

Hives in a Lava Field



Worker Bees Capping Honeycomb



Lehua Blossom



Our Friend and Beekeeper, Cristiano



Beekeeper Michael Krones

Honey comes from the nectar of flowers. The bees drink the nectar and take it back to their hive, where the honey is made. There are three main blooms (beekeepers call them "flows") on the Big Island: Lehua, Christmas Berry and Macadamia Nut Blossom. When an area, like a macadamia nut orchard, begins to bloom, it's time to move the bees in so they can collect all the emerging nectar. We load the beehives onto a flatbed truck and take them to the new location in the dark of night. It's important to do it at this time of day because all the bees are home at night; therefore there is less risk of leaving anybody behind.

A honey bee colony is mostly comprised of worker bees (all female), whose main function in life is foraging for nectar and pollen. Flower nectar is essentially a bees' bread, or carbohydrate, as it is made up of a combination of different sugars such as sucrose, glucose and fructose in their most natural forms. Each flower type has a unique combination of these sugars, which ultimately determines what the honey that comes from it will taste like. Pollen on the other hand is the bees' protein, and is comprised of many vitamins, minerals and about 25% protein. When nectar and pollen are combined, a bee eats a well-balanced diet.

Using their keen senses of smell and sight, bees leave their hive to scout for nectar. When they find a nectar source, they return to the hive and use a special dance to alert the other forager bees of its whereabouts. Bees do not communicate with sound; instead they make precise movements or "dance" to share information. There is a special dance that conveys that nectar is near, and how to find it. Once a bee finds a tree or shrub laden with nectar-filled flowers, it's only a matter of time before it is filled with the buzzing sound of bees.

Our honeys are certified organic. The Hawaii Organic Farmers Association inspects each location, or yard, where we place our beehives. They make sure that there are absolutely no chemicals being used within the bees' foraging radius around the hives. This means no conventional orchards, no golf courses, no roads where pesticides may have been sprayed; and certainly no chemicals or antibiotics are used in the hives or the bottling of the honey. There is very little organic honey produced in the United States, as the conditions for producing organic honey are difficult to obtain. Please click <u>here</u> to read more.

A bee buries her body in the flower she's found and is soon covered with its pollen as she sips on its nectar. Nature often makes getting to the nectar of a flower slightly laborious for the bee so that the tiny, soft hairs on a bee's body get a good dusting of pollen. An amazing fact about bees is when they sip from several flowers on a foraging trip to fill up before returning to the hive, those flowers are almost always the same variety of flower. This means they go from, say, macadamia nut blossom to macadamia nut blossom to macadamia nut blossom. They don't mix-and-match. This innate inclination certifies that pollen from one type of tree is getting to another one of the same type, ensuring strong cross-pollination. This is also why bees are considered the primary crop pollinator in the United States. A forager bee will also usually tuck some pollen grains behind her legs to take home with her.

When a forager bee returns to her hive, she transfers the nectar she's drunk to another bee that fills honeycomb cells with it. Bees actually ingest the nectar and regurgitate it upon their return to the hive. This may sound gross, (I'm eating bee barf!? you say?) but it is during this important time in a bee's honey sack that special enzymes are passed on to the nectar, and later found present in the honey. No other creature but a honey bee can impart these special and health-giving properties.

Once filled with newly-collected nectar, the honeycomb cells are fanned by the wings of another set of worker bees to reduce its water content. Together, many fanning bees act as a dehumidifier in the hive, slowly evaporating the majority of the water present in the nectaralmost 75% if it. This is important because left in its original state, nectar, because of its high water content, would quickly ferment. By reducing the water content, the nectar's natural sugars become much more concentrated. That's it, that's all that honey is: concentrated flower nectar with some special bee magic-enzymes added.

After all the necessary water is evaporated, the honeycomb cells are capped with wax and sealed. This honey will stay stored for the bees to eat, as needed. The honey bees' work is done; tomorrow it will begin again.

Once a hive is heavy with lots of honey-filled honeycomb, we take it back with us to the farm to extract the honey from it. There is always plenty of honey left in the hive for the bees to eat.

The honeycomb is neatly sealed with the wax cappings, so we shave off the top layer to open the cells and allow us to access the honey inside.

The uncapped frames are placed in a centrifuge and the honey is spun out of them. The centrifuge spins so fast that the honey, by force of speed and gravity, flows out. It then runs into a settling tank where the remaining wax floats to the top, and the honey settles down toward the bottom.

The honey gets strained to remove the wax particles that may have gotten mixed into the honey. It is then pumped into our bottling tank.

Our honeys are then bottled- dispensed directly from the bottling tank into the jar. They are never heated, therefore they are raw. It's a lot of work to fill each jar by hand, but to ease the time we listen to our favorite Hawaiian music station, <u>KAPA FM</u>

Royal Hawaiian Honeys are the result of a labor-intensive collaboration between our farm crew and our bees. We take good care of our colonies, and they make our livelihood possible. A good beekeeper never forgets this.