

Why are bees dying? The U.S. and Europe have different theories. [Washington Post](#)

By [Brad Plumer](#), Published: May 3, 2013 at 3:11 pm [E-mail the writer](#)

The mysterious collapse of bee colonies around the world has turned into a real crisis. In the United States, domesticated bee populations have reached a 50-year low and keep dwindling. The situation is just as dire in many other countries.

Not doing well. (Linda Davidson / The Washington Post)

And that's bad news for all those crops that depend on bees. The U.N. Food and Agriculture Organization [estimates](#) that "out of some 100 crop species which provide 90% of food worldwide, 71 of these are bee-pollinated." Around the world, these crops are worth at least \$207 billion.

So why *are* bee colonies collapsing? And what's the best way to halt the decline?

As it turns out, regulators in the United States and Europe are taking very different approaches to these questions. The European Union, for its part, [is now moving](#) to ban a certain class of pesticides, neonicotinoids, as a precautionary measure:

The European Commission will enact a two-year ban on a class of pesticides thought to be harming global bee populations, the European Union's health commissioner said Monday. ...

Mr. Borg made the announcement after representatives of the 27 E.U. member states failed for the second time in two months to reach a binding agreement on a proposal to ban the pesticides, known as neonicotinoids. The commission had proposed the ban after the European Food Safety Authority recommended in January that use of the pesticides be restricted until scientists determined whether they were contributing to a die-off in bee colonies.

Recent studies have found that neonicotinoids can adversely affect bee health, **though there are still doubters. (One key question is whether lab results in this area [are applicable to the real world](#).)** Here's how an overview in Nature [puts it](#): "a growing body of research suggests that sublethal exposure to the pesticides in nectar and pollen may be harming bees too — by disrupting their ability to gather pollen, return to their hives and reproduce." **But other scientists insist "there is insufficient evidence to implicate these compounds."**

Even so, the European Commission is putting in place a two-year ban so that officials can review the evidence on the topic and "take into account relevant scientific and technical developments."

In the United States, by contrast, regulators are moving more slowly. A big [new report](#) (pdf) out Thursday from the Agriculture Department and the Environmental Protection Agency argued there were a wide variety of reasons for the disappearance of U.S. honeybees since 2006. Neonicotinoids are **only one possible factor**. Here's the summary:

—Consensus is building that a complex set of stressors and pathogens is associated with [colony collapse disorder], and researchers are increasingly using multi-factorial approaches to studying causes of colony losses.

—The parasitic mite *Varroa destructor* remains the single most detrimental pest of honey bees, and is closely associated with overwintering colony declines

—Multiple virus species have been associated with [colony collapse disorder].

—The bacterial disease European foulbrood is being detected more often in the U.S. and may be linked to colony loss.

–Nutrition has a major impact on individual bee and colony longevity.

–Acute and sublethal effects of pesticides on honey bees have been increasingly documented, and are a primary concern. Further tier 2 (semi-field conditions) and tier 3 (field conditions) research is required to establish the risks associated with pesticide exposure to U.S. honey bee declines in general.

The report emphasized the fact that the contribution of pesticides **still needs further study**: “It is not clear, based on current research, whether pesticide exposure is a major factor associated with U.S. honey bee health declines in general, or specifically affects production of honey or delivery of pollination services.”

As such, U.S. regulators aren’t ready to ban pesticides the way Europe just did. The EPA is slowly conducting a review on the topic that **“should be completed in five years.”** Over at the Hill, Julian Hattem **got this quote** from an agency official:

“As a matter of policy, we let the science lead our regulatory decision-making, and we want to make sure that we make accurate and appropriate regulatory decisions as opposed to things that could lead to meaningful societal cost without any benefit whatsoever,” said Jim Jones, acting EPA assistant administrator for chemical safety and pollution prevention.

It’s an interesting study in contrasts. The link between pesticides and bee die-offs is still subject to some dispute. So, in the face of uncertainty, the European Commission is erring on the side of the environment — voting to ban neonicotinoids for two years just in case they really *are* to blame for the bee collapse.

The United States, meanwhile, is erring on the side of certain economic interests — it’s still not clear that neonicotinoids are to blame, and pesticides are a billion-dollar industry, so regulators are moving slowly in setting restrictions.