

Congress of the United States
House of Representatives
Washington, DC 20515-2107

DISTRICT OFFICES:

5 HIGH STREET, SUITE 101
MEDFORD, MA 02155
(781) 396-2900188 CONCORD STREET, SUITE 102
FRAMINGHAM, MA 01702
(508) 875-2900<http://markey.house.gov>

August 22, 2012

The Honorable Lisa Jackson
Administrator
Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Dear Administrator Jackson:

The Environmental Protection Agency (EPA) recently denied a March 20, 2012 petition¹ to suspend the use of a common pesticide called clothianidin. The petitioners presented evidence and recent scientific studies to demonstrate that the use of clothianidin, a member of a closely related group of pesticides known as neonicotinoids, is jeopardizing bee populations. In its response letter, the EPA posited that there was not sufficient scientific evidence to support the claims of the petition and to warrant suspension of clothianidin's use.² Because honeybees are a key pollinator for many food crops and therefore contribute significantly to our economy, it is important that we fully understand how certain pesticide use may be contributing to their decline. I am writing to inquire what steps the EPA is taking to ensure that there is sufficient scientific understanding of how clothianidin and other pesticides impact honeybees and other pollinators.

Bees are vital to our nation's economy and food security. According to the U. S. Department of Agriculture (USDA), more than 100 crops in North America require pollinators to be their most productive, and honeybees act as a key pollinator for many of these crops.³ Bee pollination is thought to contribute approximately \$15 billion worth of additional crop yields.⁴ As such, the decline in honeybees could decrease yields for many important crops, resulting in lost revenues for farmers and other members of the food industry and could potentially result in higher food prices for consumers. Moreover, many Americans make their living by raising bees and provisioning their services. According to a 2011 survey, individual beekeepers lost an average of 38.4% of their colonies from October 2010 to April 2011.⁵ The specific reasons for these bee deaths remain unknown.

¹ <http://www.regulations.gov#!documentDetail;D=EPA-HQ-OPP-2012-0334-0015>

² <http://www.epa.gov/pesticides/about/intheworks/epa-respns-to-clothianidin-petition-17july12.pdf>

³ http://plants.usda.gov/pollinators/Pesticide_Considerations_For_Native_Bees_In_Agroforestry.pdf

⁴ <http://www.ars.usda.gov/News/docs.htm?docid=15572>

⁵ <http://www.ars.usda.gov/is/pr/2011/110523.htm>

Beginning in the mid-2000's, beekeepers began reporting sudden, mysterious, and substantial declines in viable honeybee colonies ranging from 30-90% depending on the region.⁶ Notably, many beekeepers reported that hives had been abandoned by adult worker bees, leaving the Queen and immature bees to starve. This phenomenon was dubbed "Colony Collapse Disorder". While the exact cause of Colony Collapse Disorder is a topic of ongoing study, scientific evidence has implicated a class of pesticides known as neonicotinoids in this phenomenon.

Two recent scientific studies offer evidence that neonicotinoids may cause Colony Collapse Disorder. In a study⁷ published in the journal *Science* on April 20, 2012, scientists reported that honeybees treated with a nonlethal dose of thiamethoxam, a type of neonicotinoid, failed to return to their hive. In a related study⁸ published in the same issue of *Science*, researchers treated colonies of bumblebees with a low dose or high dose of imidacloprid, another type of neonicotinoid. They observed that bees exposed to imidacloprid had lower body weight than non-exposed bees. Moreover, colonies exposed to imidacloprid produced fewer queens than non-exposed colonies. Many other studies show that neonicotinoids harm bees, as reviewed in the March 20, 2012 petition and in EPA's technical support document for the July 17, 2012 response.⁹

Neonicotinoids are considered to be a "modern" class of pesticides. They are the only class of insecticides introduced in the last 50 years and are now widely used to kill a myriad of insects in commercial and domestic settings. Neonicotinoids include thiamethoxam (registered in 1972), imidacloprid (registered in 1994), nithiazine (registered in 1995), acetamiprid (registered in 2002), clothianidin (registered in 2003), thiacloprid (registered in 2003), and dinotefuran (registered in 2004). They appear as the active ingredients in a variety of products targeted at everything from large-scale agriculture to home gardening. EPA estimates that corn farmers use 70,000 pounds of imidacloprid per year, while potato farmers use 50,000 pounds per year.¹⁰ Imidacloprid is also the active ingredient in products marketed for domestic outdoor pest control. For example, a product called CoreTect® combines imidacloprid and plant fertilizer. CoreTect is administered as a slow-release tablet in the soil, such that imidacloprid stays in the plant for months.¹¹ A similar product called Bonide's Rose RX Systemic Drench promises to persist for six weeks in plants and soil.¹² In addition, imidacloprid is the active ingredient in popular flea repellents for pets.¹³ The variety and popularity of products containing neonicotinoids makes it clear that bees and other pollinators encounter neonicotinoids throughout domestic and agricultural landscapes.

