

December 15, 2020

RE: AGR-Pesticide-Literature-Review-FY20 and the regulation of neonicotinoids in MA

Dear Director Lascola-Miner,

We are writing today regarding the AGR-Pesticide-Literature-Review-FY20 and whether the Pesticide Board Subcommittee and DOAR should alter the current use of neonicotinoids in Massachusetts.

The Garden Club Federation of Massachusetts represents 170 garden clubs across Massachusetts and over 10,000 club members. Our mission includes a Conservation Pledge whereby we pledge **“to protect and conserve the natural resources of the planet Earth and promise to promote education so we may become caretakers of our air, water, forests, land, and wildlife.”** Based on that Pledge, we are writing to you today on behalf of the Garden Club Federation of Massachusetts to encourage the adoption of restrictions on the use of neonicotinoids in Massachusetts.

First of all, we greatly appreciate the Department of Agricultural Resources’ laudable execution of its 2019 Neonics Scientific Literature Review (“Literature Review”). It was thorough and extensive.

We noted that the Review found that a broad majority of impact-based studies reviewed (42 of 43) cited neonicotinoid insecticides (“neonics”) as a contributor to pollinator declines. Further, the Review found that the only studies with mixed results were industry-funded and not transparent. This Literature Review is consistent with several global studies that have found adverse impacts of neonics on pollinators.

However, the Literature Review did not provide policy recommendations with respect to neonicotinoids, so we appreciate this opportunity to underscore the concerns stated in the report, to provide additional concerns beyond the scope of pollinator impacts, and to provide specific policy recommendations for your consideration. Although we support the policy recommendations contained in H724, rather than wait for that pending legislation, we urge the Pesticide Board Subcommittee and the Massachusetts Department of Agricultural Resources to impose significant restrictions on the use of neonicotinoids in the Commonwealth of Massachusetts as a matter of priority.

The situation is dire. A recent study found that U.S. Agriculture is 48 times more toxic to insect life than it was in the early 1990s; neonicotinoids account for more than 90% of that increase.[i] Another recent ground-breaking study estimates that over 40 percent of insect species face extinction in coming decades and that insects are declining at a rate of extinction eight times faster than other organisms.(ii) For these reasons, while our EPA has failed to take significant action to curb the use of neonicotinoids, the European Union has instituted a full ban.

Furthermore, while the Literature Review provides only one aspect (effect on pollinators) of why restricting neonicotinoid use is so important in the Commonwealth, the evidence shows that neonicotinoids pose a severe threat to other wildlife, including mammals. Neonicotinoids are a suspected contributor to the massive North American bird population losses over the last several decades.[iii] Even at low doses, neonics can harm birds' immune systems, fertility, and navigation, and cause rapid weight loss, thereby reducing birds' chances of surviving in the wild.[iv]

Recently, scientists in South Dakota and Montana released a study showing how exposure to neonicotinoids caused deformities in white tail deer, one of the first studies showing impacts on mammalian wildlife.[v]

Other research suggests that people exposed to neonicotinoids may similarly be at increased risk of developmental or neurological damage, including malformations of the developing heart and brain, memory loss, and finger tremors.[vi] These results raise special concern given that neonic exposure is often difficult or impossible to avoid. Drinking water treatment generally does not remove neonics from contaminated water,[vii] and neonic residues have been found to commonly contaminate produce and baby food.[viii] Because neonics permeate foods, they cannot be washed off.

Given the ecological and public health harms of neonicotinoids, we urge that the Department take the following actions:

- Ban the use of neonicotinoids by unlicensed individuals.
- Ban the use of neonicotinoid-coated corn and soybean seeds.
- Prohibit applications of all neonicotinoid products on bee-attractive crop plants during bloom.
- Require labeling of plants and plant materials that have been treated with neonicotinoids.
- Stop the use of neonicotinoids on state and local municipal property.
- Significantly increase buffer zones for use near waterways.
- Ban aesthetic-only uses of neonicotinoids, even by licensed/certified applicators.
- Track the use of all neonicotinoid applications within the Commonwealth.
- Ban any other uses the Department deems to cause unreasonable adverse effects on the environment or pollinators.

