

March 6, 2023

House Ag and Finance Committee

HF 2472

Chair Vang and Committee members:

I write as an entomologist and beekeeper to ask your support for **HF 2472**

Over the last 15 years In my experience working as an aquatic biologist, I have seen the decline in both terrestrial and aquatic invertebrates, and as a beekeeper, honey bee colonies are struggling, too. Some beekeepers are losing over 50% of their hive each year, and these losses are unsustainable.

The class of chemicals known as neonicotinoids (neonics), of which there are many formulations, are the most widely used systemic pesticides on the market, and their application to agriculture fields and use in urban gardens is ubiquitous. These chemicals are taken up by the entire plant so are present in the pollen and nectar, the foods that bees must have to survive. In studying honey bee colonies, over 100 different chemicals have been found inside the hives.

MN has 15 million acres planted in commercial corn and soybeans and over 1000 acres in sugar beets, and most all seeds have been coated with the neonics.

I am greatly concerned about the impact of the widespread use of treated seeds on our wildlife, pollinators, birds, and also humans.

Research is increasingly documenting that the lack of enough diverse plant forage (bees need a balanced diet just like humans in order for their immune systems are to be healthy) and exposure to systemic pesticides are the main causes for these losses - weakened immune systems makes bees vulnerable to diseases and pathogens .

Since essentially all the corn, sugar beets, and most of the soybeans grown in the US have been heavily treated with systemic pesticides and much of these chemicals come off and drift over the landscape during planting, it is nearly impossible for beneficial insects to escape their impact.

It is time for these chemically treated seeds to be regulated and tracked as the pesticides that they are.

In addition to insects, about 1/3 of our birds in the US have disappeared in the last 50 years, and again when the seeds left on the surface are eaten, they can be lethal: a single neonic seed can kill a small songbird. The runoff from fields is now impacting the aquatic invertebrates that live in water adjacent to farm fields, so the fish populations dependent on these organisms are now showing signs of impairment.

Research on human health is also revealing that 95% of 171 pregnant women from around the country have neonics in their bodies, and they can be passed to the fetus. Neonics are neurotoxins and can impact heart and brain development.

These impacts on humans and wildlife should be enough for the MDA to regulate treated seeds, ensuring that they will be used only specifically where they are necessary.

**HF 2472** will direct the MDA to develop this long overdue regulation so critical if MN is going to protect families and the integrity of our terrestrial and aquatic ecosystems.

