

Sunshine Coast Beekeepers Inc.



New Members Handbook

First Edition 2017

The Club's AIM is to introduce community members to the hobby of beekeeping with both practical and educational advice and training.

This booklet is designed to introduce new members to beekeeping and to provide them with an overview of requirements. Keeping bees can appear to be a little daunting initially, so it is hoped that the information within this booklet will assist in the decision process leading to becoming an apiarist.

History of the Club

The Club was established in 2000 by a small group of dedicated beekeepers. It began as an informal gathering so that common problems could be discussed. As interest has grown, it has expanded to provide assistance to those who want to learn about bees, bee health and honey production.

The Club is a Not For Profit (NFP) organisation. As a community based club, no tax is paid on any profit made. All funds accrued can be used to further the interests of the club members through acquisition of equipment and stock.

Monthly meetings are held on the last Saturday of each month, except December. Currently, there is no set venue. Because members are spread across a large area of the Sunshine Coast, the location changes so the distance travelled for each meeting varies. Details are provided on Facebook. The Club website is currently being finalised and updated.

 Sunshine Coast Beekeepers Group, Australia.

The meetings provide a forum for members to share experiences and knowledge. Occasionally there have been guest speakers, from industry or from Government, to provide details of current legislation, research and pest and diseases pertinent to apiarists. By doing so, club members will be able to pass on the importance of bee health, particularly the importance for pollination of food crops to sustain our own existence.

The Club is run by members for members. This keeps operational and individual costs to a minimum and provides an opportunity for all members to become fully conversant with all aspects of beekeeping.

Benefits of Membership:

- * Opportunity to meet fellow beekeepers, both hobbyist and commercial
- * Availability of mentors for beginner beekeepers
- * Regular Beekeeping Courses for Beginners during the year
- * Interchange of ideas and techniques on all facets of beekeeping
- * Highly experienced guest speakers at meetings
- * Updates on current local and State-wide flora conditions
- * Informal discussion on a wide range of beekeeping topics
- * Opportunity to participate in local and regional field days
- * Regular newsletters with timely articles
- * Workshops for newbies to learn methods and techniques
- * Social activities and get togethers

* Participation in club events at Field Days

Your first steps into Beekeeping....

It is expected and hoped that all members of the Club will become involved in the activities at each meeting. If you want to learn to become a beekeeper, the best way is to team up with an experienced beekeeper in your local area. By witnessing how an experienced apiarist handles their bees and hives, you will develop your own skills more quickly. It will enable you to become more directly involved in the Club for the mutual benefit of all.

By joining your local Beekeeping club and attending meetings, you will be able to chat with experienced apiarists. Ask if you may visit their hives and watch them working their hives. You will learn a great deal and it will be a quicker and easier process than learning from books and videos online.

Biosecurity and Beekeeper Registration

The Biosecurity Act 2014 (the Act) commenced on July 1 2016. As a beekeeper you need to take an active role in managing biosecurity risks under your control. You are not expected to know all about biosecurity risks, but you are expected to know about those risks associated with your day-to-day hive management and bee health. This means you need to ensure your activities do not spread a pest, disease or contaminant.

You need to:

1. take all reasonable and practical steps to prevent or minimise each biosecurity risk
2. minimise the likelihood of the risk causing a biosecurity event and limit the consequences of such an event
3. prevent or minimise any adverse effects the risk might have, and refrain from doing anything that might exacerbate those adverse effects

You should choose to follow the national biosecurity code of practice for beekeepers to demonstrate you are meeting your general biosecurity obligation. This is available from the Australian Honeybee Industry Council. (<https://honeybee.org.au/>)

(Also look at <http://beeaware.org.au/>)

Bee Biosecurity Code of Practice

By clicking on the photo link, you can download the pdf in “Documents”.



Documents

Biosecurity Code of Practice

Beekeeper Registration

Registration is an important tool for tracing investigations in the event of a pest or disease incursion. From July 1 2016, if you keep at least one bee hive you must register as a biosecurity entity. (RBE).

