

## "Beepocalypse" Not

Alarmist Honeybee  
Claims Collapse  
Under Scrutiny

By Angela Logomasini

April 2015



ISSUE ANALYSIS 2015 NO. 1

# Beepocalypse Not!

By Angela Logomasini

Competitive Enterprise Institute

# Honeybee Hype Abounds.

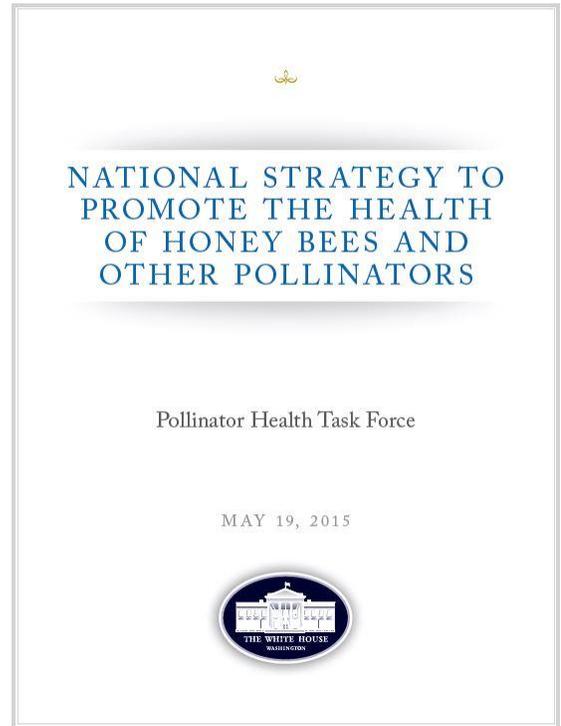
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- “Honey bees are disappearing across the country, putting \$15 billion worth of fruits, nuts and vegetables at risk.” ~ Natural Resources Defense Council
- “For them [beekeepers], catastrophe could be just one harvest away.”  
~ *Minneapolis Star Tribune*

# The Hype is Impacting Policy and the Market.

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- EU banned a class of pesticides called neonicotinoids starting December 2013.
- EPA is denying new uses of neonicotinoids; and Obama issued his “Pollinator Plan.”
- Home Depot and Lowes are no longer selling neonicotinoids.



# What are Neonicotinoids/Neonics?

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- Neonics are systemic pesticides.
- They reduce need to spray.
- Replacements may pose greater risks.
- Neonics help produce an affordable food supply.



Yet the Hype Does  
Not Mesh with Reality.

Let's take a look at  
the facts ...

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# CLAIM: “Colony Collapse Disorder” is to Blame.

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- “With a third of honeybee colonies disappearing due to ‘colony collapse disorder,’ it’s time to move into high gear to find a solution.” ~ *Mother Earth News*
- “Scientists report that 70 percent of the bee population in North America has died recently from what is called ‘colony collapse disorder.’”  
~Gannet’s *Courier Post*, NJ



# FACT: CCD is a Relatively Small Threat.

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- CCD: Most or all adult honeybees disappear from the hive, leaving behind honey, a live queen, and immature bees.
- It happens sporadically and throughout history.
- Only 7 percent of losses are attributed to CCD; 93 percent of losses are attributed to “other causes.”

**CLAIM: Human  
Tampering with  
Nature is the Problem.**

“Honeybees are suffering because we’ve created a world that is increasingly inhospitable to them.”

~ *Time* magazine.



Allan Baxter via Getty Images

Besides being a handy symbol of environmental decline, the honeybee also does some pollination

# FACT: Honeybees Are Not Even Native to the U.S.

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- Honeybees are a farmed agricultural commodity.
- They are more like dogs and cattle than a wild species.
- Beekeepers are responsible for their care.



# CLAIM: Honeybee Populations are Declining.

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THE WALL STREET JOURNAL.

LETTERS

## No Fable of the Bees Here; The Critters Are in Trouble

The number of managed honeybee colonies in the U.S. has dropped from four million hives in 1970 to just 2.5 million today.

