



“Furthering knowledge in Beekeeping by assisted learning and practical experience.”

# New Members Handbook

September 2023



## Contents

To access a topic put your mouse cursor over the topic required and left click, or scroll down through the handbook.

Welcome .....	3
Our Aims .....	3
About the Gold Coast Regional Beekeepers Inc. ....	3
Biosecurity and Beekeeper Registration.....	4
Beekeeper Registration .....	4
Code of Practice for the Keeping of Bees.....	5
Langstroth Hive.....	5
The Long or Horizontal Hive .....	5
The Warre Hive.....	6
Top Bar Hive.....	6
Slovenian Hive.....	7
Flow Hive .....	8
Bee Hive Advantages and Disadvantages .....	8
Reference Books .....	9
Beekeeping Equipment .....	10
Obtaining your Equipment.....	10
Hive Equipment .....	10
Commonly Used Tools .....	10
GCRB Web Site.....	12
Responsible Hive Location and Keeping Bees.....	13
Beekeeping Training and Resources Hub .....	15
Bee Diseases & Biosecurity .....	15
American Foul Brood (AFB) .....	15
European Foul Brood (EFB) .....	16
Small Hive Beetle (SHB) .....	17
Chalkbrood Disease (CB).....	18
Useful Web Sites .....	19
Bees and the Community .....	19
Native Bees.....	19
GCRB Resources .....	20
GCRB Management Committee Contacts.....	20
GCRB Membership Information .....	20

## **Welcome**

Welcome to the Gold Coast Regional Beekeepers Club Inc (GCRB). We Look forward to seeing you at our meetings and other events, and working with you to promote our club and beekeeping in general.

You have joined a group of dedicated beekeepers with a variety of hives and a willingness to learn and share their beekeeping knowledge and experience. GCRB is a club where members pool together to share their experience and knowledge to assist new members into one of the most exciting and beneficial areas of nature.

We have prepared this handbook for new members to GCRB and for members who are just starting their beekeeping journey. I appreciate that beekeeping and joining a new club can be a little bit daunting for some people, so hopefully this handbook will help you discover what GCRB is about and what to expect when you are learning to become an apiarist.

The management committee of GCRB is made up of members like you so if you need any help with anything to do with the club or beekeeping in general, please don't hesitate to ask. A list of committee contact details are contained at the back of this handbook.

GCRB is a club for the members so the more you get involved in the monthly meetings the more you will learn about beekeeping.

## **Our Aims**

- To further knowledge in Beekeeping by assisted learning and practical experience.
- To assist community members into the hobby of beekeeping with both practical and educational training.
- To promote the importance of bees to our future.

## **About the Gold Coast Regional Beekeepers Inc.**

The Gold Coast Regional Beekeepers Inc. (GCRB) is a not-for-profit organisation that was established in 2016 by a group of dedicated beekeepers with the main aim of promoting the importance of bees to our future, and the art of beekeeping as a hobby. We actively promote the benefits of beekeeping to both the community and the environment.

As in any organisation, not all of its members have time to get involved on committees and such, but one of the best ways to improve your beekeeping skills is to attend the monthly Information and training meetings, talk with other beekeepers, and help out in any other way you can on the day.

By being actively involved in the club, you are assisting to make the community aware of the pollination role played by bees in our ever-growing need for food crops essential for human existence, and to benefit from the wonderful honey bees produce.

There is no better way of learning about beekeeping than helping other beekeepers work their hives, and asking questions. You will find that different beekeepers use different methods and systems of working their hives, so helping others and being actively involved in the club will assist you to determine the best way for you to manage your bees.

Some benefits of membership of the Gold Coast Regional Beekeepers Inc., include, but are not limited to:

- Opportunities to meet local hobbyist and commercial beekeepers.
- Availability of mentors for new beekeepers.
- Introductory beekeeping courses run several times a year.
- Interchange of ideas and techniques at GCRB meetings on all facets of beekeeping.
- Guest Speakers at meetings.
- Updates on current local and state-wide floral conditions.
- Opportunity to participate in local and regional field days.
- Monthly newsletter with articles and news pertaining to beekeeping.
- Regular workshops for beginners to learn how to assemble hives and other beekeeping equipment.
- Providing a safe, fun and social environment for all members.