A biosecurity entity is allocated a Hive Identification Number (HIN) and only one HIN will relate to each registered entity. In most cases your HIN will become your brand. An online application form is available at: https://www.daf.qld.gov.au/__data/assets/pdf_file/0007/377818/RBE-01-Registrable-biosecurity-entity-application-bees.pdf



Department of Agriculture and Fisheries

Business & trade

Plants

Animals

Fisheries

For

Health and diseases

General animal health and disease information as well as surveillance and control programs

Welfare and ethics

Animal welfare and ethics in Queensland, including your responsibilities if owning an animal, laws and codes of practice

Beef

Genetics and breeding, nutrition, health, feedlots, pastures, drought, environmental management and enterprise management

Bees

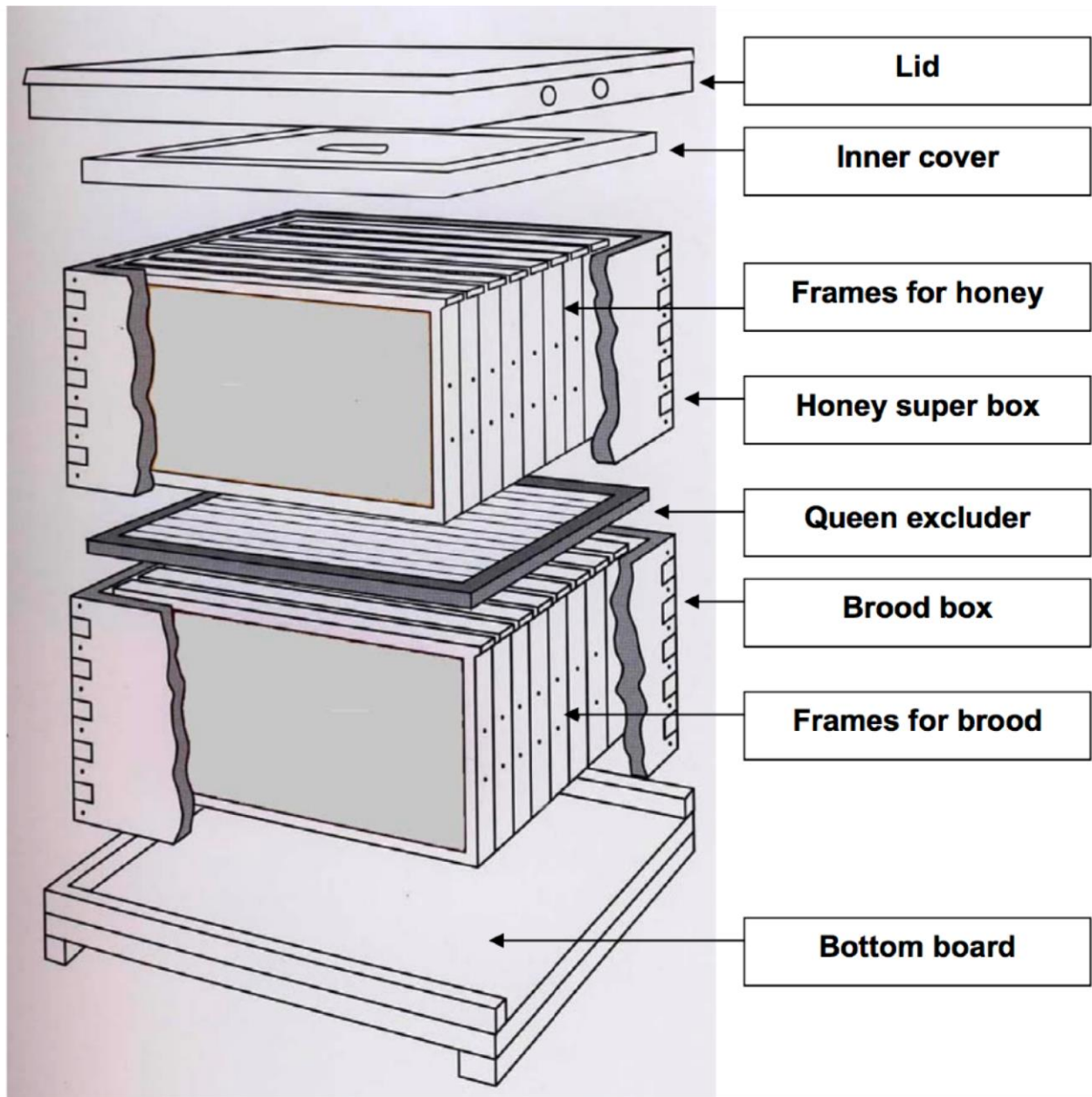
The importance of bees and their role in the pollination of agricultural and horticultural crops

