

## To Bee or Not ...

By Jolene Adams

A silent predator had been stalking the honeybee during the late 20<sup>th</sup> Century - and finally leaped out into the glare of public scrutiny in the last few years. The killer received national attention in 2007, then our attention faded as new crises made the headlines. Most people sighed and thought - "how sad, the bees are dying, what should we do?" But there was no correct answer - because the problem does not have one specific cause.

The plump brown honeybee we rely on to carry pollen from blossom to blossom is not native to the American continent. The mild-natured, hive building honeybees from Europe were specifically brought to the American colonies of Jamestown and Williamsburg as "livestock". Since they prefer to live communally (in hives) they were easy to transport, care for, and were used to pollinate the small orchards and farms of the times, the honey was harvested for its sweetness, and the wax was used for making fine candles.

The native bees the settlers encountered were solitary, preferring to nest in small crevices or holes in downed wood, chaparral or soft ground. Although they pollinated crops, the effort to search out their small stores of honey were too time-consuming so they were left to remain wild and soon forgotten as beekeeping turned into an industry.

And it was this industry that first drew our attention to the catastrophe we now call Colony Collapse Disorder (CCD). Honeybees by the billions were dying - - wandering in drunken circles on the ground, wingless, desiccated, sluggish, listless.

In the boom years following World War II, large swaths of natural habitat across the United States were devoured by suburban development and agriculture. Patches of wild woodland, shrubs, and flowers that had supported native bees dwindled and were paved over. The common practices of modern agriculture -- the widespread use of pesticides, plowing under native vegetation and the tendency to wipe out every wild flowering plant in sight -- began to destroy the native pollinators that make farming possible. Beekeepers, accustomed to paying farmers for the privilege of stationing their beehives on land with blooming crops, soon started to receive payment from farmers for their pollination services. Soon the cash crop was pollination fees, not the honey. Today, migratory beekeepers follow this trail of money back and forth across the country as pollination fees continue to rise.

Bees do have predators - the worst are the varola mites that clog up their breathing apparatus which causes death by suffocation. Beekeepers spray for those mites and keep their hives as clean as possible to prevent an outbreak. But scientific investigation is showing that CCD is not caused by the mites, or by the spray used against them.

Popular commentators have latched on to CCD to "push their cause" - whatever it might be.



Bees are four-winged, flower-feeding insects. They have enlarged hind feet, branched or feathered body hairs, and generally a stinger. Photo by Dorling Kindersley

CCD has been blamed on the pesticide industry, over population which reduces habitat, an undiscovered disease organism, too much rain, too little rain, heat, cold, organic practices, non-organic practices, aliens. You name the cause, someone has used it to explain CCD.

Investigators are finding that all of the suspects for CCD have some bearing on the problem. There are diseases that strike, too many insecticides are used irresponsibly, habitat is vanishing so the native bees are moving away, the weather is changing and when it gets hot the wax in hives starts to melt, cold weather kills colonies, predators are increasing, more aggressive pollinators are moving in. Agriculture is going to have to adapt to the changing times.

But what can you, the rose gardener, do?

Mostly, try to attract and feed bees - all kinds - as a way of helping them re-establish their territories. Native bees pollinate only specific crops - that's what they are good at. They also need wooded areas close by to nest in. A wild patch of woods within a mile of their favorite food crops guarantees a good population of natives. Best of all, most of them won't sting!

Honeybees need a hive - so if you see a swarm in your garden, call a beekeeper to come get them. They can't survive hanging on a tree or the garage door or in the crawl space.

Keep insecticide spraying to a minimum, and then only for a specific pest - not as a general spray all over the garden. Don't use the popular types of "all in one" compounds that contain fungicides, fertilizers, and insecticides. Some of that insecticide will translocate (move into) to the pollen and nectar of your roses, and the bees will ingest it.

Plant companion flowers that bees like.

A healthy garden will have many types of bees visiting all season long. You'll see bumblebees, honeybees, orchid bees, sweat bees, mason bees, digger bees, green bees, brown bees, black bees - - all doing their job. Watch for them and celebrate the wholesome goodness of bees.