Vermont Legislative Research Service

Vermont Colony Collapse Data

phenomenon that occurs when the majority of worker has received significant news media attention.²⁶ The United States Department of Agriculture has published data regarding colony loss and growth in Vermont from 2016 and 2017, as seen in Figure 1.²⁷ This data on Vermont honeybee colonies shows estimates for January 1, April 1, July 1, and October 1, as well as trend data over this span of time, seen in Figure 2.

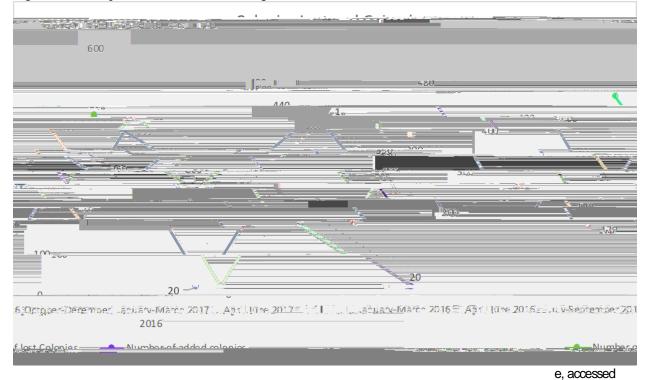


Figure 1. Honeybee colonies lost and gained across Vermont

March 7, 2018, http://usda.mannlib.cornell.edu/usda/current/BeeColonies/BeeColonies-08-01-2017.pdf.

²⁶ Michael Wines, "A Sharp Spike in Honeybee Deaths Deepens a Worrisome Trend," *New York Times*, May 13, 2015, <u>https://www.nytimes.com/2015/05/14/us/honeybees-mysterious-die-off-appears-to-worsen.html</u>; "Colony Collapse Disorder," Pollinator Protection, U.S. Environmental Protection Agency, last modified December 27, 2017, <u>https://www.epa.gov/pollinator-protection/colony-collapse-disorder</u>.

²⁷ National Agricultural Statistics Service, Agricultural Statistics Board, "Honey Bee Colonies," U.S. Department of Agriculture (Washington, D.C., 2017), <u>http://usda.mannlib.cornell.edu/usda/current/BeeColonies/BeeColonies-08-01-2017.pdf</u>.

Figure 2. Line graph of trends across Vermont Honeybee Colony data

March 7, 2018, http://usda.mannlib.cornell.edu/usda/current/BeeColonies/BeeColonies-08-01-2017.pdf.

Use of Neonicotinoids in Vermont

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existing pesticide regulations.³⁰ Treated seed is considered to have fewer impacts on insects compared to spray-on pesticides, due to its capacity to reduce drift of the insecticide from its source to pollinator-attractive plants.³¹ But treated seed has been found to reduce the density of wild bees, disrupt the nesting of solitary bees (bees that do not live in colonies), and hurt colony growth and reproduction of species of bumblebee.³² Bees and other pollinators are exposed through dust created by application of treated seeds, consumption of residues in pollen and nectar of treated seeds, and through fluid released by treated corn.³³ In the case of

²⁸ VT Agency of Agriculture, "Nem

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mass bee death around corn fields in Italy, Germany, Austria, Sovenia, the USA, and Canada, bees have been found to have high levels of seed-treated neonicotinoids in and on their bodies.³⁴ VAAFM estimated the amount of treated seed used in the state is approximately 8,270 pounds per year.³⁵

Still, the highest concentrations of neonicotinoids in nectar and pollen appear in response to direct application to soil and foliar applications (applying a liquid form of the pesticide directly on leaves).³⁶

the risk...for seed treatment...due to the systemic translocation of [imidadoprid] through the ³⁷ Imidadoprid is a neonicotinoid that accounts for 99.2 percent of all commercial usage

in the state, and poses a great risk to bumblebees. ³⁸ There is up to a 49 percent chance that bumblebees will reach the median lethal cumulative dose after two days of exposure, as opposed to a 16 percent chance for honeybees.³⁹ The majority of imidadoprid use is for ornamental and shade trees; the two most prevalent additional uses are golf courses and lawns.⁴⁰ Figure 3 illustrates the amount of imidadoprid in Vermont, highlighting the use of neonicotinoids on ornamental shade trees. The use of imidadoprid has generally increased over ids, Pesticides,

⁴¹ The sharp increase in usage in 2011 corresponds to a targeted

treatment for gypsy moth.

and Prohibiting the use and Sale of Seeds Treated with Plant Protection Products Containing those Active Substances" *OJ L* 139 no. 485 (2013):12-26, <u>http://eur-lex.europa.eu/eli/reg_impl/2013/485/ojURL</u>?!; David

State Legislation

According to the National Conference of State Legislatures, as of May 2016 at least 18 states had enacted legislation stemming from concern over bee and other pollinator health (see Figure 5).⁵⁹

Figure 5. State Pollinator Laws State Pollinator Laws State Pollinator Laws State S

Source: National Conference of State Legislatures, 2016 (Washington, D.C.)

Nine states had enacted legislation pertaining to pesticide exposure and protecting pollinators from its effects, with legislation often focusing on neonicotinoids.⁶⁰ Connecticut and Maryland recently passed landmark acts geared towards protection of pollinators.

Connecticut

came law on May 6, 2016. This

rborne liberation of neonicotinoid insecticide ⁶¹ This Act also

⁵⁹ "Pollinator Health," National Conference of State Legislatures, accessed February 18, 2018, <u>http://www.ncsl.org/research/environment-and-natural-resources/pollinator-health.aspx</u>.

⁶⁰ National Conference of State Legislatures, "Pollinator Health."

⁶¹ Conn. Gen. Stat. §22a as amended by Public Acts, May, 2016, No. 16-17, https://www.cga.ct.gov/2016/ACT/pa/2016PA-00017-R00SB-00231-PA.htm.

registration have a system of voluntary registration. Additionally, several of these states have organized multiple stakeholder meetings.⁶⁸

Other states have passed legislation to create committees to evaluate and understand the impacts of neonicotinoids. California Assembly Bill 1789, enacted in 2014, required the State Department of Pesticide Regulation to reevaluate neonicotinoids and better understand their effects on pollinator health.⁶⁹ In 2014, Vermont passed Vermont House Bill 869, requiring the Secretary of Agriculture, Food, and Markets to evaluate the effect of neonicotinoids on human health, the health of bees, and the health of other pollinators.⁷⁰ The passage of Act 83 in Vermont in 2016, creating a Pollinator Protection Committee, continued the investigation into the impacts of neonicotinoids on pollinator health.⁷¹

Key Recommendations from the Vermont Pollinator Protection Report and Other Literature