~ Jennifer Sass, Natural Resources Defense Council

# FACT: The Number of Hives Has Increased Globally.



FAOSTAT



- The number of honeybee hives kept globally has grown from nearly 50 million in 1961 to more than 80 million in 2013.
- Locations shifted as honey production moved overseas.

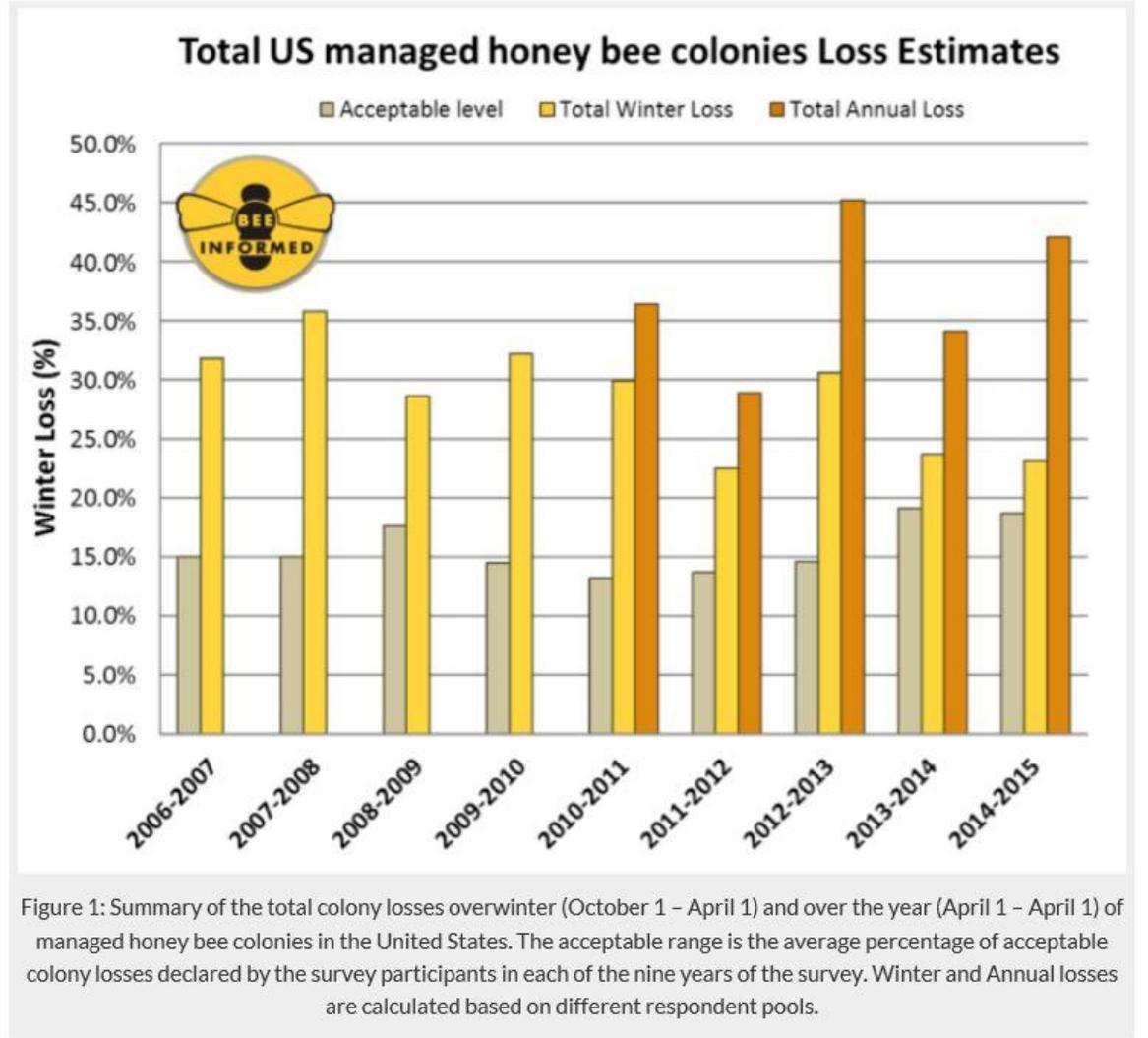
## Annual Hive Losses Are a Real Concern.