Beehives: Common Types Explained

The Standard “Langstroth” beehive

On the next page is an ‘exploded’ view of a modern version of the hive invented by Reverend L. L. Langstroth in 1851. The advantage of this hive is that the bees build honeycomb into frames which can be moved with ease. The frames are designed to prevent bees from attaching honeycomb where they would either connect adjacent frames, or connect frames to the walls of the hive. The movable frames allow the beekeeper to manage the bees in a way which was not previously possible.

There are four basic components to a beehive. The bottom board, the supers, the frames and the cover(s). Within those hive components there are many different options to choose from. A common configuration is made using deep supers for the brood chambers and deep or medium supers for the honey.



Brood Box: This is a large size hive box. Each super holds 10 frames inside it that the bees build wax onto. Some people use an 8 frame hive box which would require 8 frames per super.

Frames with Foundation: These are the heart of the hive. They are made from wood or plastic and usually have foundation in the middle. Foundation is made from wax, wax with wire, plastic or a combination. The bees use the foundation as a model to build their own wax onto.

Queen Excluder: This is a flat rack made of metal or plastic, with holes large enough to allow the worker bees to get through and small enough to exclude the bigger queen bee. It is used to prevent the queen from laying eggs inside the honey super.

Honey Super: The honey super is a box that holds the frames where the bees will store their honey. It is recommended to ask about using a medium or shallow size super for honey, instead of a deep, because honey is very heavy and the supers can be hard to lift when full.

Honey Super Frames: These are frames that fit inside the honey super for the bees to build wax onto. You need 10 frames with foundation for a honey super setup. There are plenty of different foundation types for honey, the basic being wired wax or plastic. Pick one type of foundation for the entire hive and stick with that to start out. Bees prefer wired wax over plastic, but many beekeepers prefer plastic due to its versatility and ability to stand up against wax moth devastation. The choice is up to you.

Flow Hive: The Fancy New ‘Kid on the Block’

The following has been copied from the Flow Hive website. The most important thing for a new owner is to find out about hive health and management. The online rhetoric paints such a rosy picture that many have been ‘swept up’ in its glowing enthusiasm.

Flow Hive makes harvesting honey as simple as turning a tap. It's so much easier for the beekeeper and so much easier on the bees. The bees don't even seem to notice when you turn the Flow Frames and watch as 3kg of honey pours out into your jar from each one.

