



September 20, 2021

Standing Committee on Environmental Conservation
New York Assembly
LOB 623
Albany, NY 12248

Dear Assembly Standing Committee on Environmental Conservation:

On behalf of the Northeast Organic Farming Association of New York (NOFA-NY)—the state’s leading non-profit organization for sustainable, local organic food and farming—I testify in support of prohibiting wasteful or replaceable uses of neonicotinoid pesticides (neonics) that threaten the future of farming in New York. We support the Birds and Bees Protection Act (A7429 Englebright/S699B Hoylman), a bill before this committee that would do just that.

New York is a national organic food leader. With more than 1,300 organic farms (the third-highest total in the country) the state produced nearly \$300 million in organic products in 2019, marking 38% growth since just three years earlier.¹ A founding principle of organic agriculture—and a key reason for its rapidly increasing popularity among consumers—is that a healthy environment produces nutritious food. On our farms, we strive to improve the land through our growing practices to keep it rich, productive, and unpolluted so it can support our livelihoods and those of future generations of New York farmers.

Pesticide pollution, however, undercuts these efforts. Due to the wasteful and widespread use of neonic pesticides, neonic contamination is now pervasive in the state’s soil, water, and plant life, impairing the health of the land to the detriment of all New York farmers.²

Neonics destroy bees and pollinator populations, which are necessary for fruit and vegetable production. And new research reveals that the yields of many U.S. crops (including apples, blueberries, and cherries) are limited by a lack of pollinators.³ Yet, honey bees in New York continue to die at record rates.⁴ While many causes contribute to dwindling pollinator populations, widespread neonic use—driven primarily by the use of neonic-treated corn and soybean seeds—is a lead culprit.⁵ Neonics devastate not only the honey bees that are bred and replaced every year (at great expense to beekeepers) but also the hundreds of species of New York’s native bees, which often are as or more important for crop pollination, but not similarly replenished.⁶

Neonics also kill natural predators of plant pests, such as beetles and wasps, that organic farmers often count on for pest control in lieu of pesticides. Recent research shows that neonic use in conventional agriculture has made it up to 48-times more toxic to insect life, affecting not only pests but beneficial insects too.⁷ Insect predators may be especially at risk because they can

also be harmed or killed when they eat insects contaminated with neonics.⁸ It is this movement through food webs—as well as neonics’ harmful impacts on other species like birds, fish, and deer—that have led some to compare the ecological damage caused by neonics to that done by the pesticide DDT.

Neonics damage soil health—the heart of organic farming. Organic farmers rely on soil organisms to provide a productive environment for their crops by storing carbon and recycling nutrients. Yet research is now showing that neonic contamination harms critical organisms, such as nematodes and earthworms, and can change the composition of soil microbial communities—impairing beneficial bacteria crucial for plant growth and health and soil fertility and quality, such as plant growth-promoting rhizobacteria, nitrogen-fixing bacteria, and other bacteria involved in the nitrogen cycle.^{9,10,11} These soil health concerns for conventional farmers become concerns for organic farmers where neonics migrate onto their fields.

While neonics are prohibited in organic agriculture, these problems often affect organic farmers because of neonics’ persistence and their exceptional ability to move long distances carried by rain or irrigation water to contaminate new soil, water, and plants. Evidence of widespread contamination can be found in New York water itself, where neonics are frequently found at ecologically damaging levels.¹² Indeed, the ubiquity of neonics’ spread is highlighted in monitoring by the Centers for Disease Control showing that half of Americans are regularly exposed to neonics, and other research finding that even 6% of organic produce tested contained the chemicals.¹³

Furthermore, a 2020 report from Cornell University’s College of Agriculture and Life Sciences (Cornell CALS) finds that the vast majority of neonic use can be eliminated without the need for a harmful replacement, or, in many cases, any replacement at all.¹⁴ In particular, the report finds that **neonic treated corn and soybean seeds—which make up an estimated 73% of the neonics used in New York agriculture—provide “no overall net income benefits to farmers.”**¹⁵ Similarly, the report finds that most non-farm neonic uses (aside from invasive species treatments) are either not needed or replaceable by alternatives that are less harmful to pollinators.

These high-cost, low-benefit neonic uses responsible for the vast bulk of neonic contamination in New York should be eliminated. In this past year, we supported the Birds and Bees Protection Act (A7429/S699B), which would prohibit these wasteful and unnecessary neonic uses highlighted by the Cornell CALS report. We will continue to strongly support the bill when the legislature reconvenes in January of 2022.

We believe that the future of farming in New York must be just, resilient, and sustainable. Widespread and wasteful neonic contamination hinders that future while threatening organic farmers’ bottom lines today. For that reason, we urge immediate action to rein in that contamination and welcome the opportunity to discuss our concerns further.

Thank you for your time and attention to this testimony.