**Please give careful consideration to supporting HF 2472**

Thank you,

Margot Monson, entomologist, beekeeper

St Paul, MN

- <sup>1</sup> See, e.g., Michael Greshko, *First U.S. Bumblebee Officially Listed as Endangered*, National Geographic (Mar. 22, 2017), <https://www.nationalgeographic.com/science/article/bumblebees-endangered-extinction-united-states> (rusty patched bumble bee disappeared by nearly 90% since the 1990s).
- <sup>1</sup> Damian Carrington, *Global Pollinator Losses Causing 500,000 Early Deaths a Year – Study*, The Guardian (Jan. 9, 2023), <https://www.theguardian.com/environment/2023/jan/09/global-pollinator-losses-causing-500000-early-deaths-a-year-study>; J.R. Reilly et al., *Crop Production in the USA is Frequently Limited By a Lack of Pollinators*, *Proc. R. Soc. B.* **287** (July 29, 2020), <http://doi.org/10.1098/rspb.2020.0922>.
- <sup>1</sup> John Tooker, *Why It's Time to Curb Widespread Use of Neonicotinoid Pesticides* (June 26, 2018), <https://bit.ly/3AhtPUJ>.
- <sup>1</sup> NASS, 2021 State Agricultural Overview: Minnesota, <https://bit.ly/3krlCbq>.
- <sup>1</sup> See, e.g., Lennard Pisa et al., *An Update of the Worldwide Integrated Assessment (WIA) on Systemic Insecticides. Part 2: Impacts on Organisms and Ecosystems*, *Envtl. Sci. Pollution Research Int'l* (Nov. 9, 2017), <https://bit.ly/2HqqHwB>; Thomas Wood & Dave Goulson, *The Environmental Risks of Neonicotinoid Pesticides: A Review of the Evidence Post 2013*, *Envtl. Sci. Pollution Research Int'l*, 24(21): 17285–17325 (Jun. 7, 2017), <https://bit.ly/2Hpn8T5>; Ben A. Woodcock et al., *Country-specific Effects of Neonicotinoid Pesticides on Honeybees and Wild Bees*, 356 *Science* 6345, 1393-1395 (Jun. 30, 2017), <https://politi.co/2HrEnDl>; Ben A. Woodcock et al., *Impacts of neonicotinoid use on long-term population changes in wild bees in England*, 7 *Nature Communications* 12459 (Aug. 16, 2016), <https://go.nature.com/2EU6Xho>; Travis A. Grout et al., *Neonicotinoid Insecticides in New York State*, Cornell University (June 23, 2020), <https://bit.ly/2XIB2cA>.
- <sup>1</sup> Stuligross and Williams, *Past insecticide exposure reduces bee reproduction and population growth rate* (Nov. 2021) <https://bit.ly/34cQwMU>.
- <sup>1</sup> Yijia Li et al., *Neonicotinoids and Decline in Bird Biodiversity in the United States*, *Nat. Sustain.* (Aug. 10, 2020), <https://go.nature.com/2F3Mz0u>.
- <sup>1</sup> Mineau et al., *The Impact of the Nation's Most Widely Used Insecticides on Birds* (2013), [http://abcbirds.org/wp-content/uploads/2015/05/Neonic\\_FINAL.pdf](http://abcbirds.org/wp-content/uploads/2015/05/Neonic_FINAL.pdf).
- <sup>1</sup> See, e.g., Margaret L. Eng et al., *A Neonicotinoid Insecticide Reduces Fueling and Delays Migration in Songbirds*, *Science* (Sep. 13, 2019),
- <sup>1</sup> Laurianne Geffroy, *Where Have all the Farmland Birds Gone?*, *CNRS News* (Mar. 21, 2018), <https://bit.ly/2GcNCL4>; Caspar A. Hallmann et al., "Declines in Insectivorous Birds Are Associated With High Neonicotinoid Concentrations," *Nature*, July 17, 2014, <https://go.nature.com/2pBJayo>; Jason Bittel, "Second Silent Spring? Bird Declines Linked to Popular Pesticides," *National Geographic*, July 9, 2014, <https://on.natgeo.com/2QCbPhV>.
- <sup>1</sup> Jessie Buckley et al., *Exposure to Contemporary and Emerging Chemicals in Commerce among Pregnant Women in the United States: The Environmental influences on Child Health Outcome (ECHO) Program*, *Environ. Sci. Technol.* 56(10), 6560-6579 (2022), <https://pubs.acs.org/doi/10.1021/acs.est.1c08942>.
- <sup>1</sup> Zhang H, Bai X, Zhang T, Song S, Zhu H, Lu S, Kannan K, Sun H. Neonicotinoid Insecticides and Their Metabolites Can Pass through the Human Placenta Unimpeded. *Environ Sci Technol.* 2022 Dec 6;56(23):17143-17152. doi: 10.1021/acs.est.2c06091. Available online <https://pubmed.ncbi.nlm.nih.gov/36441562/>.
- <sup>1</sup> Jennifer Sass, *Neonic Pesticides: Potential Risks to Brain and Sperm*, NRDC (Jan. 6, 2021), <https://on.nrdc.org/3k8NUFb>.
- <sup>1</sup> MDA, *Review of Neonicotinoid Use, Registration, and Insect Pollinator Impacts in Minnesota* (Aug. 2016), <https://www.mda.state.mn.us/sites/default/files/inline-files/neonicreviewrpt2016.pdf>.