while creating the conditions necessary for farmers, service providers, and industry to transition to alternatives. H.706 has three main components:

First, the Pollinator Protection Bill eliminates the primary source of neonicotinoids in the environment by prohibiting the sale or use of neonicotinoid-treated corn, soybean, wheat, and cereal seeds. This provision begins the process of rebuilding Vermont’s declining pollinator populations by regulating a product of little value to Vermont’s farmers. Critically, H.706’s neonicotinoid-treated seed prohibition includes an emergency exemption that protects farmers in the unlikely event that seed companies refuse to supply neonicotinoid-free seed or charge unreasonable prices. The Pollinator Protection Bill also gives farmers, service providers, and the seed industry time to prepare for restrictions by delaying the start date.⁶¹

Second, H.706 protects pollinators from high-risk outdoor neonicotinoid uses, including applications to blooming crops, ornamental plants, and turf grass. Viable alternatives and alternative practices exist for these uses.⁶² The Pollinator Protection Bill once again accounts for unforeseen circumstances. It includes an emergency exemption that allows the Agency of Natural Resources (“ANR”) and the Agency of Agriculture, Food, and Markets (“AAF”) to lift the outdoor use prohibition in response to either an environmental emergency or an agricultural emergency. For example, H.706 allows ANR and AAF to allow the use of neonicotinoids to

⁵⁸ An act to amend the environmental conservation law, in relation to regulation of certain coated or treated seeds, S08031, 2023–2024 Reg. Sess. (N.Y. 2024), link [here](#).

⁵⁹ *Id.*

⁶⁰ Press Release, New York Governor Kathy Hochul, Governor Hochul Signs “Birds And Bees” Act, Nation-Leading Legislation to Protect New Yorkers and Wildlife From Harmful Pesticides (Dec. 22, 2023), link [here](#).

⁶¹ An act relating to banning the use of neonicotinoid pesticides, H.706, 2023–2024 Reg. Sess. § 3 (Vt. 2024), link [here](#).

⁶² See 2020 CORNELL STUDY, *supra* note 3, ch. 4.

address an invasive pest or a pest that threatens to destroy crops, as long as neonicotinoids are the least harmful tool available. The Pollinator Protection Bill once again gives farmers and service providers time to prepare by delaying the prohibition’s start date.⁶³

And third, the Pollinator Protection Bill designates neonicotinoid-treated seeds as “restricted use pesticides.”⁶⁴ This common-sense measure extends the same licensing, certification, and recordkeeping requirements that already apply to neonicotinoids to neonicotinoid-treated seeds.⁶⁵

Taken together, H.706 protects pollinators from neonicotinoids by largely restricting the treated seeds that offer farmers so little benefit and by regulating high-risk outdoor uses for which there are viable alternative chemistries and practices. In both cases, the Pollinator Protection Bill incorporates emergency exemptions that protect farmers from the unexpected. H.706 therefore strengthens Vermont’s food system without imposing costs on farmers.

V. THE COMMITTEE SHOULD DISREGARD MISLEADING CLAIMS MADE BY THE SEED INDUSTRY AND AAFM.

The seed industry has responded to evidence linking neonicotinoids to pollinator declines and revealing that neonicotinoid-treated seeds offer limited value by making misleading claims. Scott McCart, a professor of pollinator health at Cornell, explained the tactic to the Vermont Agricultural Innovation Board:

[I]ndustry is actively trying to cloud the waters on the scientific information I was surprised to see them try to take down [the Cornell Report] in public testimony. . . . This has been interesting for me to experience, but it’s also not new. . . . It occurred with the tobacco industry. It occurred with lead in gasoline. It’s occurring on climate change right now. . . . And it certainly happens with the pesticide industry trying to discredit scientists working on pesticides.⁶⁶

The European Academies Science Advisory Council agrees. In a recent report, it observed that continued demand for neonicotinoid-treated seeds “suggests a strong influence of factors other than the real threat posed by pests.”⁶⁷ It went on to identify the “strength of industry campaigns to maintain and increase markets for pesticides through extensive lobbying, marketing and manipulation.”⁶⁸

AAFM has bolstered the seed industry’s campaign by contributing misleading claims of its own. Three stand out.

First, AAFM testified to the Committee that seed companies might refuse to supply Vermont with neonicotinoid-free seed if Vermont passes H.706.⁶⁹ AAFM’s bleak prediction ignores that

⁶³ H.706, *supra* note 61, §§ 2, 4.

⁶⁴ *Id.* § 5.

⁶⁵ 6 V.S.A. § 918(d); Vermont Rule for Control of Pesticides, CVR-20-031-012 (2023), link [here](#).

⁶⁶ VT. AGRIC. INNOVATION BD. (Aug. 28, 2023) (statement of Scott McCart, Associate Professor, College of Agriculture and Life Sciences, Cornell University), link [here](#).

⁶⁷ EUR. ACAD. SCI. ADVISORY COUNS., NEONICOTINOIDS AND THEIR SUBSTITUTES IN SUSTAINABLE PEST CONTROL at 9 (2023), link [here](#).

⁶⁸ *Id.* at 16.

