



NCEL Fact Sheet: Neonicotinoids

A relatively new class of insecticide called [neonicotinoids](#) has been linked to pollinator decline worldwide. Numerous studies demonstrate that neonicotinoids pose a threat to bee populations in particular. Scientists recognize that other factors such as disease and lack of flowers also contribute to the decline, and that banning these products alone will not likely save the bees. Research does show, however, that these insecticides have negative impacts and that restricting their use would benefit pollinators.

Key Points:

- Pollinators are critical for productive agricultural crops, although one-third of bees have disappeared in the U.S. since 2006. The term pollinator also includes butterflies, bats and certain birds.
- A neonicotinoid insecticide called thiamethoxam can cause high mortality in honeybees by compromising their ability to navigate back to the hive. ([Science](#))
- Levels of neonicotinoid insecticides currently used in agriculture impairs bees' brain cells and leads to poor performance by the colony. ([Phys.org](#))
- Research has established a correlation between exposure to field-realistic neonicotinoid insecticides and reduced growth rate and production of queen bees. ([Science](#))
- The Harvard School of Public Health replicated a controversial 2012 finding that linked low doses of a neonicotinoid called imidacloprid with colony collapse disorder in bees. The 2014 replication of the study confirmed the previous conclusion, in addition to determining that a second neonicotinoid, clothianidin, had the same negative impact. ([Harvard](#))

Key 2015 Legislation:

- [Vermont](#), [Massachusetts](#), [Minnesota](#), [Maine](#), [Maryland](#), [Alaska](#) and [New Jersey](#) have introduced legislation to label, prohibit or restrict the use of neonicotinoids.
- [Iowa](#), [Illinois](#), [Washington](#) and [North Carolina](#) have introduced legislation aimed specifically at improving pollinator health and habitat.

Additional Resources:

- NCSL Report on Pollinator Health (2015):
<http://www.ncsl.org/research/environment-and-natural-resources/pollinator-health.aspx>
- Xerces Society Report on Bees and Neonicotinoids (2012):
<http://ento.psu.edu/publications/are-neonicotinoids-killing-bees>