



MAY / JUNE 2010

# Taranaki Beekeeping Club



## What's happening in Taranaki

Greetings Fellow Beekeepers.

Well here we are at the end of another season. You should by now have your hives settled down for the winter. This means that you have checked the woodwork for decay and gaps where draughts and insects may gain entry. You have checked your two full frame brood boxes for stores and have removed one or two of the old frames from the outside of the bottom box. The Varroa strips have been placed in the brood nest but remember to remove them after eight weeks or you will assist the Varroa to become immune to the active ingredient in the strip as it becomes more dilute when the bees disperse it throughout the hive. When you remove the strips, have a quick look to see if the Queen has stopped laying. Don't panic if you can't find any eggs or the Queen as she is a slimmer version of her summer self and is difficult to spot and the temperature together with the nectar sources in your area will determine if she is laying. With such mild day-time temperatures as we have been having recently, there well could be a lot of brood still being produced. If this is so then retain the varroa treatment as the mite only reproduces when the bees are raising brood.

Close those entrances down now to one or two inches to retain the warmth within and make sure that the floorboards slope slightly towards the entrance to shed any water from the interior.

The weather has been very mild and dry but next time you inspect there may be dampness in the hive, which you should eliminate by creating a slow through-flow of air past the central cluster of bees. This is best done by raising the top hardboard cover by the thickness of a matchstick – one at each corner is ideal – or replacing the hardboard cover with a bit of carpet, - hessian side downwards. This should keep the hive dry by adsorbing the moisture during the night and losing it during the day.

Last week I went to the AGM of the Waikato Branch of the NBA. It was very informative. There is a real war on with regard to Manuka sites and territories. Beekeepers from as far away as Taraunga are invading our province and setting up sites close to those occupied by the locals. This is producing a lot of friction between the farmers and beekeepers especially when the hives are left on the roadside. When animals are being driven along these roads, they are not too careful, which annoys the drover the bees and the animals. Some beekeepers are paying for sites in Manuka areas which is setting a

precedent that is annoying the local beekeepers especially those who have had their hives in the area for years.

Another hot topic is the pollination of Kiwifruit by hives carried to the orchards from near and far. There is a standard set by MAF – or whatever they call themselves today - and an audit of the hive quality is done on a sample every year. The ones that do not come up to standard are not paid for but those that exceed the standard are not paid more ! There is an argument about the cost of getting a hive to the site with those coming from far costing more to place than those in the vicinity – why? Orchardists of course want pollination at the cheapest rate possible and are reluctant to pay more to those who bring hives from out of the province but the Beekeepers say that with the increasing price of fuel it is becoming uneconomical to bring hives such long distances, so there is a war on.

Disease is another contention. With so much activity around there is the possibility of spreading disease around very quickly with Varroa resistance now in some areas and the spreading of Varroa borne viruses to apiaries through-out the North Island, not forgetting such diseases also as half moon disease and Chalk Brood.

So what about our next meeting on the 17<sup>th</sup> May in the Plunket Rooms opposite the Warehouse at 6.30pm. Bring a friend, your problems and grizzles and with a bit of luck we can share, solve or sympathise. Adrian.

## Introduction of Bees to Australia

The honeybee is not native to Australia. The colonists who went to Australia in its early days missed so many of the comforts and treats of "home" (England), they tried to introduce many of them to their new country. Plants, trees, animals, birds and many other reminders of home were introduced during those early years. In the early 1820's the honeybee was brought to Australia aboard the ship Isabella. She arrived in their waters in 1822 and the bees adapted so successfully that other bee species were introduced from Italy, Yugoslavia and North America.

**ANNUAL GENERAL MEETING**

**20th JUNE 2010**

**Location to be advised**

## Attracting Bees to your Garden

Thursday, May 28, 2009

Rudbeckia (Black Eye Susan) is loved by bees

### Creating a Bee Friendly Garden

Nothing evokes the sense of an organic garden like the hum of honeybees toiling among sun-warmed summer flowers. Honey bees are important for pollination of all our fruits and berries and many of our vegetables crops. They don't need us but we certainly need them. World wide their numbers are on the decline and experts are not sure why this is. By maintaining a bee-friendly garden, you can play a small but important role in helping to restore hard-hit wild honeybee populations, and help insure healthy, hefty bee-pollinated crops summer after summer.