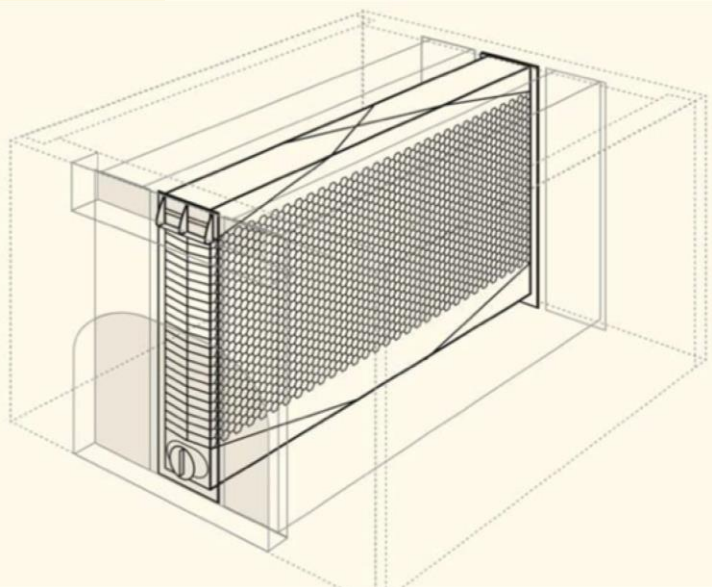
Of course there is more to beekeeping than harvesting honey. You still need to look after your bees and do all the normal things to keep your hives happy and healthy. If you're new to beekeeping you'll quickly find it's a fascinating, rewarding and addictive hobby. There is always more to learn.

