

Helping the Honey Bee

By Landi Simone

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Honey bees have been all the buzz lately. The huge losses sustained by beekeepers all over the country and the still-unsolved mystery of the disappearing bees have brought these hard-working insects and their keepers to everyone's attention. Colony Collapse Disorder (CCD), devastating as it is, has actually done some good. It has made people aware of the fact that their food supply depends on an insect, and that that insect is embattled. Nowadays, when I tell people I keep bees, the first question I'm asked is no longer, "Aren't you afraid of being stung?" It's "Are your bees okay?" And that's a huge improvement!

Apis mellifera, the western honey bee, has actually been in serious trouble for over twenty years. The accidental importation into this country of two species of parasitic mites, the tracheal mite and the varroa mite, has changed the face of beekeeping not only in the United States, but also in many parts of the world. The varroa mite, aptly named *Varroa destructor*, is by far the deadliest of these parasites. Imagine a tick the size of a dinner plate on your back and you have an idea of what the bee suffers. Now add to that the fact that these mites, by piercing the bees' exoskeletons, open the door to an army of viruses that will invade the citadel of the hive and eventually lead to its collapse. Bee researchers have succeeded in finding some strains of bees with partial resistance to the parasites, but we have a long way to go before we can honestly say the problem is solved.

Beekeeping has become so complicated, trying to manage and control the various parasites, diseases, predators (think: bears), and mysterious disappearances, that many beekeepers have thrown in the towel and given up. In fact, at a recent talk to the NJ Beekeepers Association, Dr. Mary Ann Frasier of Penn State University, said, "I'm more worried about the loss of the beekeepers than I am the bees. How long can commercial beekeepers stay in business if they keep losing all their bees?"

So what can *you* do?

Let's face it. It takes a special kind of person to really enjoy playing around with a bunch of stinging bugs. It's just not for everyone, and that's okay. So, short of donning a veil and picking up smoker and hive tool, is there anything the lay person can do to make a difference?

The answer is most emphatically *yes*.

Let's start with something simple. Bees collect nectar and pollen from plants for food. They make honey from the nectar. Pollen is their sole protein source (honey bees are vegetarians) and they use it to make food for their young. Most of the important bee plants in the northeast are wildflowers. Of these, probably the single most valuable early spring wildflower is the dandelion. If a hive survives the winter, beekeepers know the bees will be safe from starvation if they can stay alive until dandelions bloom. Dandelion

pollen is moderately nutritious and the nectar is abundant. It doesn't normally produce what we call a 'surplus', i.e. enough nectar to produce honey above and beyond what the bees will use for themselves, so you won't generally see dandelion honey for sale, but it gives the bees a huge boost and adds to the health and wellbeing of the hive. So a very simple, easy way to help honey bees is to *refrain from killing the dandelions in your lawn*. They're actually quite pretty.

Along the same vein, several of the landowners at various locations where I keep bees are kind enough to not mow their lawns while dandelions and other bee plants like clover are blooming. They wait until the bees seem to have moved onto other flowers.

Other wild plants normally considered weeds that are beneficial to honey bees include multiflora rose, brambles such as blackberry and wineberry, wild asters and goldenrod in late summer/early fall, and the invasive species purple loosestrife and Japanese knotweed (a.k.a. Japanese bamboo), among many others. Although you may really want to hack down some of these rather than see them take over your yard, consider if it might be possible to delay the weeding until after the plants have bloomed but before they have set seed. In New Jersey, there's a good list of wild nectar and pollen-bearing plants on the NJ beekeepers' website: <http://www.njbeekeepers.org/PollenPlants.htm>.

Still on the subject of plants, did you know that most of the major surplus nectar producers in the northeast are trees? And many trees like maple, oak and willow are valuable to the bees even though they do not produce a honey crop for humans. Black locust makes a fine honey that is almost water-white. Tulip poplar nectar is reddish and highly prized, and linden (plus its large-leaved cousin basswood) makes a marvelous pale, delicately flavored floral honey. Years back, linden trees were planted along city streets as an ornamental. Today they've been virtually replaced by the Bradford pear tree, with its weak crown and abundant white spring flowers that are utterly devoid of nectar. The Bradford pear to me is a metaphor for much of American society today: showy but devoid of substance. So if you're on a town committee or planning board with a say on what gets planted, or if you work for a landscape architect, you can help the honey bee by encouraging the planting of linden trees and other bee-friendly plants in public or private projects. A little internet research will produce the names of dozens of other plants that bees favor, such as crocus, anise hyssop, bee balm and asters, that a homeowner can plant in his or her own perennial garden, even if they've no extra room for trees.

And while we're speaking of gardening and planting, it goes without saying that spraying pesticides is not generally helpful to honey bees, especially if the plant being sprayed is in bloom and being worked by bees or if the spray can drift to wild plants such as dandelions that bees are actively working. Learn sustainable organic methods for controlling garden pests, and if you must spray, be sure to check the label. Some pesticides are toxic to bees; others are not. Some sprays which are toxic to honey bees have a residual toxicity that is very high. This means that the chemical takes a long time to break down and can remain toxic for days, or even weeks, after being sprayed. If honey bees are gathering pollen from plants that have been sprayed, there is a risk that

the whole hive of perhaps 60,000 individuals could be killed because foragers return with toxic pollen which is then fed to the young. Organic agriculture and integrated pest management techniques really work. Get out your compost buckets, build up your soil, and get rid of those sprays. You'll do yourself and the bees a big favor.

