Testimony of the Maine Organic Farmers and Gardeners Association

in support of

LD 1323 - *An Act to Prohibit the Use of Neonicotinoid Pesticides and the Use and Sale of Neonicotinoid-treated Seeds*

April 15, 2025

Good afternoon Senator Talbot Ross, Representative Pluecker and members of the Joint Standing Committee on Agriculture, Conservation and Forestry. My name is Heather Spalding and I am deputy director of the Maine Organic Farmers and Gardeners Association (MOFGA). Thank you for the opportunity to advocate for LD 1323 - *An Act to Prohibit the Use of Neonicotinoid Pesticides and the Use and Sale of Neonicotinoid-treated Seeds*. We thank Representative Doudera for sponsoring this bill, which will build on Maine's critical work to promote safer alternatives to neonicotinoid pesticides (neonics).

A broad-based community, MOFGA is transforming our food system by supporting farmers, empowering people to feed their communities, and advocating for an organic future. MOFGA certifies 537 organic farms and processing operations representing more than $120 million in sales. We're working hard to create opportunities for Maine's next generation of farmers. Each of these farmers is a Maine businessperson for whom economic health and environmental health are interdependent. While MOFGA envisions a future of healthy ecosystems, communities, people, and economies sustained by the practices of organic agriculture, we attribute our success to collaboration and outreach to growers across the management spectrum.

Neonics are broad-spectrum pesticides that are harmful to bees[i] [ii] [iii] and other pollinators[iv], birds[v], aquatic life forms[vi] and other wildlife[vii], soil health[viii] [ix] [x] [xi] and human health[xii]. They also pose a threat to organic farmers, who do not use neonics in their crop management and who rely on healthy soils and beneficial insects and other wildlife. Neonics are the most widely used insecticides in the world.[xiii] They persist in nature and show up in remote locations where they have not been intentionally applied. We know that neonics are commonly used in Maine agriculture though we do not have specific data on the quantity of neonics sold and used in Maine because of limitations on data collection at Maine's Board of Pesticides Control. Neonics are "systemic", meaning when absorbed by treated seed and/or taken up by roots, they move throughout the entire plant. Neonics are very efficient tools for many conventional farmers, landscapers and gardeners because they last through the growing season and any insect that feeds on any part of the plant will be exposed to the toxin. The poison also flows through to the pollen and nectar and is toxic to bees and other important pollinators. Mounting scientific evidence links neonics with the alarming decline of bee populations, killing them outright and impairing their ability to learn, find their way back to their hives, collect food, produce new queens and mount an effective immune response. You may have read in the New York Times this past weekend, that possibly 70% of the nation's honeybee colonies are at risk this year, "potentially the most devastating loss that the nation has ever seen."[xiv] We know that bees and other pollinators face many threats such as loss of habitat, extreme heat and droughts, flooding, wildfires, diseases, varroa mites and competition from non-native insects. But scientific evidence is clear that neonics are contributing to pollinator decline and there are safer management practices that farmers can embrace.

According to the U.S. Fish and Wildlife Service, "insect pollination services add more than $34 billion in economic value to U.S. agricultural crops annually and provide diverse diets for humans including fruits, nuts, and vegetables. Honeybees, although not native to the U.S., are responsible for up to $5.4 billion in

agricultural productivity."[xv] We can't afford the continued loss of these allies. Bees are having a rough go of it, to be certain. The science has been clear on the role that neonics plays in pollinator decline and we must respond.

MOFGA supported the 2021 legislation to restrict the use of four of the most used neonics in residential landscaping.[xvi] That was an important first step toward minimizing reliance on agrichemicals that are harmful to pollinators, birds, aquatic life, soil health and human health. Though 114 neonic pesticide products still are available for landscaping purposes when used by licensed applicators, those products are no longer readily available for homeowners to use around their property.[xvii] LD 1323 presents an opportunity for Maine to demonstrate its commitment to the practice of integrated pest management (IPM), which is a series of pest management evaluations, decision and controls that aims to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.[xviii]

LD 1323 seeks to build on the success demonstrated by neighboring farmers in the province of Quebec, and by legislative commitments made in New York and Vermont. Legislatures in Massachusetts and Connecticut also are considering similar legislation that reasonably phases out unnecessary uses of neonics and promotes true IPM instead of prophylactic use of chemicals that persist through the growing season and harm ecological systems, soil health and human health. This bill does not ban the use of neonics outright. Rather, it limits applications during bloom when pollinators are most likely to be exposed to chemicals in and on the crops, it focuses on treated seed that studies show could be replaced by non-treated seed and have no loss in yield, and limits the use of harmful chemicals for aesthetic purposes. It sets a sunset for certain agricultural applications for which there are safer and more affordable alternatives. It honors the real meaning of IPM rather than allowing prophylactic use for the duration of the growing season.

