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H.688 Testimony - Vermont House Agriculture and Forestry Committee

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Vermont must take action to reduce systemic pesticide use: H.688 is a good start

- 2016-2017 Vermont's Average Colony Losses = 48.4% (Bee Informed Partnership)
- Neonicotinoid pesticides are 7,000 (Imidicloprid) to 10,000 (clothianidin) more toxic to bees than DDT. (Pisa, 2015)
- Some imidicloprid break down products are also very toxic and systemic. "Out of the six imidacloprid metabolites tested, only two (5-hydroxyimidacloprid and olefin) exhibited a toxicity close to that of imidacloprid." (Suchail 2001)
- When canola, soy or corn seed is coated with neonicotinoids, only about 3-5 percent of the poison is absorbed into the plant. The balance (about 95-97 percent) diffuses into the soil. When protected from sunlight, neonics are highly stable and can persist in the soil for three to five years. On clay soil, they can last 19 years. Since soil residues may be present for years following an application (Jones 2014), untreated plants may take up residues of neonicotinoids still present in the soil from previous applications (Bonmatin 2003, 2005).
- **"The dose response characteristics of neonicotinoid insecticides turn out to be identical to those of genotoxic carcinogens, which are the most dangerous substances we know. Such poisons can have detrimental effects at any concentration level."** (Tennekes, 2010)
- A **clear correlation exists** between the dramatic increase in honey bee losses and increased neonicotinoid usage. (Budge 2015, Douglas and Tooker 2015)
- The Federal pesticide approval process (EPA & USDA) is woefully corrupt and ineffectual in protecting Vermont's environment from harm. (Sass 2013)
    - Decades of falsified testing used to approve pesticides still in use today. (Lerner 2017) **www.poisonpapers.org/**
    - Industry consulted, designed, funded, and conducted studies tend to always find no harmful impacts to bees or mixed ambiguous results. Independent researchers tend to always find serious and clear issues of potential harm.
    - Study EPA used to approve neonicotinoid pesticides was insufficient and scientifically meaningless (Theobald, 2010; Gertsberg 2011)
    - U.S. 9th Circuit Court of Appeals court overturned the EPA's approval of Sulfoxaflor due to "flawed and limited data" and that approval was not supported by "substantial evidence."
    - Studies on the effects of neonicotinoids during normal agricultural use conducted by the pesticide industry are scientifically flawed in terms of statistical analysis and thus, all conclusions drawn from the studies are without foundation. (Bailey 2017, Schick 2017)

    - A Federal court ruled that the U.S. EPA systematically violated the Endangered Species Act (ESA) when it approved 59 pesticides (including some neonicotinoids) between 2007-2012. (Reilly 2017)
    - Government regulatory whistle blowers reveal a culture of suppression and censorship of scientific findings that may be damaging to corporate profits.
- Farm income and crop yields DO NOT suffer when neonicotinoid use is discontinued. (Budge 2015) UK Gov't statistics show an increase in oil rape crop since restrictions on neonicotinoids went into effect. (DEFRA 2015)

Suggestions Specific to H.688 as introduced- The draft bill H.688 refers the "the neonicotinoid class of chemicals" and this is a major loophole in the proposed legislation. **(Page 4 line 7, and page 9, line 18)** History has shown that whenever regulation or legislation impacts one chemical or class of chemicals, then industry simply creates a new chemical or class that does the same thing and often has the same problems, thus requiring additional regulation or legislation which takes many years of study before being passed. **I strongly suggest the wording be changed to apply to "all systemic insecticides**." It is the systemic and persistent nature of the neonicotinoids that guarantees that bees and other pollinators will be exposed through pollen and nectar no matter how they are applied. Other systemic insecticides that already exist and are causing problems for bees include, the Neonicotinoid Nitenpyram, Fipronil, which is a phenyl-pyrazole, and sulfoxaflor, which is a member of a new neonicotinoid related class of chemicals known as Sulfoximines. I say related since they also bind to receptors in the bees nervous system and do not break down, thus clogging the receptors and causing serious even at very low chronic exposures over time. In addition, Cycloxaprid is a chemical that forms imidicloprid through hydrolysis.

Another product is flupyradifurone, a substance manufactured and registered by Bayer in 2014 under the brand name Sivanto that belongs to a class of insecticides called butenolides. According to the Pesticide Research Institute, a Californian environmental consulting and research firm, flupyradifurone acts just like neonicotinoids and has a very similar chemical structure, despite being classified as a butenolide. Like the neonicotinoids, flupyradifurone is systemic so plants absorb and then distribute the toxin to the stems, leaves, pollen, and nectar. It is also highly water soluble and moderately persistent in the environment, with a half-life of five months.

Thus the limited list of six pesticides covered by H.688 is a good start, but far too limited to be of long-term value for protecting pollinators if the bill is passed as is.

Under Registration, (page 5, lines 19-21 and page 6, lines 1-2) a full description of tests and studies showing results should be required any time the formulation of the final use product is modified in any way. This is because many so-called inert ingredients can be just as toxic, if not more toxic, than the active ingredient. (Mullin 2011) Inert

ingredients can also act synergistically to make the active ingredient much more toxic than normal. (Stanneck 2012, Chen 2014)

Also on Page 6, section b, lines 3-15 – the amount of funds deposited into various accounts adds up to $210, this is ten dollars more than the total amount of the annual fee paid by registrants for each product ($200). Thus, the annual fee should either be raised by $10 or the allotments should be reduced by $10.

Page 7, lines 3-4 and Page 11, lines 3-4 – pet care products should not be prohibited from being restricted (e.g. Nitenpyram) since the state has collected data showing significant amounts of neonics are entering Vermont's waterways, which not only effects pollinators that drink from the waterways, but also have the potential to harm water-born insects that in turn can negatively effects fish, birds, etc. Dogs with tick collars regularly go for a swim in our lakes, streams and ponds on hot summer days and there does not seem to be a practical way to control this other than to prohibit the use of pesticide treated pet care products.

Also on page 11, lines 13-16 - the buffer zone is meaningless since neonics are highly soluble and known to drift through water. It would be much better to require that proof of pest problems must be substantiated and provided before systemic pesticides like neonicotinoids can be used.

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