### Bee Provisions

Thanks to beekeepers, honeybees aren't in danger of disappearing completely, even with the added problems of the Varroa mite. However, surviving wild populations of native bees and bumble bees do require help. You can help their recovery if you promote an environment that encourages bees to visit your garden. Here's what you need to provide.

**Water:** Bees need a reliable supply of water throughout the honey season. They use water to cool their hives and dilute the honey they feed to their larvae. On extremely hot days, bees might spend more time carrying water back to the hive than foraging for pollen and nectar. Provide a shallow pond in your garden where bees can land on the margins to collect water. Place rocks or grow water lilies in deeper water to provide bees with a safe drinking platform.

## Facts about the Honeybee and Honey

- It is estimated that the honeybee is directly responsible for over 80% of all vital tree and crop pollination. Think of all of the produce, grains and cereals used to produce food and you get an idea of the significance that the honey bee has.
- Scientists estimate that honey first found its way into the human diet between 2-3 million years ago making it one of the oldest foods known to man.
- A worker bee must fly the equivalent (relative to humans) of three times around the globe to gather a single teaspoon of honey. A healthy colony of bees can produce from 150-200 kg of honey per year.
- Honey comb is mathematically the second strongest structure in the world after the Egyptian pyramids.
- Scout bees report the nectar source to the rest of the hive by doing a waggle dance which describes the source location in relation to the sun.
- Honey should not be heat treated or pasteurised in order to fully retain its natural enzyme and hydrogen peroxide activity (natural anti-bacterial properties). This is known as raw or natural honey.

**Pollen and nectar:** Ornamental plants can direct bees to your garden, but not just any flower will do. If you aim to attract honeybees, you'll need bee lures that produce ample amounts of pollen and nectar.

Foraging bees identify desirable flowers by color, shape, and smell. Interestingly, bees can clearly perceive only four colors: yellow, blue-green, blue, and ultraviolet. Yellow, the color of most pollen, is another bee favorite. Regardless of the color, if a blossom doesn't provide enough pollen or nectar, bees will totally ignore it. Interestingly, most modern ornamentals, such as hybrid roses, no longer produce enough pollen and nectar. For the best bee lures plant old-fashioned or heirloom varieties.

**Protecting Bees:** The most serious danger to foraging honeybees is the indiscriminate use of pesticides and other chemicals in the garden. This is just another reason to be organic and spray free. When it comes to controlling garden pests, simple home remedies can save the bees. For example, you can eliminate a variety of destructive insects, including aphids, by spraying infested plants with a fast jet of water from a hose. One organic spray, Pyrethrum, is very toxic to bees, if you must use it make sure it is late in the evening when the bees are back in the hive.

Your Safety Rest assured that foraging honeybees rarely sting while away from the hive. If threatened, they usually fly away. Even so, if you are buzzed by a curious bee, it's a bad idea to swat at her. Simply walk away. Interestingly, honeybees tend to fly in straight lines, so you can usually shake a pursuing bee by weaving or running around a tree. Just hope that your neighbours aren't watching. Avoid wearing perfumes when you're in the garden, bees will be attracted to you.



### Varroa Strips

Supplies of Varroa strips for the Autumn treatment. If you need strips please contact me with amounts needed. I also have some Apivar strips left over from spring treatment

Depending on amount the strips ordered, they can be posted, picked up from the Saturday market or dropped off if you are near by

Stephen  
Bees-R-Us  
685 Uruti Road, RD48  
Urenui 4378, Taranaki, New Zealand  
Tel: +64 (0)6 752 6860  
Email: [bees@beesrus.co.nz](mailto:bees@beesrus.co.nz)

## Outstanding Engineers

Bees are inspired engineers. Each wax cell in the comb has six sides and all cells have a slight backward tilt so that the honey will not spill out. Wax cells average 140 to the one centimetre in thickness and each cell fits snugly against its neighbour on all sides — a construction so strong and cleverly planned down to the most minute detail that we never cease to find the work of these little creatures truly amazing.

## Life in the hive

In her lifetime, the Queen can produce more than one million eggs. At first, after the eggs are hatched, all the larvae are fed on royal jelly - a milky white fluid made by a gland in the nurse bees' head. This rich food helps larvae to grow strongly. After three days, the workers' diet is changed mainly to pollen and nectar, while the Queens continue to be fed on royal jelly.