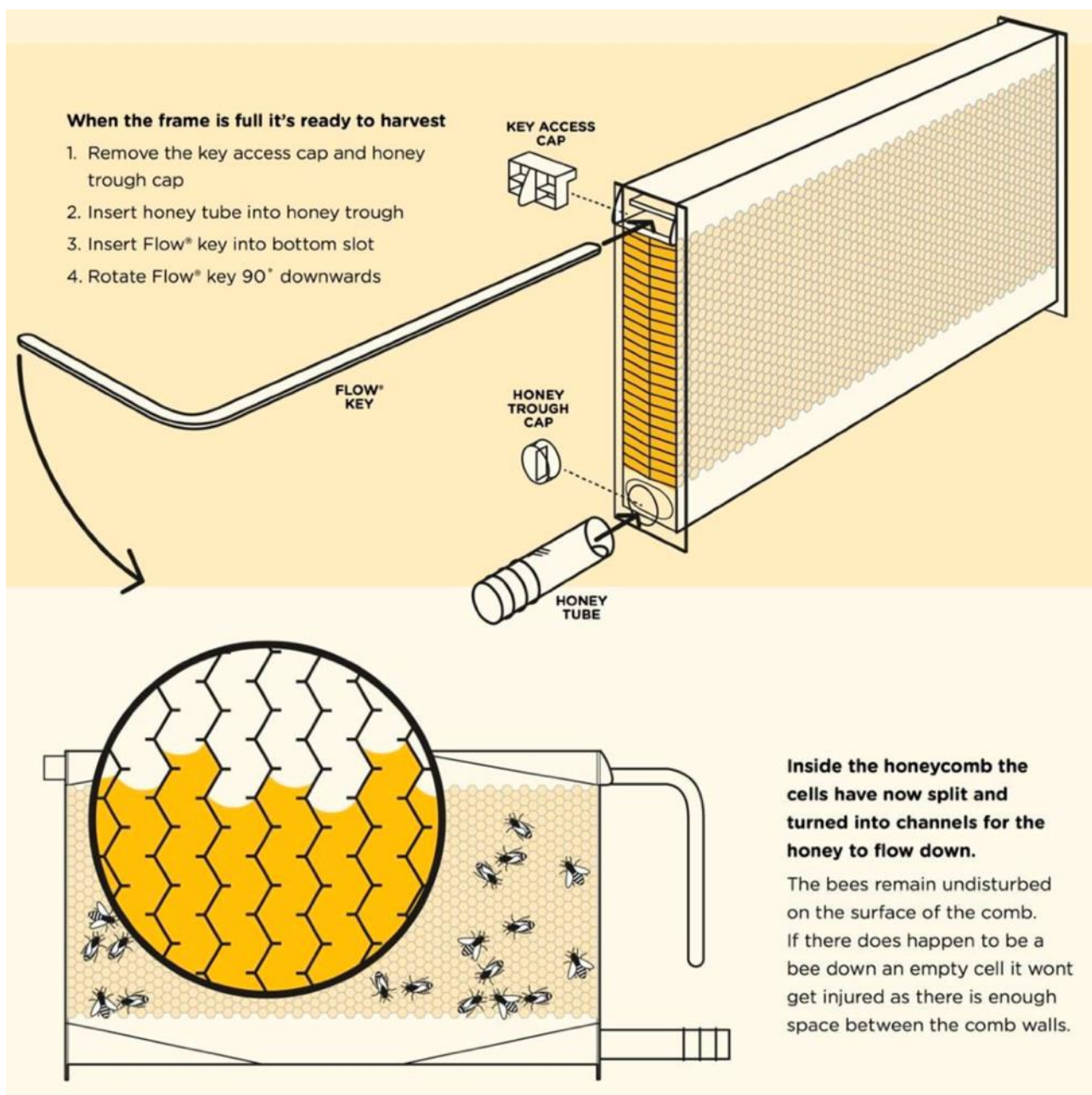
FLOW[®] FRAME

SO, HOW DOES IT WORK?

The Flow[®] Frames fit into a standard langstroth super (8 or 10 frame)

Two simple cutouts in one end of the super allow access for honey collection and end frame observation.





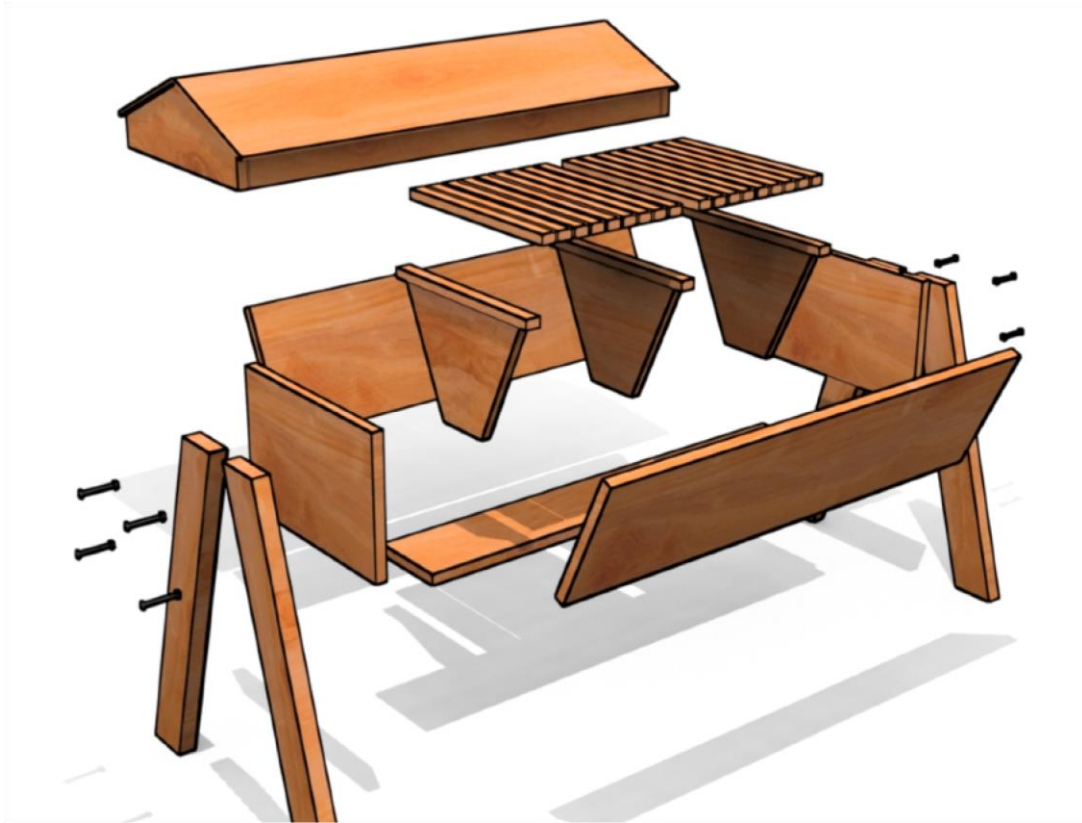
Your new hive will arrive as a flat pack and will have to be assembled. The website offers many videos to assist, so search for anything and everything. Join the Forum, and read extensively. While many comments apply to USA beekeepers and their more extreme weather, there is always something of relevance.

