

## Listening to the Honeybees



Ban neurotoxins and plant bee-friendly flowers, writes Reese Halter. Gardening tips by David Salman.

By **Reese Halter** | Wednesday, 21 April 2010 | 09:00



This spring marks the 40th anniversary of Earth Day, a time when citizens around the globe celebrate the bountiful blue planet and the fruits of its earth. Yet, something this year just isn't right. Worldwide we are entering into the fourth consecutive year of tens of billions of dead Italian honeybees.

Is the honeybee trying to tell us something?

Have we reached what professor and author Rachel Carson warned us about in 1962? "Man's attitude toward nature is today critically important simply because we now have acquired a fateful power to alter and destroy nature. But man is part of nature, and his war is inevitably a war against himself."

Carson sounded the siren against man-made chemicals such as DDT, which pervasively entered ecosystems, hung around and drove predators like our national symbol the bald eagle onto the endangered species list. Eventually laws were passed that protected the biosphere.

It turns out today, almost a half century later, that many of the 5 billion pounds of pesticides that are manufactured and used each year are not only highly sophisticated but toxic down to parts per billion. They also last in ecosystems for a decade or more.

### **Poisoning bees with neonicotinoids**

So how does food, an epicurean publication and a 21st-century American \$44-billion-per-annum whodunit all fit together?

It starts with "You Are What You Eat," as Dr. Victor Lindlhar's 1940 book aptly surmised. And, incidentally, that's the connection with our honeybees, which pollinate more than 100 crops or every third bit on our plate, including alfalfa and clover for the beef and dairy industries, the \$27-billion-a-year U.S. cotton industry as well as 200 million pounds of domestic honey and some potent medicines.

Modern monoculture farming has begun to distance itself from spraying pesticides. Rather, it has opted to genetically modify seeds and coat them prior to planting with potent pesticides that grow inside the plant and move throughout its system where ultimately the toxicity is transferred to the nectar and pollen.

Bees use nectar by turning it into honey, their only source of energy. In the process of harvesting nectar from flowers, bees inadvertently cross-pollinate flowering plants. There are 235,000 known flowering plants for which bees are the predominant pollinators. In addition, bees require pollen as the only source of protein to make their young, build brains and strengthen their autoimmune systems.

Many of these systemic pesticides are from a family of highly toxic chemicals called neonicotinoids. Bees exposed to these chemicals exhibit symptoms similar to humans afflicted with Parkinson's disease or Alzheimer's disease. Hundreds of millions of bees died in France before the government banned these poisons. Since the ban, France's bees have stopped dying by the hundreds of millions, but bees are still dying from other factors like mites, viruses, and climate change. Neonicotinoids are used widely throughout North America.

Here in America we rely upon 2.4 million honeybee hives to supply food for 300 million people daily. And nature conscripted more than 5,000 native species of bumble and solitary bees to cross-pollinate the exquisite and diverse ecosystems of North America, from the frigid Arctic to the inferno Sonoran Desert. In essence, both Mother Nature and humans have placed most of our eggs in one pollinating basket, and it belongs to the bees.

## Beekeepers strive to keep hives flourishing

Recently, scientists tested apples from a Pennsylvania orchard and found they contain residues of 42 pesticides. Modern systemic pesticides aren't just on the apple skins; they exist throughout the fruit and cannot simply be washed off.

Last month hives from 23 states were examined and found to contain 121 different types of pesticides amid the 887 samples of wax, pollen, bees and hive samples. Toxicity is being spread throughout the entire biosphere, albeit in small doses, but it is piling up and quickly.

Last summer Larry Pender, a Camarillo, Calif., beekeeper and businessman, took 1,000 of his 2,900 beehives up to North Dakota where they fed on corn pollen. All 60 million bees died. "I'm not returning to North Dakota, and I'll be staying away from genetically modified corn," he said.

That's a familiar message being echoed by beekeepers across America this spring. Dave Hackenberg, the largest beekeeper in Pennsylvania, decided for the first time in 42 years not to take his bees to Florida. "I am not going to put my bees in orange groves. The chemicals they are using are doing something that is breaking down bees' immune systems," he told me.

Until the EPA begins to protect us by banning neonicotinoids, beekeepers are spending a fortune feeding their hives supplemental proteins to keep them alive.

### HELP THE BEES

To keep your garden buzzing with bees, plant flowering herbs, perennials and shrubs near by your vegetables, fruit trees and berry bushes. This will attract the pollinators when you need them most, while insuring your garden will provide you with an abundant harvest and a low maintenance landscape. A landscape buzzing with pollinators is indicative of a place where the plants are healthy and productive.

#### Shrubs

Creeping Mahonia  
Lilac  
Nannyberry  
Native Mock Orange  
Blue Mist Spirea  
Sandy Cherry  
Threeleaf Sumac

#### Perennials

Basket of Gold  
Beardtongue  
California Poppy  
Russian Sage  
Milkvetch  
Orange Butterfly Weed  
Sage

#### Herbs

Rosemary  
Lavender  
Oregano  
Mint  
Basil  
Garden Sage  
Hyssop

-- David Salman

President and chief  
Horticulturist at [Santa Fe Greenhouses](#) and [High Country Gardens](#). Salman writes [The Xeric Gardener blog](#).

More and more people are increasingly buying organic food; some are even growing their own. People generally are moving away from using pesticides, herbicides, miticides and fungicides in their yards. As an environmental safe alternative, neem-based products, made from an East Indian tree, will offer protection against infestations.

The U.S. imports about 100 million pounds, or about one-third of the honey consumed domestically, from China, a country known to use banned carcinogens. Because of this, many experts are advising consumers to buy only organic honey or seek out beekeepers and buy their local honey.

In the meantime, scientists this spring are asking folks in cities and towns to consider planting pesticide-free native blue and yellow flowering plants in their yards or on their balconies. These plants can provide a safe food source for the ailing bees. Those concerned about the bees and climate change also can help scientists in the [U.S. National Phenology Network](#) by volunteering to help monitor plant and animal species across the United States.

All bee species need our helping hands because we cannot survive without them.

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*[Reese Halter](#) is a conservation biologist at California Lutheran University in Thousand Oaks, a public speaker and founder of the international conservation institute [Global Forest Science](#). His latest book is "[The Incomparable Honeybee and the Economics of Pollination](#)." Follow him at [twitter.com/DrReeseHalter](#)*

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