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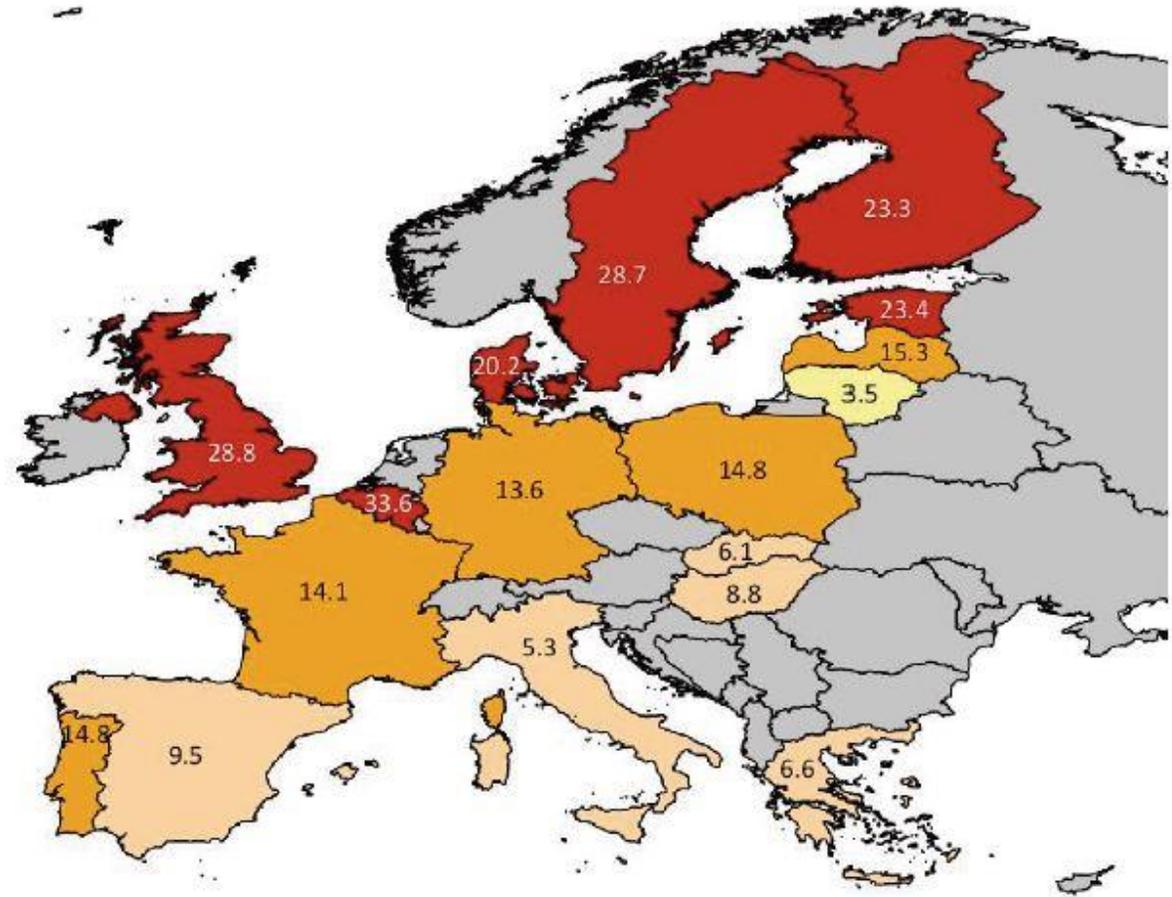
- In some recent years the annual losses have been above acceptable levels of 10-15 percent in Europe and nearly 20 percent in the U.S.
- Example: Winter losses in the United States during 2007-2008 reached a high of 36 percent.



Winter hive survival in U.S. and Europe has improved in recent years.



Hive losses in EU have reached “acceptable” levels in most locations.



Source: Marie-Pierre Chauzat et al, "A pan-European epidemiological study on honeybee colony losses 2012-2013," European Union Reference Laboratory for Honeybee Health, [http://ec.europa.eu/food/animals/live\\_animals/bees/docs/bee-report\\_en.pdf](http://ec.europa.eu/food/animals/live_animals/bees/docs/bee-report_en.pdf).

