



# NEWSPAPER ARTICLES

## Nobody Wants Dead Bees (September 19, 2020)

by Rosie Bonar, UCCE Master Gardener

I had no idea there were so many kinds of bees. Most of us are familiar with honeybees and beehives, queen bees and worker bees. But honeybees aren't even native to the United States. They were introduced into North America by early colonists. Honeybees are only one kind of bee. There are thousands of species of native bees that can be found throughout North America--anywhere that flowers bloom. Native pollinators, especially native bees, were busy doing all the pollinating of plants on the continent before the European honeybee arrived. These native bees continue to be great pollinators, especially when it comes to native plants. They include sweat bees, mason bees, mining bees, leaf cutter bees, carpenter bees, bumblebees and others. Not all bees look alike. Some bees don't even look like bees. They look more like flies. Not all bees are yellow and black. Not all bees live in hives. Some live in the ground and some live in hollowed out wood. Some even live in old snail shells. To be classified as a bee, an insect must have branched hairs on its body. These branched hairs carry the pollen from plant to plant. But sometimes these branched hairs are invisible to the naked eye and you need a microscope to see them. An insect must have 4 wings to be classified as a bee (flies have 2 wings). One thing that all bees have in common is that they are all pollinators.

Plants need to be pollinated in order to produce fruit and seeds. 60-90% of flowering plants require animal pollinators (bees, other insects, hummingbirds, etc.). Plants have adapted in ways to attract pollinators, and pollinators have adapted in ways to get the nectar and pollen from the flower. The actual exchange of pollen is mostly accidental. Native bees and native plants have evolved together to be more efficient at the process of pollination. Our agriculture economy and production of food is very dependent on pollinators to produce the fruits and seeds from the crop. Alfalfa is pollinated by the leaf cutter bees. Almonds are pollinated by the imported honeybees. 35% of global food production is dependent on animal pollinators.

Bees are in trouble. Bee populations worldwide have been in decline for some time now. Scientists are trying to establish the cause of the decline. They have come up with several possible causes. They suggest that mites, a microsporidia fungus, viruses, nutrition, environmental factors (such as plants and insects becoming out of sync in the flowering times) and pesticides are all contributing to the decline of the bee population. It is most likely not one single factor that is leading to the decline, but a combination of many.



Photos from UC Davis Arboretum – [Beyond the Honeybee](#)

### In our home gardens we have control over the use of pesticides.

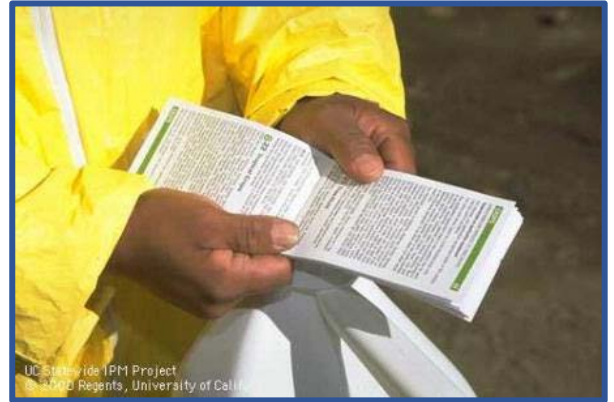
Scientists have found that the category of pesticides derived from nicotine--neonicotinoids, are especially harmful to bees. These pesticides are systemic. A systemic pesticide is a chemical that will dissolve in water and be absorbed by the plant and moved through its tissues. No matter what part of the plant is attacked by the pest, including nectar and pollen, the pest is poisoned by these chemicals. Pesticides are not selective. They kill **any** insect--even the ones we may not intend to kill. Pesticides attack an insect through their nervous

system and harm all insects that use any part of the plant. The bees can carry the pesticide back to their hive or nest where it harms the larvae. It is even possible that pesticides end up contaminating the food we eat.

Pesticides are toxic in small quantities and can have a long-lasting presence. It is important to check the labels on pesticides and avoid anything with a neonicotinoid in it. I was shocked to find it in the product I use to feed my roses.

Scientists working with pollination and bees have described what they call a second green revolution (the first being the increase in crop production through the use of fertilizers, pesticides and high yield crop varieties). They are encouraging farming methods that do less harm to pollinators and the environment. Some of these methods are:

- Including hedgerows (a narrow strip of mixed plantings) in fields to encourage a variety of pollinators and providing food more continuously
- Monitoring fields with drones to spot areas affected by pests and treat only affected areas with pesticides rather than the whole field
- Developing crops that are more resistant to pests
- Protecting pollinators
- Using biologic controls rather than chemical controls of pests
- Monitoring bees and other pollinators with chips to sense danger to the hive



Nobody wants dead bees. We need them for our survival. Let's do what we can to protect them. Read the label when using pesticides and avoid using neonicotinoids.

For more information on Native Bees in California, UC IPM has recorded a webinar by Dr. Quinn McFrederick, UC Riverside and Dr. Boris Baer, UC Riverside. You can find the webinar here:

<https://www.youtube.com/watch?v=0H3Mv077X1g>

**In accordance to the Shelter-at-Home guidelines, the Master Gardeners have cancelled all public events at this time, but if you send us an email or leave a message on our phone lines, someone will call you back!**

Master Gardeners in Tulare County: (559) 684-3325; Kings County at (559) 852-2736

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