

The Honorable Kathy Hochul
Governor of New York State
NYS State Capitol Building
Albany, NY 12224

July 11, 2023

RE: Birds and Bees Act Protection Act

Dear Governor Hochul:

Both chambers of the NYS legislature voted recently to approve the Birds and Bees Protection Act, and we urge you to sign this legislation into law. The Finger Lakes Regional Watershed Alliance (FLRWA) is a coalition representing all 11 of New York's Finger Lakes. We have reviewed scores of scientific studies on neonicotinoid insecticides, with a focus on understanding the benefits and costs of these compounds to the economy, to public health, and to the environment. We are convinced by these studies, which includes a major publication in 2020 by a team of scientists at Cornell University, that the excessive and largely unnecessary use of neonicotinoid insecticides, particularly as a seed coating for corn, soybean and wheat, poses a serious threat to the environment and to the economy of the state. Please see the addendum for our detailed examination of the issues and the scientific information that informed our decision.

We know there is opposition to this legislation. Despite countless studies showing that the economic value of neonicotinoid-coated seeds is marginal at best, farmers have become convinced that they are a necessary insurance policy against crop losses due to potential insect pests. Furthermore, they argue that the alternatives, using even more toxic insecticides, pose a more dangerous threat than neonicotinoids to the environment and to public health. Using insecticides as a prophylactic insurance policy is a scientifically, economically and environmentally unsound strategy. We are convinced by the science that our farmers must be encouraged, instead, to employ integrated pest management strategies that respond in a targeted and measured way only when pests are present. Toxic insecticides like neonicotinoids should be used as a response to an existing threat, and not as a preventative measure against the chance of a threat. This is the same flawed reasoning that gave us untreatable infections by bacteria that are now resistant to all antibiotic treatments.

Our Finger Lakes region provides clean drinking water for over 700,000 citizens. Regional tourism is a \$3.3 billion industry that supports nearly 60,000 jobs. The economy of this region, and the health of its residents, depend on a safe and nontoxic environment. You have always been a true champion for this region, and we are grateful for your on-going efforts in protecting the environmental as well as the economic resources of our state. We urge you look carefully at the arguments we present in the following addendum. We hope they will convince you, as they did our members, of the importance of the Birds and Bees Protection Act.

The Arguments for Banning Neonicotinoids in New York

At the time of their development in the 1990s and early 2000s, neonicotinoids were viewed as a welcome replacement for the much more toxic and environmentally dangerous organophosphates, carbamates, and organochloride insecticides.

Neonicotinoids have recognizable and irresistible benefits. They are systemic toxins,

which means they are transported into all plant tissues and provide protection against a wide array of insect pests, a fact which can lead to a reduction in the number of insecticide applications in fields facing intense pest pressure. At reasonable concentrations, they target mainly insects and related taxa, and they are largely safe for many other species, including humans. Had they been used judiciously as one component of an integrated pest management (IPM) strategy, there would be no need to ban their use except under conditions where there are no other options readily available.

Instead, neonicotinoid-coated seeds were sold to farmers as an insurance policy against the possibility that their crops might become infested, even if that possibility was remote. Several national and international studies, including a very comprehensive report published in 2020 by a team of scientists at Cornell University, demonstrate that the economic benefits of corn and soybean seed coats are minimal at best, and are often beneficial only when a field endures high pressure from several pest species.^{1,2} That is not typical of New York farm fields. While they may protect a farm against an unanticipated insect attack, their benefits as an insurance policy against these relatively rare occurrences are grossly outweighed by the clear and unrelenting damage they inflict on the environment. There are occasions when neonicotinoid insecticides are the only course of action against invasive pests, like the spotted lantern fly and the hemlock woolly adelgid, which attack fruit and forest trees. This bill will not prohibit the use of these insecticides under emergency circumstances.

Point 1: Prophylactic seed and turf/ornamental plant treatments with neonicotinoid insecticides in the absence of an integrated pest management strategy is an economically and environmentally unsound practice

There are significant negative outcomes from the use of neonicotinoids in insect control. One is that non-target species (not insect pests) are adversely affected. Harmless insects, including our economically-vital pollinators, as well as useful insects that serve as biological controls of insect pests, are being lost in large and economically-unsustainable numbers.³ Bird populations and bird diversity are likewise threatened.⁴ The US EPA determined in 2022 that between 1,225 and 1,445 endangered plant and animal species (67-79%) are likely adversely affected by neonicotinoids.⁵

