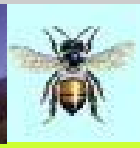




APRIL 2011

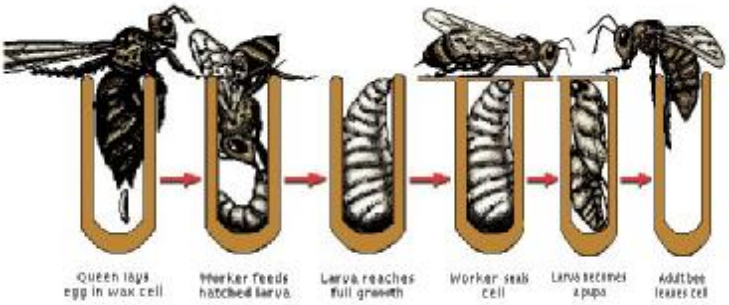
Taranaki Beekeeping Club

WHAT'S ON IN TARANAKI

Greetings to you all.
Summer is coming to an end now in a quiet way with little wind and rain, so most hives are happy and in good order for the forthcoming cooler weather.
By now, you should have taken off your honey crop and have it safely stored in a cool place where the ants can't find it.
The crop this year has tended to be darker than usual as the lighter honeys which normally come in the Summer months, were scarce this season. In general there was less honey collected than normal this Summer, not only in Taranaki but from the Waikato as well. I think it may well have been the lack of bright Summer sunshine.
We seemed to have more cloud cover than usual although the temeratures were about right for a Taranaki Summer. It proves the point that you can't get something for nothing. If the energy from the sun is not readily available then the plants can't create the high energy product we all hope to harvest.
We now have to start preparing for Autumn/Winter. Some Beekeepers are sending their workers on a trip to Canada! Export package bees are leaving us for the Canadian Spring where they will be used to rear the foragers for the Canadian Summer. It seems to be a win / win situation as we have finished with most of the foragers here and the Canadians are in need of foragers and workers to enlarge the gathering force for their Summer nectar flow. I am not sure if the bees appreciate it but it keeps the humans happy!
Unhappy humans are in America and some European countries as they are suffering from the Bee 'disease', Colony Collapse Disease or C C D as it is commonly stated. In U S A they are losing about one third of their hives each year, due to an unknown cause. There have been many theories as to the cause but it is yet to be identified.
On Saturday 23rd April, there is a film to be shown on this topic at the ART HOUSE THEATRE at 73A Devon Street West here in New Plymouth, at 2.30pm. It lasts 1hr. 42 mins. and from the 'trailer' appears to be of great interest to all Beekeepers and conservationists. If you can make it, I'm sure you will find it worth the effort.
At the next meeting we will discuss the 'Wintering down' process - what needs to be done to get your bees safely through the Winter, and will be held in the Plunket Rooms. opposite the Warehouse on Monday 18th April at 6.30 pm. I hope to see you there.
Adrian.

Next club meeting
18th April 2011
In the PLUNKET ROOMS
6.30pm
Next to New World Supermarket
Third Monday of every month

Bee life cycle at a glance



Solar wax melter (budget version)

Solar wax melter on a budget, a polystyrene container and the glass out of an old wooden window top sash

A $2.00 sieve and a 2Ltr ice cream container and you are away

AFB course 11th June 2011
New Plymouth

Contact Stephen Black by 25th May
Bees-R-Us
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Tel: +64 (0)6 752 6860
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Cell phone towers vs Honey bees

by Jeff Cohn | Wednesday, June 02, 2010

Studies are discovering that the radio-frequency radiation, a form of electromagnetic radiation is linked to killing bees, which poses huge environmental threats. Honeybees pollinate crops, plants, fruit and vegetables that do their job replenishing the oxygen in the air. Bees account for 75% of the world seeds' distribution, this is a serious problem, no matter what the reason. And, if CCD (colony collapse disorder) can be linked to the ozone layer, doesn't that fall back on us?

