

Revised Testimony re exemptions for golf courses in H.706 4/18/24  
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My name is Sylvia Knight. I support passage of H.706 this year, but am concerned about pollinator populations if we wait 5 years to enact the law.

*Please oppose* exemptions for neonics for golf courses in H. 706. They are toxic to pollinators, birds, bats, soil organisms, aquatic invertebrates, mobile and persistent in water. As endocrine disruptors they cause harm at tiny amounts.

Two neonics - clothianidin and imidacloprid - are included in Agency of Agriculture's ( the Agency) list of pesticides approved for golf course permits, but use data indicate that golf courses *do not need to use neonics*.

The Agency's contact on golf course pesticides is David Huber. I would like to thank David for providing me with information about golf course permits, pesticides, and use reports from several golf courses.

In 2021, June - October, US Geological Services tested a wide range of contaminants at 5 Lake Champlain monitoring stations at 4 streams and Burlington wastewater treatment facility (WWTF), including two neonicotinoids.

Clothianidin:

The neonic **clothianidin** was detected at the following amounts (parts per billion) in **Potash Brook** at Shelburne Bay for 3 months in 2021: June, **4.8**; August, **10.2**; October, **8.2**. It was also detected in **Rock River** at Missisquoi Bay in October at **2.3 parts per billion**.

Imidacloprid:

The neonic **imidacloprid** was detected in **Potash Brook** as follows: June, **60.4**; July, **8.9**; August, **13** (parts per billion).

In Englesby Brook **imidacloprid** was detected at **2.6 ppb**. Englesby Bk meets Lake Champlain near Oakledge Park at the end of Flynn Avenue.

In the effluent from the *Burlington Wastewater Treatment Facility* **imidacloprid** was detected as follows: **August, 101 ppb; Oct, 35 ppb**. Evidently, WWTFs *cannot filter out pesticides*. This is also a warning.

EPA has set a guide line of **1.05 ppb** for **imidacloprid** in water to protect aquatic invertebrates, as a major food source for waterfowl.  
(Basley 2018). <https://doi.org/10.1007/s11356-017-1125-5>

**Clothianidin** is persistent in water. It reduces reproduction success in *daphnia magna* (water flea) at 120 ppb. The No observable adverse effect concentration (NOAEC) in water is 42ppb. They are important food for birds.

[https://www3.epa.gov/pesticides/chem\\_search/cleared\\_reviews/csr\\_PC-044309\\_20-Feb-03\\_a.pdf](https://www3.epa.gov/pesticides/chem_search/cleared_reviews/csr_PC-044309_20-Feb-03_a.pdf)

Only 1.2 pounds of imidacloprid were used in 2021 by VT National Golf Course, in the Potash Brook watershed. Where is all this imidacloprid coming from?

Chlorantraniliprole:

A different insecticide was used at the Burlington Country Club in 2021.

Chlorantraniliprole is an anthranilic diamide, a newer insecticide that works by interrupting normal muscle contraction. It is persistent and mobile in soil and water, and somewhat toxic to aquatic invertebrates. This pesticide can accumulate in tissue, inhibit detoxification of the liver, and disrupt gut microflora in fish at sublethal amounts. <https://doi.org/10.1016/j.ecoenv.2023.115292>

Detections in *Potash Brook* in 2021 were as follows: (ppb=parts per billion)

June: 3.1; July: 7.4; August: **19.2**; October: **11.7 ppb** .

Detections in *Englesby Brook* in 2021 were as follows: **July: 23.3 ppb; August: 108 ppb; October: 72.6 ppb**

The significant movement of this pesticide downstream is a warning about land uses with inadequate buffers upstream.

While neonics are still on the list of allowed pesticides on golf courses, they were used either very little or not at all. Chlorantraniliprole was the insecticide most used by 2 golf courses in 2021.

The Agency stipulates only **25ft** buffers to flowing waters going beyond property boundaries. Test data from USGS above indicate that such buffers are *not effective* in preventing downstream contamination of waters used by the public.

**MAIN POINT:** Golf courses *do not need to use neonics*; newer insecticides are now in use. *Please* do not add exemptions to H.706 that would allow golf courses to use neonics. Please urge VAAFM to remove neonics from their list of approved pesticides for golf courses.

In summary, please vote on H.706 favorably to enable its passage this year, without exemptions for golf courses, to protect pollinators essential for food production. Thank you for considering my testimony.