# CLAIM: Honeybee Losses Threaten Our Food Supply.

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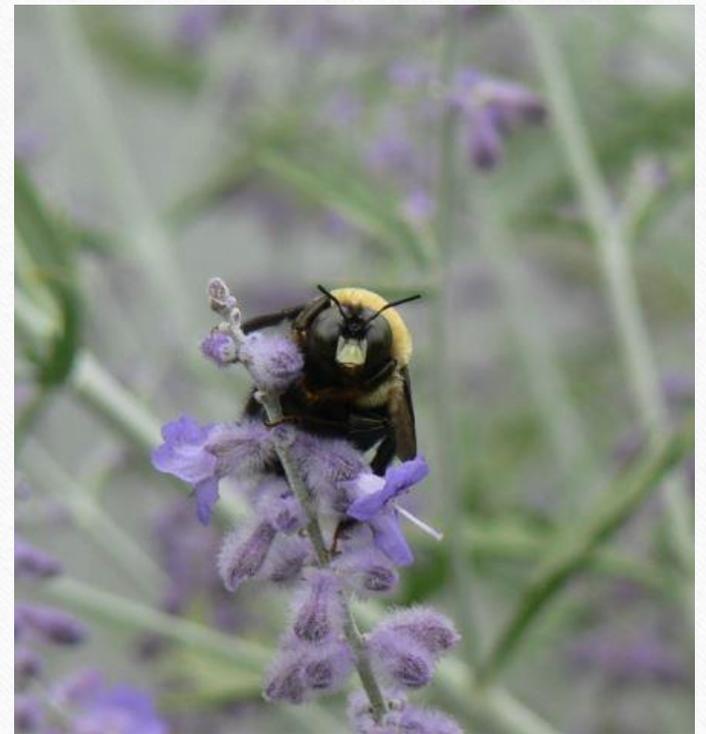
- “Honey bees are dying putting America at risk of a food disaster.” ~Huffington Post
- “Approximately 70 percent of our food supply is pollinated by honeybees — if the bees die, the human race will not be far behind.” ~ Inquisiter.com (Jan 3, 2015)



# FACT: Honeybee Losses Won't Decimate our Food Supply.

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- Lost hives are replaced.
- Honeybees pollinate about 1/3 (not 70 percent) of our crops.
- Wild pollinators play a role.
- Without agrochemicals, many crops could disappear!



## **CLAIM: Agrochemicals are to Blame.**

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“[N]eonicotinoids might just be the prime culprit in the honeybee plague known as Colony Collapse Disorder (CCD).”

**GREENPEACE**

## **FACT: There's No Correlation Between Neonics Use and Hive Losses.**

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- Bans in some European nations did not prevent high losses in the past.
- Despite continued neonic use through 2013, hive survival has improved.
- Greek beekeepers complained in 2013 that the chemicals were wreaking havoc, yet Greece actually had a *lower* than acceptable hive loss that year.

# Honeybees Doing Fine in Australia

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“Australian honeybee populations are not in decline, despite the increased use of this group of insecticides in agriculture and horticulture since the mid-1990s.”

~ Australian Government Report

# There Are Few Problems in Canada

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“[T]here are colonies in Ontario and Quebec that are exposed to neonics on both corn and soy, with zero problems. ... 70 percent of Canada’s colonies forage canola without issue. ... except for four beekeepers in Manitoba in 2013, there have been no issues there either.”

~Lee Townsend, Canadian Beekeeper

# CLAIM: Pesticides Have Sub-Lethal Effects.

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“Sub-lethal effects on individual bees can build up to colony-level harm, especially if exposure continues for several weeks.”

~ Pesticide Action Network UK

## **FACT: Realistic Field Studies Show No Effects.**

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- Actual “field studies” of bees foraging in neonic-treated crops find no significant impacts.
- Only studies that show effects are those that feed bees with a pesticide-laced diet of manmade nectar-substitutes.

# If you poison them, they *will* die!

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Such studies only show that “high doses of neonics kill bees — which is not surprising.”