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.

An easy way to learn to become a beekeeper, is to team up with an experienced beekeeper in your local area, which you have the opportunity to do through being actively involved in the club. You learn more by

assisting experienced beekeepers than you will ever learn from any book or video, and in turn they will guide and coach you to become a skilled beekeeper.

In August 2020 GCRB affiliated with the Amateur Beekeepers Association NSW (ABA), in doing so the administration, insurance and general costs associated with running the club were significantly reduced. As well as low cost insurance for members (\$10), the ABA offers a number of benefits for members which are listed on the ABA web site: <https://www.beekeepers.asn.au/>.

## **Biosecurity and Beekeeper Registration**

The Biosecurity Act 2014 (the Act) commenced on 1 July 2016. As a beekeeper you need to take an active role in managing biosecurity risks under your control. You are not expected to know about all biosecurity risks, but you are expected to know about those associated with your day-to-day work and your hobbies.

The general biosecurity obligation means you need to ensure your activities do not spread a pest, disease or contaminant. Specifically, you need to:

- Take all reasonable and practical steps to prevent or minimise each biosecurity risk.
- Minimise the likelihood of the risk causing a biosecurity event and limit the consequences of such an event and.
- prevent or minimise the adverse effects the risk could have, and refrain from doing anything that might exacerbate the adverse effects of the risk.

You can choose to follow the national biosecurity code of practice for beekeepers as one way to demonstrate you are meeting your general biosecurity obligation. You will be given a copy of this code of practice when you join the club. It is also available from the Australian Honeybee Industry Council - [www.honeybee.org.au](http://www.honeybee.org.au)

## **Beekeeper Registration**

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

This replaces the previous requirement to be a registered beekeeper. The Act allows for single or multiple people or a business to be the registered biosecurity entity, depending on who owns the hives.

A biosecurity entity is allocated a Hive Identification Number (HIN) and only one HIN will relate to each registered biosecurity entity. In most cases your current brand will become your HIN.

A registration fee applies for beekeepers who are commercial producers. You are considered a commercial producer if you claim primary producer status on your annual tax return. Payment will be required at the time of registration.

If you keep bees for non-commercial purposes you are exempt from paying the registration fee.

New registrations are effective for three years from the date of registration. You can get an application form online to register as a biosecurity entity and receive a HIN.

### **To register in Queensland contact:**

Department of Agriculture and Fisheries office – Apply online at: <https://www.daf.qld.gov.au>  
Phone: 132523, Email: [apiary@daf.qld.gov.au](mailto:apiary@daf.qld.gov.au)

### **To register in New South Wales contact:**

NSW Department of Primary Industries - Apply online at [www.licence.nsw.gov.au](http://www.licence.nsw.gov.au)  
Phone: 1800 808 095

## Code of Practice for the Keeping of Bees

It is a requirement of the Gold Coast City Council that all beekeepers:

1. Be registered as a beekeeper with the Department of Fisheries and Agriculture.
2. Have a Hive Identification number (HIN).
3. Be a member of a recognised beekeeping association.
4. Follow a Code of Practice for the keeping of bees.

The GCRB has adopted the Australian Honey Bee Industry "Biosecurity Code of Practice", which is recognised by all Australian states and Territories. Copies of this Code of Practice can be downloaded from The Gold Coast Regional Beekeepers web site at this link: <https://gcrb.org.au/education/code-of-practice/>

All members must be aware of and abide by the Biosecurity Code of Practice.

### Langstroth Hive

The 'Langstroth' beehive was invented by the Reverend Lorenzo Lorraine Langstroth who discovered 'Bee Space' in 1851. He found that under suitable conditions, bees fill spaces of less than 6mm with propolis, and spaces greater than 10mm with honeycomb, (burr comb).

The Langstroth hive is the most popular and common bee hive and they come in different sizes. Although the design has changed somewhat over the years, the basic approach is of a modular, expandable beehive, with reasonably convenient easy access for the beekeeper. The key innovation was the use of convenient vertically-hanging frames, on which bees build their comb.