A major campaign of the GCFM is a 2-year focus on our Native Plant Challenge. We have undertaken this campaign to educate and encourage our members to increase the number and variety of Native Plants in their home landscapes in order to support our pollinator populations. The use of neonicotinoids in the environment is counterproductive to this effort. Furthermore, it is not possible for our gardeners to know with any certainty which plants for sale at nurseries and other outlets HAVE NOT

been treated with neonicotinoids without the labeling requirement! How can we avoid neonics if we do not know which plants have been treated?!

We want to again thank you for this opportunity to share our concerns about the impacts of pesticides on our ecosystems and our health. We are grateful to see the Department taking a much-needed look at the impacts of neonicotinoids and we are counting on the Department of Agriculture Resources to protect the health and ecological integrity of our Commonwealth.

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[i] See 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 14(8): e0220029. <https://doi.org/10.1371/journal.pone.0220029> (2019)

[ii] See Francisco Sánchez-Bayo and Kris A.G. Wyckhuys. *Worldwide decline of the entomofauna: A review of its drivers*. Biological Conservation 232: 8-27 (January 31, 2019). <https://www.sciencedirect.com/science/article/abs/pii/S0006320718313636>

[iii] See Stephen Leahy, *Huge Decline in Songbirds Linked to Common Insecticide*, Nat. Geo. (Sep. 12, 2019), <https://on.natgeo.com/2mpTQy1>; John Fitzpatrick & Peter Marra, *The Crisis for Birds Is a Crisis for Us All*, New York Times (Sep. 19, 2019), <https://nyti.ms/2kTTnc>.

(iv) See; Ana Lopez-Antia et al., *Imidacloprid-Treated Seed Ingestion Has Lethal Effect on Adult Partridges and Reduces Both Breeding Investment and Offspring Immunity*, *Envtl. Research* (Jan. 2015), <https://bit.ly/2kwUdWS>; Margaret Eng et al., *A Neonicotinoid Insecticide Reduces Fueling and Delays Migration in Songbirds*, *Science* (Sep. 13, 2019), <https://bit.ly/2kGS1MA>; Margaret Eng et al., *Imidacloprid and Chlorpyrifos Insecticides Impair Migratory Ability in a Seed-Eating Songbird*, *Scientific Reports* (Nov. 9, 2017), <https://go.nature.com/2my5OW4>.

[v] See Elise Hughes Berheim et al., *Effects of Neonicotinoid Insecticides on Physiology and Reproductive Characteristics of Captive Female and Fawn White-tailed Deer*, *Scientific Reports* (March 14, 2019), <https://www.nature.com/articles/s41598-019-40994-9>

[vi] A. Cimino et al., *Effects of Neonicotinoid Pesticide Exposure on Human Health: A Systematic Review*, 125 *Envtl. Health Persp.* 155-62 (2017), <https://bit.ly/2NVA1LR>.

[vii] Kathryn L. Klarich et al., *Occurrence of Neonicotinoid Insecticides in Finished Drinking Water and Fate During Drinking Water Treatment*, *Envtl. Sci. and Tech. Letters* (Apr. 2017), <https://bit.ly/2PMRunk>.

[viii] See, e.g., H. A. Craddock et al., *Trends in Neonicotinoid Pesticide Residues in Food and Water in the United States, 1999-2015*, *Envtl. Health* (Jan. 11, 2019), <https://bit.ly/30GxV5D>; Olga Naidenko, *Neonic Pesticides: Banned in Europe, Common on U.S. Produce, Lethal to Bees*, *Envtl. Working Grp.* (Jul. 26, 2018), <https://bit.ly/2EejbSx>; Friends of the Earth, *Toxic Secret*, <http://bit.ly/2IIE26V> (visited Oct. 9, 2019).