Watch all of the videos, and read all of the FAQs.

Ask questions during the Club meetings to ascertain who already has a flow hive. The new technology of the plastic super honey frames needs a different approach to a Langstroth hive.

Top Bar Hive (TBH)

This is sometimes called 'Beekeeping the *Natural* way'. It is also referred to as a Kenyan top bar hive.



This type of hive allows the bees to make their burr comb in any way they want. The 'top bar' has a starter strip of wax along the underside to direct the bees to make comb on its underside. Management by the beekeeper ensures they build the comb straight, and downwards, as shown in the photo above. This method of beekeeping allows the bees to create comb according to their own needs, rather than having a wax foundation as a guide. The shape of the completed comb is

governed by the box dimensions, and handling a top bar full of honey requires a slightly different approach when removed.

Locally, there is Brisbane Backyard Bees and Brisbane Top Bar bees, both on FaceBook. As before, ask questions at the Club meeting to find out more.

Obtaining your Equipment

Components of a hive may be purchased from various suppliers. Hives are most commonly made of timber. It will be delivered in flat pack form and will need to be assembled and painted at home before being used. There are newer designs appearing made of plastic and also polystyrene. The cost for a two box hive is reasonably similar for each material, which is about \$250.

The timber type will need to be painted both inside and out with 3 coats of paint. The type of paint is a personal choice, but use the simple rule of “If it is safe enough for humans it will be safe for the bees”.

Choice of colour is personal, but softer pastel colours reflect heat better than dark colours. Bees recognise a range of colours from ultraviolet through to orange, and can recognise logos and symbols.

It is recommended that box joints be glued and screwed/nailed for strength, security and ease of assembly. A few basic tools such as a hammer, screwdriver, drill and drill bits will be needed. To assemble frames a ‘jig’ is recommended. It allows for frame pieces to be placed and joined quickly, and would be a real time saver if you have to complete multiple frames, say 30 or 40, in a single session. This where an experienced mentor might help. The boxes need to be ‘square’ so that they will fit together well.

Commonly used Tools

Hive Tool

This is your main beekeeping ‘tool of trade’. The J hook is useful for lifting frames easily. It will also be needed often to separate the upper and lower boxes as the bees will generally ‘glue’ them together as they attempt to plug any small gaps.



Bee Brush

Bee brushes are used to gently remove the bees from frames during inspections or when you are closing up your hive.



Smoker

The smoker is used to calm the bees when your hive is opened for inspection. It is made of stainless steel and has a wire heat guard.

Fuel for the smoker will vary with location, but tea tree bark and pine needles are suitable. The main criteria is for the smoke to be 'cool'.



Frame Gripper

The frame gripper is used to hold a frame using only one hand during inspections. Ideal to have a free hand to do other things.



Personal Protection Bee Veil

For new beekeepers the most important piece of equipment is the bee veil., as well as the smoker.

Gloves

Tough disposable gloves from supermarket or hardware store should be worn in preference to the soft leather versions with sewn sleeves attached.



Disposal of gloves after an inspection is a very important disease control measure.



Beekeeper Suit

By searching eBay you will find many options. A full suit is ideal for maximum protection.

If you do not want to outlay the cost of a full suit, then wear long pants tucked into thick socks with boots or closed shoes.

A beekeeping jacket with veil attached is another option. Bees tend to sneak into smaller places, so duct tape may also be useful.



Diseases

Become familiar with the website BeeAware. <http://beeaware.org.au/>

The Code of Practice and Biosecurity Act 2014 is now in force in Australia. Under the Act pests and diseases are divided into two groups.