On the eighth day, the larva spins itself a silken cocoon and during the next week or two makes the great change from pupa to adult. It gnaws its way out of its cocoon and, as it gains strength, joins the workers in their task of foraging or engineering, nursing the young, converting nectar into honey, cleaning the hive and waiting on the Queen. So the life cycle goes on!

## The language of the bees

Bees cannot talk. Their language is one of vibration. To indicate distance, the scout bee uses an audible code of buzzes, on a 200 cycle per second note with a pulse rate of 35 to the second. The length of time on a wag-tail run and the number of pulses of sound in each buzz indicate distance.

## The dance of the bee

Once pollen, nectar or water is found, the scout bee returns to the hive and dances on the honeycomb to indicate where the source may be found.

Many factors indicate to the worker bee the precise position.

Wings vibrating swiftly as the scout bee dances in a circle indicates that the find is within 100 metres of the hive. If the source is further away, the dance will be a "wagtail" roughly in a figure eight with a straight centre section. The direction in which she runs the centre and the speed of her movements tell how far to fly and in which direction.

## How Bees make honey

It has been said that except for man, nowhere in the world is there anything to compare with the incredible efficiency of the industry of the honeybee. Inside the beehive each bee has a special job to do and the whole process runs smoothly.

Bees need two different kinds of food. One is honey made from nectar, the sugary juice that collects in the heart of the flowers. The other comes from the anthers of flowers, which contain numerous small grains called pollen. Just as flowers have different colours, so do their pollen.

Let us go with the honeybee from her flower to the hive and see what happens. Most bees gather only pollen or nectar. As she sucks the nectar from the flower, it is stored in her special honey stomach ready to be transferred to the honey-making bees in the hive. If hungry she opens a valve in the nectar "sac" and a portion of the payload passes through to her own stomach to be converted to energy for her own needs.

The bee is a marvelous flying machine. She can carry a payload of nectar or pollen close to her own weight. Consider that even the most advanced design in aircraft can only take off with a load one-quarter of its own weight and you'll appreciate the miracle that the honeybee can remain airborne with such a load.

When her nectar "sacs" are full, the honeybee returns to the hive.

Nectar is delivered to one of the indoor bees and is then passed mouth-to-mouth from bee to bee until its moisture content is reduced from about 70% to 20%. This changes the nectar into honey. Sometimes the nectar is stored at once in cells in the honeycomb before the mouth-to-mouth working because some evaporation is caused by the 32.5°C temperature inside the hive.

Finally, the honey is placed in storage cells and capped with beeswax in readiness for the arrival of newborn baby bees. Pollen is mixed with nectar to make "bee bread" and is fed to the larvae. A baby bee needs food rich in protein if the bee community is to flourish.

Before returning to the flower again for more pollen, the bee combs, cleans and cares for herself? not because she is vain but so she can work more efficiently. Throughout her life cycle, the bee will work tirelessly collecting pollen, bringing it back to the hive, cleaning herself, then setting out for more pollen.

Forager bees start out from the hive for blossom patches when three weeks old. As they live to be only six or seven weeks old they have much work to do and little time in which to do it.

There will be many other bees working at the same time, and the air will be noisy with their droning. It takes 300 bees about three weeks to gather 450 g of honey. On average, a hive contains 40,000 bees.

## Public health and safety issues

Swarming is very alarming to the general public in residential areas. Thousands of bees are on the loose and flying in a mass before they cluster on a shrub or enter the cavity of a house. It is common for people to become anxious about the possibility of bee stings.

## Bee stings

As a general rule swarming bees are very docile. This is because the worker bee gorge themselves on honey before leaving the parent hive so they have food while they are clustering. However, if they cluster for more than two days they can become aggressive.

## Why do honey bees swarm?

In nature, swarming is a response to the impulse to reproduce and, unless managed, is the natural way that your honey bee colonies will reproduce.

The queen will leave the hive with about half the worker bees to establish a new colony elsewhere.

Swarming usually occurs in early spring through to summer. A thin nectar flow and plenty of pollen to promote brood rearing are the ideal floral conditions that lead to swarming.

## Types of swarms

When the old queen leaves the colony with half the workers – this is known as the **prime swarm**.

The parent colony is left with a number of ripe queen cells to produce a replacement queen for the original colony. At times, another swarm will leave the original colony with a virgin queen hatched from these queen cells. This swarm is much smaller and is called a **secondary or after swarm**.

In other cases, the whole colony, headed by the original queen of that colony, absconds the hive. This is often a very small swarm and is called an **absconding swarm**. An absconding swarm can be triggered by starvation, invasion of pests or disease.