⁶⁹ VT. GEN. ASSEMBLY, HOUSE COMM. ON AGRIC., FOOD RESILIENCY, AND FORESTRY (Feb. 13, 2024) (testimony of Steve Collier, General Counsel, Vt. Agency of Agric., Food, & Mkts.), link [here](#).

the same multinational conglomerates that provide neonicotinoid-treated seeds to Vermont already supply neonicotinoid-free seeds to the European Union, the United Kingdom, Ontario, and Quebec.⁷⁰ It further misses that New York’s decision to restrict neonicotinoid-treated seeds creates a significant regional market that seed companies will supply and that Vermont can join. And it omits that H.706 includes an emergency exemption that allows ANR and AAFM to lift the neonicotinoid-treated seed restriction in the unlikely event that seed companies fail to supply neonicotinoid-free seed or charge unreasonable prices. Indeed, during a recent UVM webinar, one Quebec farmer warned, “Vermont friends, don’t be fooled. All the seed suppliers can turn around and provide insecticide-free seeds very quickly. There are a lot of marketing strategies to scare people.”⁷¹

Second, AAFM testified to the Committee that more research is necessary to determine whether restricting neonicotinoid-treated seeds will depress yields in Vermont.⁷² This claim suggests that the copious academic record that examines neonicotinoid-treated seeds cannot be used to make inferences that apply to Vermont. But Vermont is not an island. As Cornell’s Scott McCart testified to the Committee, the conclusions drawn by research in Quebec, Ontario, New York, and throughout the country apply to Vermont⁷³: neonicotinoid-treated seeds provide “inconsistent benefits in terms of yield and . . . *no overall net income benefit.*”⁷⁴

And third, despite all evidence to the contrary, AAFM has publicly questioned that Vermont’s pollinators are struggling at all. AAFM released a report and made public appearances in December 2023 pronouncing Vermont’s beekeeping industry “healthy and robust.”⁷⁵ The Vermont Beekeepers Association responded that AAFM’s statements were “misleading” and “undermin[ed] our industry and ongoing efforts in Vermont to protect managed and native bees.”⁷⁶ AAFM brushed the beekeepers aside, insisting that Vermont has a “thriving” beekeeping community.⁷⁷ Indeed, AAFM waited until it testified before the Committee to change course.⁷⁸

CONCLUSION

Neonicotinoids undermine Vermont’s food system by poisoning the pollinators whose services are the foundation of Vermont’s agricultural economy. Excessive use—primarily through corn and soybean seed treatments that provide farmers with no overall income benefit—spread

⁷⁰ See, e.g., *Subsidiaries of the Registrant*, CORTEVA, INC., link [here](#) (last visited Feb. 15, 2024).

⁷¹ *2024 Quebec Farmer Panel on Transition Away from Neonic Treated Seeds*, UVM, link [here](#) (Jan. 23, 2023); Abagael Gile, *Some Vermont dairy farmers, state officials urge caution about buzzy bill to ban neonicotinoids*, VT. PUB. (Feb. 14, 2024), link [here](#).

⁷² *Id.*

⁷³ VT. GEN. ASSEMBLY, HOUSE COMM. ON AGRIC., FOOD RESILIENCY, AND FORESTRY (Feb. 13, 2024) (testimony of Scott McCart, Associate Professor, College of Agriculture and Life Sciences, Cornell University), link [here](#).

⁷⁴ 2020 CORNELL STUDY, *supra* note 3 at 234–36 (emphasis added).

⁷⁵ Howard Weiss-Tisman, *Vermont honey bee count reaches historic high in 2023*, VT. PUBLIC (Dec. 27, 2023), link [here](#) (quoting Brooke Decker, State Apiculturist, Vermont Agency of Agriculture, Food, and Markets); see VT. AGENCY OF AGRIC., FOOD, & MKTS., VERMONT APIARY STATUS: 2023 (2023), link [here](#).

⁷⁶ Press Release, Vt. Beekeepers Assoc., Vermont Beekeepers Refute State Claims of Honey Bee Health (last visited Feb. 1, 2024), link [here](#).

⁷⁷ Howard Weiss-Tisman, *Vermont agency stands by honeybee report despite pushback from beekeepers*, VT. PUBLIC (Jan. 23, 2024), link [here](#) (quoting Brooke Decker, State Apiculturist, Vermont Agency of Agriculture, Food, and Markets).

⁷⁸ Steve Collier, *supra* note 69.

neonicotinoids throughout the environment. They contaminate Vermont farmland with no history of neonicotinoid use, and they adulterate pollen collected by Vermont bees. Jurisdictions including Vermont's neighbor's Quebec and New York have restricted or prohibited most neonicotinoid uses while protecting their farmers' yields and access to inputs.

By regulating unnecessary neonicotinoid use and facilitating a smooth, responsible transition to alternatives, the Pollinator Protection Bill presents the Committee with an opportunity to make Vermont's food system more resilient and to protect ecosystems without cost to farmers. CLF therefore urges the Committee to report H.706 favorably.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'R. Scott Sanderson', with a long horizontal flourish extending to the right.

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