⁶ <http://www.wired.com/wiredscience/2012/04/neonicotinoids-colony-collapse/>

⁷ Henry, M. *et al.* 2012. A common pesticide decreases foraging success and survival in honeybees. *Science* 336:348-350.

⁸ Whitehorn, P.R. *et al.* 2012. Neonicotinoid pesticide reduces bumble bee colony growth and queen production. *Science* 336:351-352.

⁹ <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OPP-2012-0334-0012>

¹⁰ Imidacloprid summary document: EPA-HQ-OPP-2008-0844-0002

¹¹ <http://www.domyownpestcontrol.com/coretect-tree-shrub-tablets-p-1352.html>

¹² <http://www.domyownpestcontrol.com/bonide-rose-rx-systemic-drench-concentrate-p-1711.html>

¹³ Examples include Advantage®, Advantix®, K-9 Advantix®

Several European countries have already taken action to protect bees from neonicotinoids. Acute incidents such as a large bee die-off in Germany in 2008, combined with rising concerns regarding subtler negative impacts of neonicotinoids on bees, have led four countries to suspend certain neonicotinoid seed treatments. France has suspended the use of clothianidin to treat corn and sunflower seeds and thiamethoxam to treat the seeds of rapeseed plants. Germany and Italy have suspended the use of clothianidin, thiamethoxam and imidacloprid to treat corn seeds, and Slovenia has suspended the use of clothianidin to treat corn seeds. While sunflower is the only species among these plants that requires pollination, the suspensions of pesticide use apply to plants that bees may be in close proximity to, regardless of whether the bees are pollinating those plants.¹⁴

On March 20, 2012, a group of 28 petitioners wrote a letter to the EPA seeking a suspension of registration for clothianidin, asserting that the chemical causes Colony Collapse Disorder. In a response dated July 17, 2012, the EPA denied the request for an emergency suspension on the grounds that there was not sufficient scientific evidence linking clothianidin to Colony Collapse Disorder. The letter explains that, “the EPA agrees with the scientific community that additional research is necessary to address Colony Collapse Disorder. However, the existence of uncertainty as to these questions is not sufficient to satisfy the high probability standard necessary to support the finding of imminent hazard.”¹⁵ Thus, while there is some evidence linking clothianidin and other neonicotinoids to Colony Collapse Disorder, the EPA does not feel that there is sufficient evidence to justify action at this time.

Given the concerns raised by scientists about the impacts of neonicotinoids on bee colonies, actions taken by other countries to restrict or ban the use of these chemicals and the EPA’s role in the oversight of pesticide registration and use, I request that you respond to the following questions and provide supporting documents no later than September 9, 2012.

1. Has the EPA investigated the impacts of neonicotinoids on honeybees and other pollinators? If so, what has the EPA concluded? If not, why not?
2. In its July 17, 2012 letter, EPA suggested that gaps exist in the research on the effects of neonicotinoids on bees and that these gaps prevent EPA from taking action to ban these chemicals. Please provide a list of relevant research questions that EPA needs to have answered in order to satisfy the “high probability standard” necessary to suspend registration of all or some of the active neonicotinoid ingredients.
3. What, if any, interim steps can the EPA take with the current scientific evidence to limit or restrict the use of all or specific neonicotinoids to reduce the impact on bees? Has the EPA initiated any of these steps? If not, why not?
4. When does the EPA expect to complete the registration review for the seven neonicotinoid chemicals listed above? Will the EPA consider the impacts this class of pesticides has on honeybees (including the economic impact) when conducting the registration review for each of the active ingredients?


¹⁴ <http://www.epa.gov/opp00001/about/intheworks/ccd-european-ban.html>

¹⁵ <http://www.epa.gov/opp00001/about/intheworks/epa-respns-to-clothianidin-petition-17july12.pdf>

5. What steps is the EPA taking to ensure that it has sufficient scientific evidence to make informed determinations about effects of neonicotinoids on bees and other pollinators?
6. If based on additional scientific information the EPA determines that neonicotinoids are a cause or implicating factor in bee population declines, what steps can the EPA take to ensure that bees are protected from these pesticides?

Thank you for your assistance and cooperation in responding to this request. Should you have any questions, please have your staff contact Jill Cohen at 202-225-6065 or Dr. Avenel Joseph at 202-225-2836.

Sincerely,



Edward J. Markey
Member of Congress