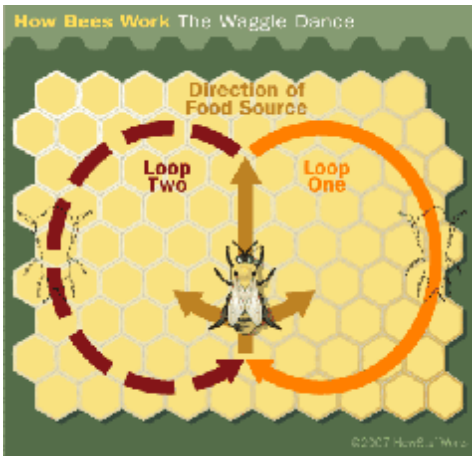
Studies have suggested that the electromagnetic radiation affects the internal navigation system of the honey bee, causing it to not be able to return back to the hive. The bees then die off, because they are not able to do their normal activities. This premature dying off of the bees causes the fruits and vegetables to not grow as normal, simply because pollination does not occur. This affects the harvest, which can have a significant impact upon the world's food stores now and in the future. This bee phenomenon has been seen all over the world from North America to Asia and this can have significant repercussions for mankind. This is not a study that is widely accepted, however, simply because many people believe that the decrease in the bee population can be attributed to other issues.

Many experiments have compared the behaviour and productivity of bees in two hives – one fitted with two mobile telephones which were powered on for two fifteen minute sessions per day for three months. The other had dummy models installed. After three months the researchers recorded a dramatic decline in the size of the hive fitted with the mobile phone, a significant reduction in the number of eggs laid by the queen bee. The bees also stopped producing honey.

The Bee Dance

The brilliant honey bee dance was first revealed by a German zoologist and Nobel laureate, Karl von Frisch. This dance is a way for the worker bee to recruit and communicate with their fellow workers about the food sources that has been discovered. Through this way of communication, the other worker bees will detect the message using their sensitive antennae and be able to locate the food sources in order to bring the food back to their hive.

A bee that has just returned from a foraging trip will enter the hive where the other worker bees are and begin dancing on the dance floor, usually close to the entrance of the hive. There are typically two distinct types of honey bee dance: the first one is called the round dance and the second one is the waggle dance. The rhythm of the honey bee dance may vary among different species of honey bees.



Bees perform the round dance when the food source is relatively close to the hive, usually within 50 meters away. The way they perform this dance is by staying on one spot, and then turning alternately to the left and right repeatedly for around 30 seconds. This will send out a message to the other worker bees to locate the food source. The bees will touch the dancing bee's antennae and trail after her.

Information about this food source, particularly the type of food they are looking for, is communicated through the scent of that particular food source. However, this dance does not tell the other bees about the distance and direction of the food sources, which is okay, since the area that they have to search is not very far from the hive.

As for the waggle dance, it is performed when the food source is further away from the hive. The bee will make a figure-eight by flying a short distance while waggling its abdomen, and then make a full circle to the left and back towards the starting point. The honey bee will repeat this move to the right, left and so on.

Unlike the round dance, the angle at which the bees perform this dance on the vertical honeycomb sends a message on the direction of the food source using the sun as the point of reference. A vertical angle means the food source is aligned directly with the direction of the sun from the hive. For each angle of variance, it means the food source is at an equivalent angle from the direction of the sun.

For example, let's say that a bee does the waggle dance at a 50-degree angle from the vertical comb, the bee is telling the other bees that the food source is 50 degrees to the right of the sun when the bees leave the hive.

When performing this waggle dance, the bee produces a series of high-pitched sound. According to von Frisch, the more turns that the bee makes (the more wagging) and the longer the sound pulses produced in the honey bee dance, the closer the source is to the hive. The honey bees will produce lively dances when an attractive food source is discovered. Attractive food sources can mean that the quality of the food is higher, such as nectar that contains a high concentration of sugar. Lively dance will usually attract more followers.

This extraordinary mode of communication is very important to the life of the bees, since it enables them to fully take advantage of the food sources that are available to them. The honey bee dance shows us a remarkable system of communication in the world of bees, and more generally, in the world of insects.

By Pauline Askin

SYDNEY (Reuters Life!) -

An Australian scientist is doping up honey bees with cocaine to study how their brain reacts to the drug, and possibly find a way to stop addiction in humans.

The research found similarities between honey bees and humans, in that they are both are driven by rewards and both have their judgment altered by cocaine.

"This is the first time that it's been shown that cocaine has been rewarding to an insect," Andrew Barron, co-author of the report published this month in the Journal of Experimental Biology, told Reuters.

As part of a joint project between Australia's Macquarie University, the Australian National University and University of Illinois, Barren applied tiny doses of cocaine to the backs of bees before sending them out to hunt for food.

Normally when bees return from collecting pollen they perform a dance to communicate where the food was found and how good it tasted.

The cocaine-induced honey bees "waggledanced" much more enthusiastically than other bees, and seemed to experience the same addictive pleasures as humans, the report added.