## MOCHA HONEY CHEESECAKE

### MOCHA HONEY PASTRY:

2 cups plain flour  
2 tablespoons cocoa powder  
1 tablespoon of instant coffee  
125 g butter  
1/2 cup honey  
1 small egg

### FILLING:

500 g cream cheese  
1/2 cup honey  
3 large eggs, separated  
1/4 cup custard powder  
2 tablespoons coffee-flavoured liqueur (e.g. Kahlua) (optional)

300 g sour cream, whipped

125 g dark cooking chocolate, melted

Freshly whipped cream and grated chocolate, for serving

1. Make pastry by sifting dry ingredients into a bowl. Rub in butter then work in beaten honey and egg mixture to form a firm dough.
2. Wrap mixture in plastic wrap and refrigerate for 1 hour. Roll pastry out and line the lightly buttered base and sides of a deep 25 cm loose-bottom flan pan.
3. Bake pastry shell blind at 200°C for 10 minutes, remove blind weights, pierce base with a skewer then con-



## What do honey bees do after swarming?

On leaving the original colony, the swarm will cluster as a group on a shrub, a tree branch or a fence.

Prime and absconding swarms headed by an old queen will usually cluster within ten metres of the hive they swarmed from. This is the ideal time to catch them.

Swarms headed by virgin queens fly a longer distance and often cluster higher.

Then, bees from the cluster will seek out a suitable cavity in which to set up their new colony. They can find a suitable location within a few hours. The cluster leaves their temporary resting place with the queen and goes to the new location to set up their new hive.

At times, a swarm cannot find a suitable cavity and will build combs and remain as a colony in the open.



tinue baking at 190°C for a further 10 minutes. Allow pastry to cool before filling.

4. To make filling, beat cream cheese and honey together until smooth and creamy, then beat in egg yolks, custard powder and liqueur (if used).

5. Fold in whipped sour cream and stiffly beaten egg whites, then pour mixture into cool pastry shell and swirl melted chocolate through.

b. Place cheesecake on a baking tray and bake at 170°C for 45 minutes.

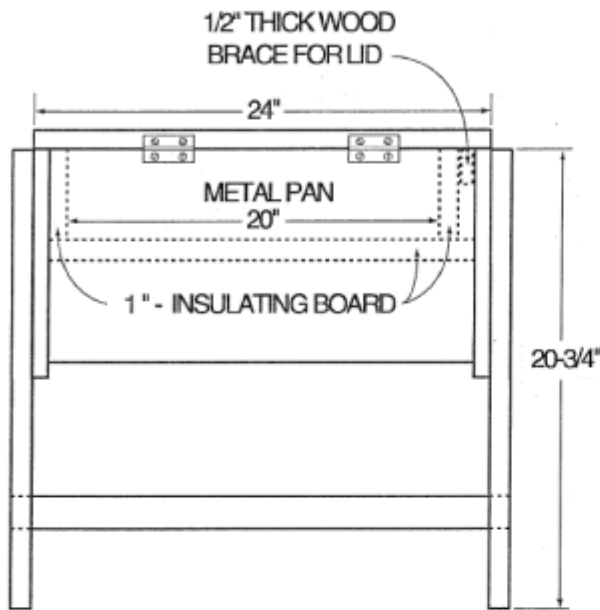
7. Allow to cool and set before removing from flan pan. Serve topped with whipped cream and chocolate shavings.

Serves 8 to 10.