Urban and suburban sprawl are as inimical to beekeeping as they are to other forms of agriculture. Beekeepers are farmers, but, unlike most forms of agriculture, we farm other people's land by renting suitable spots to put our bees. And beekeepers are finding it increasingly difficult to locate good places to keep bees, called beeyards or apiaries. A good apiary will be in full sun, facing south or southeast. There should be some protection to the north, such as a line of trees or brush, a nearby source of water, vehicle access, and plenty of bee-friendly plants within about a half mile radius. It's best if the apiary is not in an area with lots of human traffic because, although honey bees are remarkably gentle, a bee flying out of the hive and right into someone's hair or clothing is likely to panic and perhaps sting. So if you own a little land with a likely spot, consider inviting a beekeeper to install a few hives. The most common rental agreement between beekeeper and landowner involves about a gallon of honey a year and a handshake, but some landowners may also receive free pollination of fruit trees or other crops. If you have a suitable spot and would like to see bees there, contact your local state beekeeping association. It probably won't take them long to find a beekeeper who would love to set you up with some buzzy new tenants. In some states there may also be tax benefits to hosting an apiary, but the farmland assessment laws vary from state to state, so you'd need to check the specifics with your local tax assessor.

Even if you live in an apartment in New York City with not a square inch of land to your name, there's one thing you can do to help the honey bee, and that is to support legislation that is favorable to beekeeping. On 3/27/07, Congressman Alcee Hastings of Florida introduced a bill, HR 1709, the "Pollinator Protection Act," which is now being reviewed in the House Committee on Agriculture. This bill budgets some \$75 million dollars for desperately needed honey bee research. Write your local congressman and tell them why you support HR 1709.

Some state legislators are also proposing laws to help the honey bee. For example, New Jersey's Senator Lance is proposing an amendment to the Farmland Assessment Act which will make it easier for beekeepers and apiary landowners to obtain a tax break. Support these legislators and let them know you are in agreement with their efforts. At Rutgers, the state agricultural university, we still do not have a resident Apiculture Research and Extension specialist. The post-doctoral holder of this position, which has been vacant now for two years, helps and educates beekeepers and performs research on critical topics in beekeeping. There has not been enough money in the state budget to entice anyone to take this position, nor is there any job security. Our last two extension specialists left for better posts elsewhere and the job has been vacant for over a year. In short, New Jersey beekeepers have very little state support for important items like disease control and inspection, education and research. Proposals are pending to change some of these deficiencies, and beekeepers are hopeful that a long dry spell may be easing up, especially with the hiring of our new inspector, Tim Schuler. But politics

drives funding, and voters drive politicians. Beekeepers represent only a tiny handful of voters and most of us are not political activists. For changes to happen, we need the general public to start urging their elected officials to come up with measures that will help beekeepers and their small charges. Ultimately our food supply depends on this.

Next, I urge you to undertake a task that shouldn't be a burden at all: buy and eat lots of local honey. Most commercial honey on supermarket shelves comes from China and Argentina. It's heated to high temperatures to delay crystallization (a natural process where the honey gets solid and 'crunchy' but is unchanged in quality) and forced through microfilters to remove every trace of pollen and propolis, substances which may have beneficial health benefits. Buying local honey not only helps your local beekeeper stay in business but also gives you the best and tastiest honey, made from local floral sources, which many people feel can help with allergies. Also, by buying your neighborhood beekeeper's handmade beeswax candles and other beeswax products, you can help reduce indoor air pollution (beeswax candles emit air-scrubbing negative ions), help the bees by helping their keeper, and add a sweetly fragrant ambience to your next candlelit dinner, all in one fell swoop!

Finally, take the time to *bee-come* educated about honey bees. If I had a quarter for every time someone told me they stepped on a "bee nest" in their lawn and were attacked by the "bees" I could retire. Those were yellow jackets, which are wasps, not bees. Bees live in wooden hives kept by beekeepers, except for the relatively few free spirit colonies that have swarmed and taken up residence in a hollow tree or sometimes, under the siding of someone's house. Most of the renegades, sadly, will die without a beekeeper to treat them for mites. There exist a multitude of stinging, flying insects. In this country only one, *Apis mellifera*, is managed for honey production and moved by the millions into crops for pollination. Learn to recognize a honey bee when you see one and take the time to read something about their life cycle. It's fascinating reading.

Ignorance is as deadly to honey bees as American Foulbrood. It is responsible for town ordinances banning bees, unreasoning fear, and irrational fear-based panic. It severs our connection with the natural world and leaves us cringing in our homes because we don't know any better. Attend a lecture. Read a book. (Sue Hubbell's *A Book of Bees* is a great one for the lay person.) Plan a trip to your county or state fair and check out the observation hive. You'll be glad you did. And even if the honey bees, in the immediacy of their pollinating, honey-making, brood-rearing lives, are not grateful, their keepers will be.

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