Vermont Beekeepers Association

Promoting the welfare of Vermont's Honey Industry since 1886

April 4, 2022

Senate Committee on Agriculture
Vermont State House
115 State Street
Montpelier, VT 05633

Dear Sen. Robert Starr, Sen. Christopher Pearson, Sen. Anthony Pollina, Sen. Brian Collamore, and Sen. Corey Parent,

The signatories below represent more than 900 Vermont beekeepers and more than14,000 Vermont honey bee colonies. We strongly urge your support for H.626, a bill that would prohibit the use of neonicotinoid pesticides (neonics) until the Secretary of the Vermont Agency of Agriculture, Food, and Markets (VAAFM) adopts rules for the sale, use, or application of neonicotinoid pesticides.

The research is in. Below, we have referenced many recent research publications in support of our statements. The adverse impacts of neonicotinoid pesticides on pollinators and other environmental aspects can no longer be obfuscated. Their prophylactic use does not improve crop production levels in 95% of crop situations (research cited below.)

In 2019, H. 205 was passed, classifying neonicotinoid pesticides as a "restricted use" pesticide in Vermont but the use of neonicotinoid-treated seeds was not addressed in that bill. H. 626 addresses a number of the recommendations made by the legislatively appointed Pollinator Protection Committee recommendations from 2017: Prophylactic use, use on ornamental plants, BMP's for neonic seeds, BMP's for planting machinery, and tracking where neonic seeds are used.

In 2018 alone treated seeds were used on 130,000 acres of agricultural land in Vermont. These toxic loadings (amounting to thousands of pounds) are not accounted for in pesticide statistics. Passing H. 626 is important to protect pollinators and to deal with related ecological issues as discussed below.

We do have a couple of concerns about implementation:

Not an outright ban

We are not asking for an outright permanent 100% ban on neonicotinoid pesticides. There could be crop pest issues that warrant using neonics.

We do however strongly support and urge a ban on neonic treated article seeds which is an unwarranted prophylactic use of neonics.

We urge adoption of procedures that allow their use only in specific, as-needed permitted situations.

VAAFM and further research

VAAFM is not a research entity and should not be tasked with additional research when bona fide entities have already conducted that research.

Timing of enactment

We recognize that any Act promulgated this year, 2022, could seriously impact the ability of farmers to acquire uncoated seed for crops being planted during the 2022 growing season as well as the potential short term increase in the cost of that seed. For those reasons, we urge compromise on enactment ***but with full enactment for the 2023 growing season.***

Neonics reduce our ability to produce quality Vermont agricultural commodities

The adverse impacts of neonics on pollinators including our honey bee colonies is one of the well-documented and widespread factors contributing to pollinator losses.

Those losses are adversely impacting our ability to maintain healthy honey bee colonies. ***The loss of colonies reduces our ability to provide a high-quality Vermont specialty agriculture commodity: local Vermont honey and pollination services.***

The adverse effects from neonics impacts pollinators in general upon which we all rely for food production.

Lack of benefit and known adverse impacts on pollinator species and other environmental elements.

Reducing the use of neonicotinoids is vital to healthy soils, clean water, resilient communities, and vibrant ecosystems. Over the past decades, thousands of studies have documented that:

- In about 95% of cases, neonicotinoids do not improve crop production when used prophylactically. **11, 12, 13, and 14**
- Neonicotinoids destroy or harm beneficial insect populations – pollinators included. **2**
- Neonicotinoids pollute treated drinking water. **3**
- Neonicotinoids disorient and sicken migrating songbirds. **4**
- Neonicotinoids are long-lasting and mobile in the environment (months or years) and are known to contaminate surface and groundwater. **5**
- Neonicotinoids have widespread, chronic impacts on global biodiversity and negatively impact ecosystem services, such as pollination, that are critical to food security. **6**
- Neonicotinoids are toxic to earthworms, which are considered to be 'ecosystem engineers' because of their important role in soil health. **7**

Severe toxicity

Neonicotinoids are much more toxic to pollinators than other insecticides; **one teaspoon is enough to kill 1.25 billion bees**.[8] That would be more than the entire population of honey bees in the entire state during the peak summer population.

According to a recent analysis, **toxicity to insect populations has increased 48 times** since neonicotinoids became an insecticide of choice. "The types of synthetic insecticides applied to agricultural lands have fundamentally shifted over the last two decades . . to a mix dominated by neonicotinoids and pyrethroids. . . [neonicotinoids] are considerably more toxic to insects and generally persist longer in the environment. "**Neonicotinoids accounted for nearly 92 percent of the increased pesticide toxicity to insects from 1992 to 2014.**[9]

Serious risk but insignificant benefits

Recent studies show that neonic-treated seeds rarely provide a benefit. A 4-year study by Purdue found that Integrated Pest Management (IPM), not a reliance upon neonicotinoids, achieved 95% lower insecticide use with no effect on corn, a 129% increase in flower visitation by pollinators and 26% higher yield in watermelon.[10]

A 400- page Cornell report found that **"trials comparing neonicotinoid-treated corn and soybean seeds to "no insecticide" controls rarely found a significant effect on yield."**[11, 12, 13, 14]

Ontario and Quebec have implemented IPM requirements; the need for using neonics must be demonstrated before use of neonic coated seeds is authorized. A five-year study in 84 fields in Quebec found that "92.6% of corn fields and 69.0% of soybean fields had less than 1 wireworm per bait trap. However, no significant differences in plant stand or yield were observed between treated and untreated corn or soybeans during the study. This study shows that **neonicotinoid seed treatments in field crops in Quebec are useful in less than 5% of cases, given the very low level of pest-associated pressure and damage, and that they should not be used prophylactically. Integrated pest management (IPM) strategies need to be developed for soil insect pests to offer effective alternative solutions to producers."**[12]

A 4-year study in **Ontario found infrequent crop injury and absence of consistent benefit from neonicotinoid see**ds. Of 129 and 31 corn and soybean sites, only 8% and 6% respectively benefited from neonic seed use and **the costs of treated seeds were recovered at only 48% and 23% of corn and soybean sites respectively.**[13]

Findings from the U.S. Environmental Protection Agency (EPA)

The EPA determined in 2014 that **"Published data indicate that in most cases there is no difference in soybean yield when soybean seed was treated with neonicotinoids versus not receiving any insect control treatment."**[14]

Implementing the "Environmentally Responsible Approach" in Vermont

The preamble to Vermont's pesticide regulations states that "The goal of these pesticide regulations is to *encourage the use of the most environmentally responsible approach to effective pest management.* The [Vermont] Department of Agriculture, Food and Markets believes that with the knowledge and *use of integrated pest management* skills and soil/water conservation techniques currently available, this goal will be achieved."[15]

H.626 takes the "environmentally responsible approach" by requiring the development of rules to minimize prophylactic neonicotinoid use through Integrated Pest Management, which will result in more robust populations of beneficial insects, improved soil health and water quality, and resilience of species like birds and fish that rely heavily upon healthy insect populations.

- With the clear evidence of adverse impact of neonicotinoid pesticides on pollinators and other elements of our ecosystem now in hand, and;

- Understanding that even sublethal effects on our honey bee colonies seriously hamper our ability to produce a local Vermont specialty crop and pollination services; and,

- Now that we know that neonicotinoids pesticides have little value when used ubiquitously prophylactically;

We the undersigned representing more than 900 Vermont beekeepers with more than 14,000 honey bee colonies in Vermont strongly urge you to support this important legislation so important to the health of our food chain.

Thank you.

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Research and other references

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