Prohibited Matter: *tracheal mite, bee louse, tropilealaps mite and Varroa mite, Africanised bee and bumble bee and*

Restricted Matter: *American Foul Brood (AFB) and Asian Honey Bee (AHB)*

There is a **General Biosecurity Obligation (GBO)** regarding these pests and diseases, and part of that obligation is to report any known presence.

The following points are taken from the code. They are the **headings only**, taken from the “Summary” given in the Biosecurity Code of Practice already referred to previously.

Requirements For All Beekeepers

1. Beekeepers must be registered
2. Beekeepers must report notifiable diseases
3. Hives must be regularly inspected for significant pests and diseases
4. Beekeepers must control or eradicate pests and diseases and must manage weak hives
5. Beekeepers must maintain records of Biosecurity related Actions and Observations
6. Hives must be appropriately constructed and branded
7. Beekeepers must not allow hives or appliances to become exposed or neglected
8. Beekeepers must allow their operation to be assessed

Documents

Biosecurity Code of Practice

Tracked Changes of the Code

Summary

There are several diseases common to Southern Queensland/Northern NSW.

American Foul Brood (AFB)

European Foul Brood (EFB)

Small Hive Beetle (SHB)

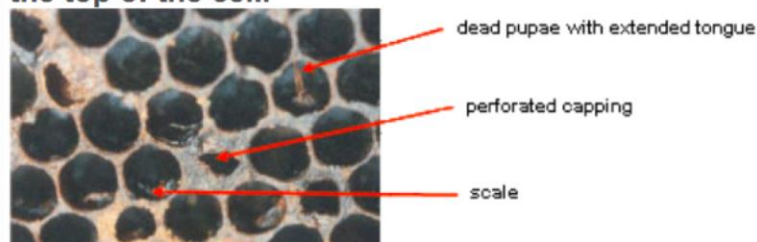
Chalk Brood (CB)

American Foul Brood. (AFB)

This is a fatal microbial disease of honey bee brood caused by the spore forming bacterium *Paenibacillus larvae*. Young larvae up to three days old become infected by ingesting spores present in their food. Young larvae less than 24 hours old are most susceptible to infection. Spores germinate in the gut of the larva and the vegetative bacteria begin to grow, taking nourishment from the larva. Spores will not germinate in larvae over three days old. Infected larvae normally die after their cell is sealed.

There are many sources online that outline the disease symptoms. Brood combs should be thoroughly examined at least twice a year, preferably in spring and autumn, although AFB can occur at any time.

Figure 2. Brood affected with American foulbrood. The caps on the sealed brood are concave and perforated. In a number of the cells black scales can be seen on the lower 'v' of the cell. One cell shows the tongue of a diseased pupa attached to the top of the cell.



Beekeepers should look for the symptoms such as sunken, darkened and greasy looking perforated cappings and irregular brood pattern in advanced infections.

Look closely, as early infections may have only a few cells showing disease signs.

Figure 4. When the larva first dies the diseased material ropes or strings out when touched with a match. Later the diseased material dries to form a black scale.



European Foul Brood (EFB)

This serious disease of honey bees is caused by a bacterium *Melissococcus pluton*, (formerly called *Streptococcus pluton*), which invades the mid-gut of four to five day old larvae. It multiplies rapidly and causes death.

Infected larvae move about inside the cell instead of staying in the normal curled position.

Infected larvae lose their pearly white sheen, changing to yellowish brown then drying into loose brown scales.

In severely affected colonies, the capped brood may appear irregular, however the brood capping do not appear dark or sunken as in AFB.



Figure 1. The bright white larvae are healthy. The larvae that have a yellow colouring are infected with EFB. The uneven aged larvae in the comb also suggests that the colony may be diseased as the worker bees regularly remove diseased larvae.

Once the first signs appear, strong colonies can be non-productive within four weeks, and the entire colony may die out if severely affected.

Small Hive Beetle (SHB)

This small brown-black beetle originates from sub-saharan Africa. Since arriving in 2002, it has caused a major impact to honey bee colonies throughout the warm and humid coastal strip from Victoria to Queensland.