Respectfully,



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Founded in 1983, the Northeast Organic Farming Association of New York (NOFA-NY) is the premier statewide organization growing a strong regenerative organic agriculture movement in New York State and is part of a regional network of seven Northeast Organic Farming Associations. NOFA-NY provides education and assistance to local organic and regenerative farmers; connects consumers with organic and regenerative farmers; advocates policies that support a sustainable and fair food and farm system at both the state and federal levels; and is the largest USDA-accredited organic certifier in New York certifying over 1,000 organic operations in the state.

¹ USDA, *Northeastern Region Organic Report* (Oct. 22, 2020) <https://bit.ly/2UEpCoJ>.

² Pierre Mineau, *Impacts of Neonics in New York Water Their Use and Threats to the State's Aquatic Ecosystems* (Sep. 2019), <https://www.nrdc.org/sites/default/files/impacts-neonics-in-ny-water-report.pdf>.

³ Reilly J, Artz D, Biddinger D, Bobiwash K, Boyle N, Brittain C, Brokaw J, Campbell J, Daniels J, Elle E, Ellis J, Fleischer S, Gibbs J, Gillespie R, Gundersen K, Gut L, Hoffman G, Joshi N, Lundin O, Winfree R. Crop production in the USA is frequently limited by a lack of pollinators. *Proceedings of the Royal Society B: Biological Sciences*. 2020 Jul 29, 10.1098/rspb.2020.0922.

⁴ Bee Informed Partnership, *State Colony Loss Map*, <https://research.beeinformed.org/loss-map/>.

⁵ Pisa L, Goulson D, Yang EC, Gibbons D, Sánchez-Bayo F, Mitchell E, Aebi A, van der Sluijs J, MacQuarrie CJK, Giorio C, Long EY, McField M, Bijleveld van Lexmond M, Bonmatin JM. An update of the Worldwide Integrated Assessment (WIA) on systemic insecticides. Part 2: impacts on organisms and ecosystems. *Environ Sci Pollut Res Int*. 2017 Nov 9. doi: 10.1007/s11356-017-0341-3. Epub ahead of print. PMID: 29124633; Douglas MR, Tooker JF. Large-scale deployment of seed treatments has driven rapid increase in use of neonicotinoid insecticides and preemptive pest management in US field crops. *Environ Sci Technol*. 2015 Apr 21;49(8):5088-97. doi: 10.1021/es506141g. Epub 2015 Apr 2. PMID: 25793443.

⁶ Reilly et al. 2020.

⁷ DiBartolomeis M, Kegley S, Mineau P, Radford R, Klein K. An assessment of acute insecticide toxicity loading (AITL) of chemical pesticides used on agricultural land in the United States. *PLoS One*. 2019 Aug 6;14(8):e0220029. doi: 10.1371/journal.pone.0220029. PMID: 31386666; PMCID: PMC6684040.

⁸ S. D. Frank, J. F. Tooker, Opinion: Neonicotinoids pose undocumented threats to food webs. *Proceedings of the National Academy of Sciences* Sep. 2020, 117 (37) 22609-22613; DOI: 10.1073/pnas.2017221117.

⁹ 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.

¹⁰ 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>.

¹¹ Parizadeh M, Mimee B, Kembel S, Effects of Neonicotinoid Seed Treatments on Phyllosphere and Soil Bacterial Communities Over Time. Research Square. DOI: 10.21203/rs.3.rs-76081/v1; Zhang P, Ren C, Sun H, Min L. Sorption, desorption and degradation of neonicotinoids in four agricultural soils and their effects on soil microorganisms. *Sci Total Environ.* 2018 Feb 15;615:59-69. doi: 10.1016/j.scitotenv.2017.09.097. Epub 2017 Sep 29. PMID: 28968584.

¹² Mineau 2019.

¹³ Ospina M, Wong LY, Baker SE, Serafim AB, Morales-Agudelo P, Calafat AM. Exposure to neonicotinoid insecticides in the U.S. general population: Data from the 2015-2016 national health and nutrition examination survey. *Environ Res.* 2019 Sep;176:108555. doi: 10.1016/j.envres.2019.108555. Epub 2019 Jun 24. PMID: 31288196; PMCID: PMC6710140; Craddock HA, Huang D, Turner PC, Quirós-Alcalá L, Payne-Sturges DC. Trends in neonicotinoid pesticide residues in food and water in the United States, 1999-2015. *Environ Health.* 2019 Jan 11;18(1):7. doi: 10.1186/s12940-018-0441-7. PMID: 30634980; PMCID: PMC6330495.

¹⁴ Travis A. Grout, Phoebe A. Koenig, Julie K. Kapuvári, & Scott H. McArt, *Neonicotinoid Insecticides in New York State: Economic Benefits and Risk to Pollinators*, Cornell CALS (Jun. 23, 2020), <https://bit.ly/2IARqby>.

¹⁵ Mineau 2019, Grout et al. 2020.