

Let Them Bee



by Bruce Cambron



When most people think of bees, they think of honey in a jar with some cute drawings of flowers and honey bees buzzing around. That is where it ends for most of us. Few people realize the much more important role that bees perform in our world. About 80% of all pollination of vegetables, fruits, flowers and other plants is performed by the honey bee. In the USA alone, more than \$9 billion is contributed to agriculture annually by the honey bee. It would be a much hungrier world without the humble bee. Many fruits and vegetables that we find cheaply in the super market wouldn't be available at all. And many species of plants and fruits would go extinct. Of course, humans aren't the only animals that get food from the work of the bees. Many other forms of life on the planet are dependant on this process of pollination. Bees are a fundamental thread in this intricate web of life that we are a part of. Considering this vital role that bees play in our world you would think that we humans would do our best to protect them even if only for our own selfish reasons. Think again!

For the last several years I've been studying organic farming around the world. I grow 70% of my own food organically in the mountains of Nara Japan. Since childhood, I have been fascinated with nature, insects, and especially bees. Like many children I innocently wreaked havoc on the local insect populations around my home. There were lots of bees around in my back yard in Kentucky. I used to catch bees and watch them buzz around in a jar.

I'm not an expert on honey bees. The information in this article has come mostly from what I have experienced and seen first hand while I was cycling around New Zealand and studying beekeeping. Some of this information I gathered from articles and books also. But again, it's mostly from my brief 3-month experience as a beekeeper when I worked at two New Zealand beekeeping farms (apiaries) with one non-organic beekeeper and one organic. Both beekeepers had very small operations when compared to the industry world wide. The organic bee keeper was very small.



The non organic bee keeper was a really nice guy. He let all of us workers stay at his house and we had the run of the place. His hospitality to us was the best I've experienced anywhere in the world while doing farm stays. Unfortunately for the bees, they weren't guests in his house. They served one purpose for him. They were his cash cow.

Imagine that you are sitting in your house on a calm morning enjoying a wonderful breakfast and suddenly the roof of your house gets torn off by a giant dressed in white, who proceeds to blast you with a jet engine. You are blown out of your house and you watch helplessly as everything that you own and some of your family members are smashed or carted away. Basically, that is what it is like for the bees. Bee hives are very dark and calm on the inside. We would crack open the hive the bees have sealed with propolis (tree resin, not made but collected by bees) to keep out light, invading wasps as well as acting as an antibacterial agent, and blow the bees off the honey combs and then load them on the truck. We had to work fast and as we were robbing the summers effort of the bees. We had little time to think of the bees. So naturally, many thousands of honey bees were smashed and killed. It is also impossible to get all the bees out of the combs even with a generator powered blower. So thousands of bees would end up going back to the warehouse with us by accident. More on that later.

One of the remarkable things about bees is that a healthy colony will produce much more honey than they need. So, it is possible to just take some of the honey and leave enough for the bees. This is what the organic beekeeper did. But if you want to maximise your profits, you take all the honey. That is the non organic method. So, before we pirated the honey back to the warehouse, we poured a generous supply of sugar water into each hive. Of course, the bees can't get the nutrition they need from the sugar water. But it is cheap, and enough of the colony survives to work again the next year.

Actually, the bees consume the sugar water and process it in their body's and turn it into a type of honey. Sometimes the beekeepers even take this sugar water honey from the bees and sell it to you as

honey! Have you ever wondered why that honey from China is so cheap? Some of the stuff in the supermarket is no more than sugar water that bees ate and spit back out for you. Of course, you will never see that on the label.

On one occasion as we were leaving the farm with our truck loaded with honey, we met the local farmer whose land was being used to host the bees. The farmer asked the beekeeper if it was okay to spray some weed killer. He said no problem. Most people, when given the choice, would prefer not to have weed killer in their honey. But think about the bees for a minute. If the small amount of honey we humans might consume would be better for us without the weed killer, you can imagine how the tiny body of a bee deals with these poisons when they get it with every meal.



Back at the warehouse, we would unload our booty along with the thousands of bees that hitched a ride. All those bees got trapped in the warehouse and died. A simple window with a one way exit would let the bees out. But that was too much trouble. In the non-organic beekeepers words, "They are going to die anyway." After he left the room, my Romanian co-worker commented, "Maybe we should remind him that he was also going to die someday too."

The beekeepers I worked with didn't take the pollen or the royal jelly. But many beekeepers do. Bee pollen is known as the bread of bees and honey is the butter. The pollen is a very important part of the bees' diet and has many nutritional benefits for bees that aren't in the honey. Pollen collected by bees is also popular with humans and you can find it in many health food stores. Unfortunately for the bees though, this pollen is collected as the bees enter the hive. Small wires placed at the hive entrance take the pollen from the bees' legs and drop it in a collection box. The bees don't get any pollen.