~Dennis vanEngelsdorp in *The New York Times*



# CLAIM: Neonicotinoids Present the Most Significant Pesticide Risk.

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- Traces of many different chemicals appear in hives.
- The impact of trace chemicals is unclear.
- Neonics appear *less often* and at least *significant levels* by far.



## 2010 Study: Very Little Neonics Found in Hives.

- Researchers found 121 different pesticides and metabolites in 887 samples of wax, pollen, and bees.
- There were no neonics in bees.
- Only one sample contained a notable amount of one neonic; it was found in 3 percent of samples at average amount of 2.1 parts per billion.



# Most Chemicals Found in Hives Were Put there by Beekeepers Themselves!

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- Fluvalinate appeared in 98 percent of the bees wax samples with an average concentration of 7,472 parts per billion.
- It also appeared in 88 percent of pollen samples at levels of 40 parts per billion and in 83 percent of bees at 1 part per billion.
- The chemical Coumaphos appeared at levels nearly as high.

“It’s like chemotherapy. They know it’s bad, but it’s a lot better than the alternative.”



~ Bee Researcher Dennis vanEngelsdorp

# Widely Recognized Challenges to Hive Health Include:

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- Diseases and parasites.
- Poor queen bee health.
- Hive transport for pollination services.
- Nutritional issues and habitat loss.
- Pesticides. These the least among the challenges and neonicotinoids the least among those.

# Varroa Destructor

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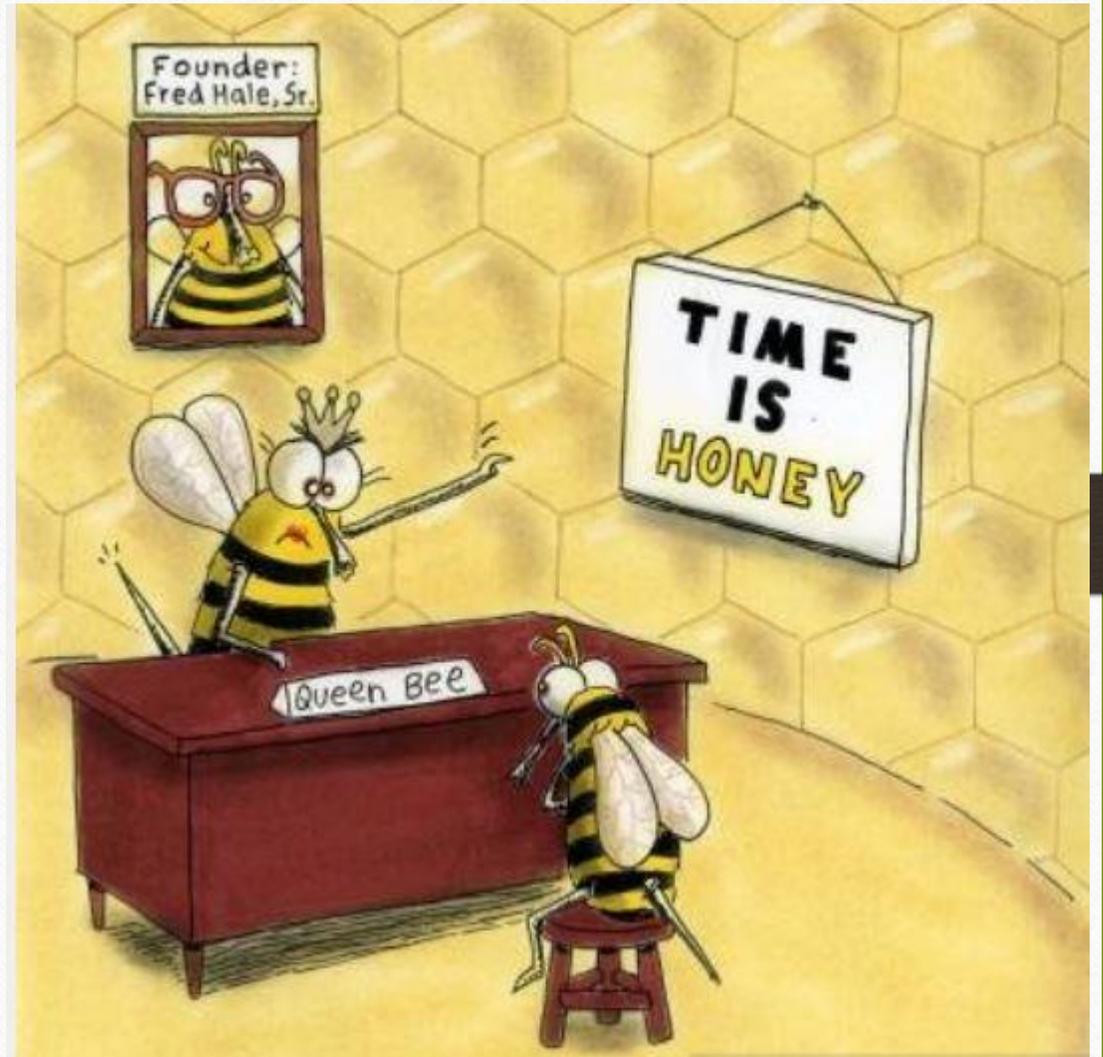