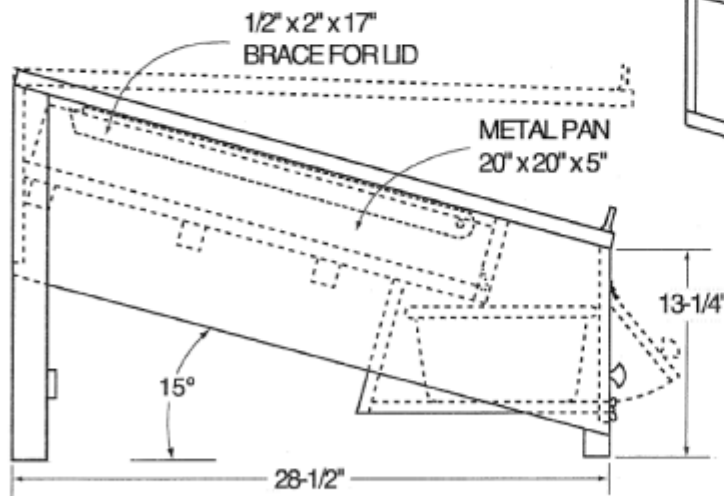
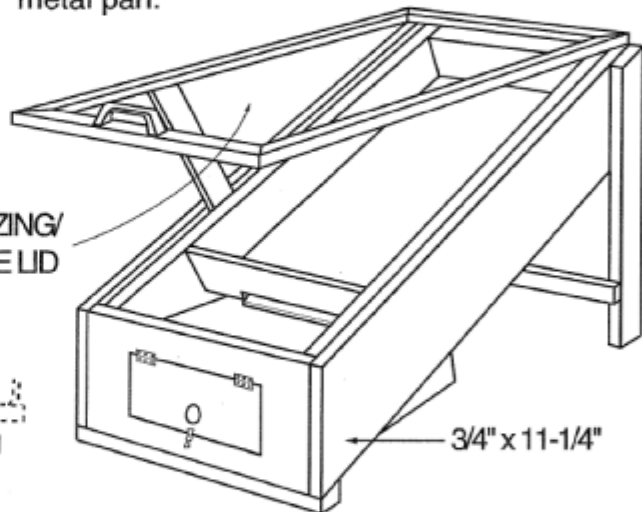
# SOLAR WAX MELTER

## DETAILS FOR 3/4" LUMBER

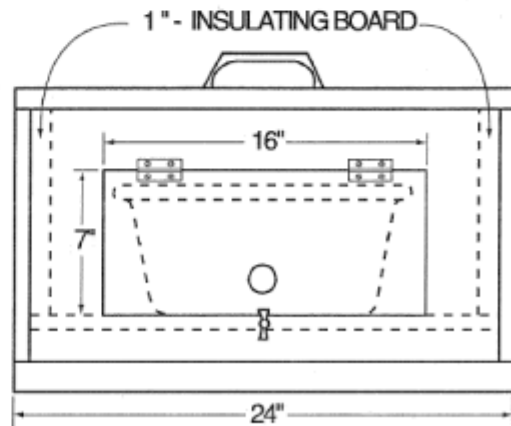
A melter of this size will handle wax rendering from 60 hives. You can modify the dimensions and design to fit your own needs. Melters come in all shapes and sizes and can be made out of just about any used material. The sheet metal pan should be 4" to 6" deep and big enough to accept excluders or at least 2 full-depth frames. Paint the entire unit black for max. heat absorption. You should put a coarse screen across the outlet of the pan to keep debris from getting into the pan of molten wax. Make a cappings basket out of "expanded" metal (wire lath) that will fit into the sheet metal pan.



BACK VIEW



SIDE VIEW



FRONT VIEW

# HONEY HEATER

- CHEST STYLE -

This converted chest freezer is an ideal size for heating up five gallon buckets of honey. Whether it's honey that has crystalized and needs reliquefying or honey that's too high in moisture, this type of heater will do the job. The freezer I used measures 19" deep by 30" wide by 28" high (these are all outside dimensions of the chest not including the lid or base) and is the type used in ice cream shops. Find a size that will work for your needs and that costs little to nothing. Remove all existing wiring and refridgeration system from chest. Install two or three electrical boxes on the bottom and connect together with conduit. I used three bulb sockets with 100 watt bulbs. This will provide plenty of heat for a fast rise in temperature. Mount a 4" electrical box on the outside of the chest and attach bulb piping to box. Connect a length of 16/3 electrical cord with plug to the electrical box. Mount a remote bulb thermostat to a 4" square electrical box cover plate by drilling a hole in the center big enough for the shaft to fit through and secure with screws unless the thermostat has it's own enclosure. The temperature range of the thermostat should cover at least 100...F - 130...F and be a single pole single throw. Install the thermostat bulb on the inside of the chest about midway between top and bottom. Install some kind of shelf support for the buckets but still leave open space for air to circulate from top to bottom. Be sure to keep any flammable material away from the bulbs. Use sheet metal for protection if needed. Be sure to check the inside temperature with a thermometer the first time you use the heater to make sure the thermostat is set properly. Use care and caution when using the heater just as you would with any appliance that is electrical and heat producing. The advantage of gentle heating (104 deg. F for 24 hours) with a heat cabinet is the enzyme content does not decrease nor is there an increase of HMF content.