Barron said the cocaine changed the bees' estimation of how successful its trip had been.

"What we found was that the honey bee responds to cocaine in very similar ways as humans, so cocaine changes the way the bees evaluate," he said.

"We also found that when we let the bees go 'cold turkey', they had real difficulties learning, which is the same thing you see in humans when they go through withdrawal."

Barron said he hoped to identify the neural pathways that cocaine targets in bees to find out more about the mechanisms involved in human addiction and to find out whether the drug has as devastating an effect on bee society as it does on humans.

"If we could do that, we could possibly develop new treatments to prevent or treat addiction," he said, adding that the bees used in the experiment were not harmed.

Africanized Honey (Killer) Bee

Africanized Honey Bee, variety of honey bee derived by hybridization from African honey bees naturalized in the western hemisphere. Because they are highly defensive and will attack perceived intruders more readily than the common European honey bee, they are also known by the popular name killer bees.

Honey bees

Honey bees first originated in tropical Eurasia some eight to eleven million years ago. There are now at least ten distinct species and numerous sub-species, predominantly in Asia, such as the Asian giant or rock honey bee (Apis dorsata), the Asian dwarf honey bee (Apis florea) and the South-Asian cavity nesting bee (Apis cerena indica). The honey bee most familiar to people living in Europe and North America is a cavity nesting bee called the western honey bee (Apis mellifera), which reached Europe approximately 10,000 years ago and is the species most commonly kept in commercial hives.

Due to its economic value, not only in the production of honey but also in the pollination of flowering crop plants, most scientific research has focussed on the western honey bee. This research has discovered some amazing capabilities in this little animal, including the ability to utilise a range of senses and methods to navigate within its environment. These include the use of landmarks, sun position, polarisation of the sky and the Earth's magnetic field.

Experimentation indicates that the use of landmarks is their primary method of navigation. When adult honey bees first emerge from the pupa they initially remain in the hive, performing all the necessary duties there, such as building the comb structure, nursing larvae and tending to the Queen. Only when they are older do they start to venture out. Their initial flights are orientation flights, they do not forage during these, but memorise the landmarks in an expanding zone around their hive. Once sufficiently experienced they join the hive's squadrons of foragers, receiving directions to quality food sources from more experienced foragers that fulfill the role of scouts.

Scouts will usually find the resources the hive needs within a two mile radius of the hive, but have been known to travel as much as five miles if necessary. They search for nectar to make honey, pollen to be used as an immediate food supply, propolis (tree resin) to be used as a sealant to close openings against draughts or invaders, and water. Upon returning to the hive, they perform a "waggle dance" that tells their hivemates the direction and distance of the resource.

This symbolic dance language is a combination of position, duration and acoustics. The bee lands on a vertical side of the hive and angles its body in relation to the position of the sun and the location of the resource to give direction. The duration of the dance indicates the distance

African honey bee queens were imported by Brazilian scientists in the 1950s in order to breed a honey bee for use in tropical climates. Some swarms escaped into the wild. Because they were highly adapted for tropical survival and had no natural competitors, they thrived and spread rapidly through South America, extending their range by as much as 500 km (300 mi) per year. By the 1980s, Africanized honey bees had reached Central America and soon colonized Mexico. In 1990 the first swarm was found in the United States. The bees spread from Texas to New Mexico and Arizona and then into California by 1994. The bees reached an apparent climatic limit to their southern range in the middle of Argentina, and their range is expected to be similarly limited to the southern and coastal states in the United States. They have hybridized to some extent with resident wild and hive populations of European honey bees. However, many of the basic African honey bee traits remain, including rapid population growth, frequent swarming, minimal hoarding of honey, the ability to survive on sparse supplies of pollen and nectar, and a highly defensive nature.

Africanized honey bees are more difficult to manage than European honey bees and produce less honey. The businesses of many beekeepers in Latin American countries have failed as a result of Africanization of the native hives. Africanized honey bees are not expected to have the same impact in the United States because of advanced beekeeping technology and climatic limitations on the spread of the species. Africanization of bee hives can be prevented by the annual introduction of new European queens to each colony. Africanized honey bees have increased the number of human deaths due to bee stings in Mexico and Argentina and probably in other countries. In the United States, however, although more people have been stung by bees since 1990, no more bee-related deaths than usual have been recorded.

Scientific classification: Africanized honey bees are considered hybrids of African honey bees. They belong to the family Apidae in the order Hymenoptera and are classified as Apis mellifera scutellata.