Since 90-95% of the insecticide applied to the seed coat remains in the soil instead of in the plant, it alters soil health, infiltrates nearby non-crop plants, and eventually washes into groundwater and surface water. Neonicotinoids degrade slowly, and they are persistent, so repeated use year after year creates toxic landscapes and waterscapes. One study shows that U.S. farmlands are now 48 times more toxic to all insect species than they were in the 1990s.⁶ Conservative estimates are that more than 90 tons of these insecticides accumulate in New York farmlands, green spaces, and bodies of water each year.¹

Point 2: The New York landscape has become toxic to harmless and economically-beneficial species of insects, including pollinators that contribute \$400 million to the NY economy

Because of their persistence and high-level water solubility, neonicotinoids are now prevalent in dangerously high concentrations in most lakes and streams in the U.S.

and worldwide.^{7,8} The presence of these toxins is causing a loss of vital invertebrate species that form the foundation of the entire freshwater aquatic ecosystem, adversely affecting macroinvertebrates, fish, amphibians, birds and mammals.^{9,10} Furthermore, neonicotinoids have been detected worldwide in well water as well as raw and finished municipal drinking water. Recent studies show that most routine drinking water treatments remove only a fraction of neonicotinoids, and that significant removal requires advanced granular activated carbon filtration not available to many small and rural municipalities.^{11,12} There is some evidence to suggest that chlorinating certain neonicotinoid formulations may create more toxic end-products. The Finger Lakes Region supplied drinking water for over 700,000 residents, and it supports a tourism industry valued at \$3.3 billion that provides 60,000 jobs. This resource is at risk.

Point 3: Neonicotinoid insecticides have entered the aquatic environment in high enough concentrations to threaten entire aquatic ecosystems as well as drinking water supplies

There is one additional argument for banning these products. A recent study showed that nearly 50% of human subjects tested, including children as young as three years of age, had urine samples that contained neonicotinoids.¹³ Earlier generations of insecticides were topical, and could be washed off the surfaces of fruits and vegetables. Systemic neonicotinoids infiltrate the plant tissues and are consumed when eaten. Studies of these compounds on experimental mammals suggest several potential health problems, including risks to human reproduction and the development of the brain, particularly in fetuses and children.^{14,15,16}

Point 4: Due to their pervasiveness and high concentrations in food and water, neonicotinoids now pose a risk to human health

Neonicotinoids are banned in many European countries and in Canada, and there is little evidence at this time for adverse economic impacts.¹⁷ The NYSDEC has prohibited their use in some downstate counties due to water table concerns. The agency has banned one neonicotinoid formulation, chlothianidin, from being applied anywhere in NYS as a spray for agricultural, commercial and homeowner use because of concerns about groundwater contamination and risks to fish and wildlife. However, the agency is unable to restrict its use as a seed coat. The USEPA has chosen to provide all neonicotinoid seed coats with a FIFRA exemption as "treated articles or substances." This means that nearly 70 tons (of the 90 ton total) of neonicotinoid insecticides that enter NY soil and water each year from coated seeds cannot be regulated, or even monitored, as pesticides.¹⁸ The Birds and Bees Protection Act will close this loophole.

A ban on the use of neonicotinoid insecticides as defined by the Birds and Bees Protection Act will impose some hardships on some farmers and turf growers who believe they have few if any alternatives available to them. However, incorporating Integrated Pest Management (IPM) strategies have been proven to produce better crop yields than seed application while also significantly improving the welfare of pollinators, the quality of food, and the preservation of aquatic and terrestrial environments.^{19,20} The core feature of Integrated Pest Management is to use insecticides as a last resort, and only after the pests have been identified and it has been determined that they pose an undue economic penalty. Insecticides are then

employed in a targeted, economically-feasible, and environmentally-sensitive fashion.²¹

Point 5: Alternatives to the unnecessary use of neonicotinoids do exist, and they need to be employed to protect the ecology and the economy of the Canandaigua Lake watershed

Weighing the largely insignificant economic benefits to New York farmers against the considerable environmental detriments, there is simply no good reason for farmers to continue to use neonicotinoid-treated corn, soybean and wheat seeds. A similar argument can be made for their use on turf and ornamental plants, unless environmental emergencies dictate their usage. The bill provides this safety measure. The suit also challenges the EPA's exemption of the seeds from registration as pesticides under the Federal Insecticide, Fungicide and Rodenticide Act (Fifra). Registration would trigger closer scrutiny of their environmental and health impacts, and force the EPA to weigh the seeds' benefits against their costs. The agency would have to show the seeds do not cause unreasonable or adverse effects to the environment, as is the standard under Fifra. **EPA** science has found neonicotinoids harm endangered species while **providing little benefit** in terms of crop yield. "If you actually balance the benefit against the harms, it would not pass the Fifra test," von Saun said.

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