Organic management practices and the successful transition away from neonic-treated seed in Quebec prove that it is possible to farm without the use of neonics. I encourage you to watch a webinar hosted by the University of Vermont Extension and the Vermont Bee Lab a little over a year ago.[xix] You can hear from a panel of Quebec dairy farmers who have transitioned away from neonic treated seeds following the ban passed in 2019. They refute the message from the pesticide industry that moving to seed not treated with neonics will lead to decreased yields or worse, crop failure. Instead, they experienced no reduction in yield, which aligns with EPA's findings as far back as 2014 and more recent research from Cornell demonstrating that neonic coatings on corn, soy, and other seed provide little or no economic benefit to farmers[xx]. The farmers in the webinar also reassured the audience that non-treated seed was not difficult to access and that seed companies pivoted quickly and made the desired seed available at a reduced cost. Interestingly, the farmers noted the importance of crop rotation and patience, and even looked to his organic farmer neighbors for guidance on the ideal time to plant since their seeds aren't treated with fungicide or insecticide.

We urge you to support this legislation and we appreciate your consideration.

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[ii] 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.

[iii] Lin *et. al.*, Honey Bees and Neonicotinoid-Treated Corn Seed: Contamination, Exposure, and Effects. Environmental Toxicology and Chemistry. April 2021.

[iv] 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. June 20, 2024.

[v] Molenaar *et. al.*, Data from: Neonicotinoids impact all aspects of bird life: A meta-analysis. September 20, 2024. Wageningen University & Research.

[vi] Yamamuro *et. al.*, Neonicotinoids disrupt aquatic food webs and decrease fishery yields. Science. November 1, 2019.

[vii] U.S. Environmental Protection Agency. Imidacloprid, Thiamethoxam and Clothianidin: Draft Predictions of Likelihood of
Jeopardy and Adverse Modification for Federally Listed Endangered and Threatened Species and Designated Critical Habitats. May 1, 2023.

[viii] Parizadeh et. al., Neonicotinoid Seed Treatments Have Significant Non-target Effects on Phyllosphere and Soil Bacterial Communities. January 13, 2021. National Library of Medicine.

[ix] Harmon *et. al.*, Changes in predator biomass may mask the negative effects of neonicotinoids on primary consumers in field settings. Royal Entomological Society. December 28, 2022.

[x] Bradford *et. al.*, Neonicotinoid-containing insecticide disruption of growth, locomotion, and fertility in Caenorhabditis elegans. PLOS One. September 9, 2020.

[xi] Wang *et. al.*, The neonicotinoid insecticide imidacloprid has unexpected effects on the growth and development of soil amoebae. Science Direct. April 15, 2023.

[xii] Jing Li et. al., Detection of Neonicotinoid Insecticides and Their Metabolites in Human Cerebrospinal Fluid. Environmental Health Perspectives. December 13, 2022.

[xiii] Klingelhöfer et. al., Neonicotinoids: A critical assessment of the global research landscape of the most extensively used insecticide. Science Direct. October 2022.

[xiv] The Bees Are Disappearing Again. Ivan Penn. The New York Times. April 12, 2025.

[xv] U.S. Fish & Wildlife Service. Pollinators benefit agriculture.
https://www.fws.gov/initiative/pollinators/pollinators-benefit-agriculture

[xvi] Resolve, Directing the Board of Pesticides Control to Prohibit the Use of Certain Neonicotinoids for Outdoor Residential Use. Approved June 10, 2021 by Governor Janet Mills.
https://www.mainelegislature.org/legis/bills/getPDF.asp?paper=HP0111&item=5&snum=130

[xvii] Neonicotinoid State Restricted List (Dinotefuron, Clothianidin, Imidacloprid, Thiamethoxam). As of March 18, 2025. Maine Board of Pesticides Control.
https://www.maine.gov/dacf/php/pesticides/documents2/registration/Neonic%20List%20rev%203.18.2025.xlsx

[xviii] Integrated Pest Management (IPM) Principles. United States Environmental Protection Agency.
https://www.epa.gov/safepestcontrol/integrated-pest-management-ipm-principles

[xix] Managing Neonicotinoids in Row Crops Webinar Series. 2024 Quebec Farmer Panel on Transitioning Away From Neonic Treated Seeds. January 23, 2023. University of Vermont Extension and Vermont Bee Lab.
https://www.youtube.com/watch?v=N9OWx9XWIaE

[xx] Grout et. al. Neonicotinoid Insecticides in New York State: economic benefits and risk to pollinators. Cornell University. 2020.