The Varroa Destructor mite is “the most detrimental honey bee parasite in the world today.”

~Dennis vanEngelsdorp, Marina Doris Meixner,  
*Journal of Invertebrate Pathology* (2010)

# Queen Bee Health

- About 25 percent of hive losses are related to poor quality queen bees. (UNEP)
- In the United States, beekeepers reported premature death of queen bees in 32 percent of their hives.



# Poor Nutrition and Habitat Loss

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“Although honey bees may store food (in the form of honey and packed pollen) for times of dearth, lack of diverse floral resources is now demonstrated to diminish their immune response.”

~ *Environmental Science and Technology* (2011)



# Transport Stress

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- Bees travel hundreds of miles to pollinate crops.
- In spring, 60 percent of U.S. commercial honeybee hives work in California to produce 80 percent of the world's supply of almonds.
- Then bees are trucked to other states to pollinate apples and other crops.



# Pesticides

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- Pesticides are the least significant of “stresses.”
- There is scant evidence that agrochemicals pose substantial problems.
- Most pesticides in hives are applied by beekeepers.

# Pesticide Regulation Won't help.

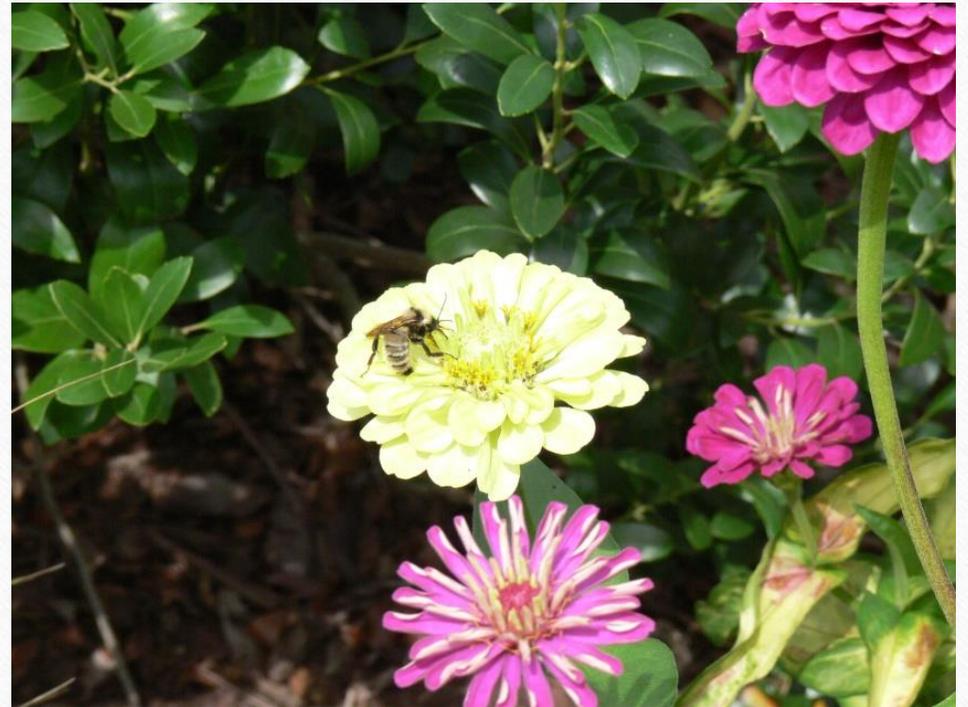
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- Pesticides are not the source of the problems.
- Replacement pesticides will prove more dangerous to bees.
- Food supply will suffer.