The larval stage of the SHB life cycle causes the majority of damage to active hives by burrowing into combs, eating brood, honey and pollen. SHB is preferentially attracted to active hives because of the availability of food. Heavy infestations of larvae cause a hive to become 'slimed out' due to a yeast (*Kodamea ohmeri*) which contaminates the honey causing it to ferment.

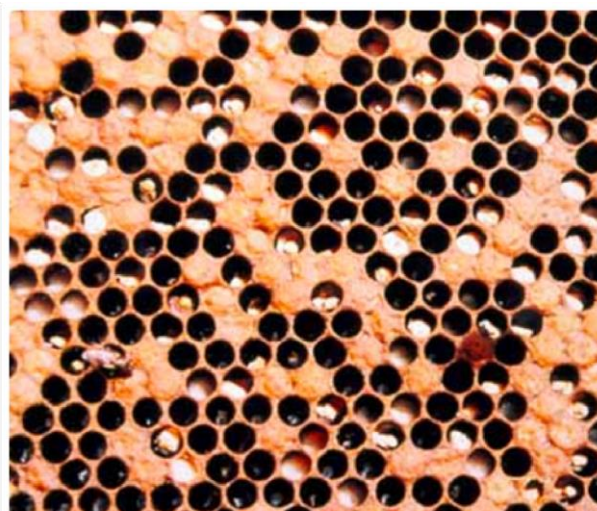


Adult small hive beetle. Food and Environment Research Agency (Fera), Crown Copyright



Adult SHBs are able to fly up to 15km to locate a honey bee colony to infest. Adult beetles prefer weak hives in spring and summer, but strong hives in autumn where the higher honey bee numbers keep them warm. It is believed that the SHB adults find the hives by detecting the odour of adult bees and hive products (honey and pollen). There are some suggestions that the adult beetles can also detect the honey bee alarm pheromone.

Adult beetles reach sexual maturity at 7 days and mate within the honey bee colony. Adult beetles can survive up to 6 months feeding on honey and up to 50 days feeding on an old empty brood comb. Adult beetles can also be fed by bees in the hive via mouth-to-mouth feeding, especially when they are confined to bee-guarded 'prisons'. The beetles use their antennae to induce guard bees to regurgitate food, which the SHB then consumes.



Comb infected with Chalkbrood disease showing a scattered brood pattern with mummies in cells. Food and Environment Research Agency (Fera), Crown Copyright

Chalkbrood Disease (CB)

Chalkbrood disease is caused by the fungus *Ascosphaera apis*. The fungus rarely kills infected colonies but can weaken it and lead to reduced honey yields and susceptibility to other bee pests and diseases.

Young infected larvae do not usually show signs of disease but will die upon being sealed in their cells as pupae. Worker bees will uncap the cells of dead larvae, making mummies clearly visible, before sometimes removing the mummified larvae and depositing them on the hive floor or at the entrance to the hive.

Chalkbrood disease is present throughout most of Australia and its incidence is generally higher when a colony is subject to temperature changes, particularly cooler weather, or other sources of stress.

Chalkbrood disease is not usually a serious disease, as healthy honey bee colonies will usually be able to tolerate it. The incidences are generally higher when a colony is subject to temperature changes or other sources of stress. Some stressors on the colony may include long periods of wet or dry conditions, poor nutrition, a failing queen bee or the movement of hives.

Chalkbrood disease is most common in the spring when temperatures are cooler but the brood is rapidly expanding and the smaller honey bee workforce cannot maintain

brood nest temperature. Usually the first larvae that are affected by Chalkbrood disease are those developing around the edges of the brood where brood nest temperatures are harder to maintain.



Food and Environment Research Agency (Fera), Crown Copyright

Club Library

Note that the Club has quite an extensive selection of beekeeping books, publications and articles available. They are brought along to each meeting, so may be borrowed when you attend. This service is available for financial members of the club.

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