Royal jelly is also a highly concentrated super food that the bees produce for the queen bees and the larvae of queen bees. Since the queen spends her life laying thousands and thousands of eggs and the whole colonies genetic livelihood is dependent on the health of the queen, she needs this food for the sake of the colony. Since there is usually only one queen living in a hive at one time the bees don't need to produce much royal jelly. In nature, it's a pretty rare commodity. Royal Jelly is also popular in health food stores though and highly acclaimed for its medicinal qualities and health benefits. In order to get enough royal jelly from the bees to sell to us humans, beekeepers have to do all sorts of things to get the bees to produce it in much larger quantities than they would in nature. One common method is to take the queen out of the hive or kill her and put special large combs in the hive that will spur the bees' instinctive nature to groom some eggs to be future queens. That instinct is manipulated to groom thousand of eggs to be queens when only a few are needed. Then the royal jelly is produced and it is all taken by the beekeeper and the larvae will die.

So there is no *honeymoon* for the bees in this relationship with the beekeeper. The bees have a raw deal to put it mildly.



On the consumer end of the picture, the quality of the honey that ends up on the shelf for humans is also far from what the bees make. We were harvesting Manuka honey, which is acclaimed for its medicinal properties. But honey was not the only thing that gets in the final product.

Many of those bees trapped in the warehouse drown in that honey. Thousands of bee larvae that died in the combs after being taken from the hives also sat in the warehouse and rotted for days or even weeks. When the honey was extracted, all those bee carcasses, legs, wings, antennae and rotting eggs and larvae got mixed in with the honey and sat for days before being filtered out.

Spray paint was used around open drums of honey. Bleach was used to wash everything that touched the honey and it often was not rinsed out. There was bleach in the honey. Towels were used on the floor and then on the containers that held the honey without being washed. Other larger producers also sometimes use heat to extract the honey. This makes the process faster but also degrades the honey.

The non-organic beekeeper was selling his honey in oil drums to a reselling company. The high grade Manuka was being sold to hospitals for use as medicine for its anti-bacterial properties. And the rest of his honey was just mixed in with other beekeepers honey and sold under another company's label. After 6 weeks, I had seen all that I needed to see and more. It was time to leave.

The organic beekeeper's operation that I was delighted to find a couple of weeks later was a completely different world. We never used blowers to get the bees out of the honey. Instead, we visited the hives twice. We went there the day before and put a special one way door between the honey we would take and the honey we would leave for the bees. At night, the bees would always go out that door to the bottom of the hive. They couldn't get back in. The next day, we would take the honey frames off the top of the hive and there weren't any bees in there. Of course, it was inevitable that a few would get back in when we stacked them on the truck, but not so many. Non organic beekeepers don't do this usually because they don't want to make two trips out to the locations with the hives. That requires extra time and means less profit.

The organic beekeeper always left enough honey for his bees. He never gave them sugar water. The warehouse had very few bees inside and I didn't see any toxic chemicals around the honey. Basically, the organic beekeeper was concerned and cared for his bees, the quality of his honey, and the happiness of his customer that was supporting his whole operation. The organic bee keeper also knew most of his customers. He bottled the honey himself and sold the honey directly at markets.

Again though, the honey is of little importance when compared to the vital role of the bees as the pollinators of the planet.

Bees worldwide are having more and more problems in the wild and in apiaries as well.



Another big difference in methods between the organic and non organic bee keepers was the maintenance of the colonies. The organic bee keeper would always get eggs for new queens from his own hives. Most non organic bee keepers simply order new queens from large companies who sell them. Then each year, they kill the queen and put a new queen in.

I'm not a geneticist. But I read that there is a major problem developing for bees in part because of the way they are being breed.

The European honey bee (specifically the Italian honey bee) is the most productive honey bee on earth. So these bees have been shipped around the world and have replaced many of the wild bees. Bees are mostly breed for there ability to make honey and little else. Recently, bees around the world are having more problems with diseases and viruses.

Sugar water diets, and the pesticides and herbicides that are sprayed on the plants and flowers that bees feed on are devastating for the bees. But perhaps even worse is the selective breeding that pushes out native bees that are more suitable to local environments. I was told by a Japanese bee keeper that the Japanese honey bee produces less honey, but is much better at defending its hives against the Japanese wasp and other predators. The Japanese bee is also more suited to the environment here and can fight off disease better. But local bee populations everywhere have been and are being replaced by the European bee.

Viruses and diseases that used to spread very slowly in the bee world move around the globe at lightning speed now. The practices of the bee industry and less diversity in bee populations could weaken the bee population to a point that would be a disaster should a virus take hold and decimate the European honey bee.

Perhaps you may be asking. What can I/we do as consumers?

Well, if you are someone who consumes honey, then it should be clear that supporting small local organic honey producers is the best option.

If you are a vegan and don't consume honey yourself, I'm sure that you know people who do. Maybe you could let them know why that cheap honey in the super market isn't really cheap when the true cost to our environment and ecosystem is figured into the price.

Ultimately, it seems that the answer though is to find a way to let the bees once again thrive in the wild and not try to use them only for our own purposes.

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