# Neonics Have Environmental Benefits.

“The neonicotinoids were developed in the mid-1990s in large part because they showed reduced toxicity to honey bees, compared with previously used organophosphate and carbamate insecticides.” ~The U.S. Agricultural Research Service



# Aginfomatics Farmer Interviews

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- Currently, seed applications represent about 98 percent of neonicotinoid uses for corn, soybean, wheat, cotton, and sorghum crops.
- If banned, 77 percent of farmers surveyed said they would use alternative chemicals.



# Aginfomatics Study

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- 4 million pounds of neonicotinoids would be replaced with 19 million pounds of non-neonicotinoids chemicals, a 116 percent increase.
- Spray applications of 4.5 million acres with neonics would go up to 25 million acres of crops using replacement products.

# Agricultural Productivity Will Suffer.

- Citrus growers' very survival depends on having effective treatments for serious pests.
- Asian Citrus Psylid feeds on fruit trees and transmits a bacterial disease.
- It will undermine fruit productivity and destroy citrus trees within a few years.



# 2014 First Year Without Neonics

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- In 2014, farmers in the UK reported losses of 20 to 50 percent of their crops; eventually allowed emergency neonic spraying.
- In Germany, some farmers have completely pulled up their crops and replaced them.



# We Need Real Solutions, Including:

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- Husbandry in commercial bee industry.
- Collaboration with farmers to increase habitat, time spraying.
- Private conservation by homeowners.
- Industry investment: Syngenta and Bayer both have programs to improve research and habitat.

# Pesticides are Part of the Solution.

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- High-yield agriculture using technologies like genetic modification and *pesticides* means we produce more food per acre, requiring less land for farming and leaving more for conservation and habitat.

# Good Data and Balance

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The best solutions strike a balance that recognizes the value of targeted and managed use of agrochemicals and minimizes any impact on commercially farmed honeybees and wildlife.



# SafeChemicalPolicy.org/honeybees

For more information  
and details, see:  
SafeChemicalpolicy.org.



**SAFE** ChemicalPolicy.org  
GET THE FACTS: *chemistry is more than mutual attraction*

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### HONEYBEES & PESTICIDES

If you believe the headlines, honeybees may soon be endangered, pesticides are to blame, and regulations offer an easy solution. Allegedly, the problem stems largely from our naive trust in agro-technologies, particularly pesticides. Specifically, [Greenpeace](#) and myriad others blame a class of pesticides called neonicotinoids, claiming that these chemicals "might just be the prime culprit in the honeybee plague known as Colony Collapse Disorder (CCD)."

Beekeepers do face some significant challenges concerning the health of commercially farmed honeybee hives. The causes of, and solutions to, these challenges are far more multifaceted and complex than headlines suggest. We need to sort fact from fiction and promote a more balanced understanding that will facilitate rational public policies. Accordingly, you can follow the links below to examine the most common misperceptions and faulty claims related to honeybee health. You may also download the [full study](#) from which these links are drawn at CEI.org.

**CLAIM:** Colony Collapse Disorder is the biggest threat to honeybees.  
**REALITY:** [CCD is a relatively small threat to honeybees](#) compared to other well-known challenges.

### HONEYBEES IN THE NEWS

- [Beepocalypse Narrative Doesn't Pass Test](#)
- [The Bees are Alright](#)
- [Save the Bees from Biofuel Mandates](#)
- [Pork-Barrel and the Pollinators "Strategy"](#)
- [Colonies Collapsing?](#)
- [Grading the Pollinator Strategy](#)
- [Honeybees and Pork-Barrel Politics](#)