The expandability of the Langstroth is achieved by adding extra boxes on top of the existing ones. These are often called supers and come in various depths - deep, medium and shallow.

An essential aspect of the Langstroth is that the dimensions are well-documented and effectively a standard. This means it is easy and feasible to purchase components from different manufacturers.



### The Long or Horizontal Hive

The long hive is really great for people whose heavy lifting days are behind them, and they are easy to work with for the disabled. It has been developed from the Langstroth, but it is longer and horizontal rather than vertical. This is why there's no heavy lifting. Everything is on one level.

Bees, being very organized, will maintain the brood primarily near the entrance, and the honey will be stored further away. In some cases, this hive option may come with an observation window which makes it easier to check in on them especially during the cold months without having to open the hive each time.



## The Warre Hive

The Warre (pronounce War-ray) was built to mimic a hollow tree. A French Abbot called Emile Warré came up with this design as a solution to keeping bees with minimal interference to their day to day activities.

Originally, the Warre only contained top bars which gave the bees the freedom to build the comb they want. The bees also get to work in the manner they choose, which is building downward.

Additional boxes are added below the existing brood boxes, unlike the Langstroth hive where additional boxes are added above. They have the added feature of a quilt box, which is great for ventilation and regulating both temperature and humidity.

The Warre hive is a fantastic beehive option for keeping bees naturally as long as you understand that all your observations will be limited to the entrance.



## Top Bar Hive

The Top Bar Hive, or the Kenyan Top Bar hive, is a quite different design to that of the Langstroth and Warre. A relatively recent design, the Top Bar is the most comfortable of designs for the beekeeper, presenting the bees at a convenient height. There are no heavy, honey-laden boxes to lift, just individual frames of comb.

An important characteristic of the Top Bar hive is that it has a single, long horizontal box. While this means there are no expansion capabilities, as exist with the Langstroth and Warre, it also makes for a simpler design. This simplicity is a significant attraction for many hobbyist beekeepers.

The Top Bar design is wider than the other options and a long roof protects the contents. Under the roof are 24 wooden bars. These bars are therefore at the top. Each of the bars has a "starter strip" from which bees will start building comb, again hanging vertically.

The Top Bar hive has a trapezoid shape. The reason for this is that since it follows the shape of the comb, the bees are unlikely to attach the comb to the wall of the hive making the extraction much easier

There is no foundation involved and therefore, like the Warre, the Top Bar is attractive to those who enjoy foundation less beekeeping.



## Slovenian Hive

The Slovenian or AZ hives originate from Slovenia. Slovenian hobbyist and commercial beekeepers alike have used them for centuries. They are fast becoming a popular hive for hobby beekeepers across the world. Beekeepers who struggle lifting full supers of honey and were ready to give up their passion have been able to continue beekeeping thanks to this great hive design.

Slovenian hives are equivalent to a Langstroth hive with two full sized boxes on them. However, a Slovenian AZ hive has a rear opening door. This allows the beekeeper to complete hive inspections from behind the hive instead of from above. The rear door allows access to all the frames within the hive. Each frame is removed one at a time, in the same way you remove a book from a bookshelf. After you have inspected/harvested the frame, return it to the hive and move onto the next frame. No more lifting multiple 30+kg supers to inspect your bottom brood box!



Bees also benefit from Slovenian AZ hives. The bees are disturbed far less during an inspection compared to a Langstroth hive. This is because in a Langstroth hive you effectively pull apart their entire house to complete an inspection. The method of inspecting an AZ hive has been likened to subtly opening a single window at a time inside your house to inspect it, as opposed to lifting the entire roof off of your house and exposing everything all at once.

Within the hive, frames rest on metal bars to reduce the amount of burr comb bees build on the frames. There is also a queen excluder to separate brood from the honey frames.

Slovenian AZ hives need to be weather treated (painted or stained on the exterior) or be built into a “bee house” or “bee shed”. Traditionally when built into the side of a structure only the front of the hive is exposed to the elements. This means only the front of the hive needs painting. Some beekeepers build their hives into a shed, others choose to build their bee house on a truck or trailer to create a portable apiary and extraction room all in one. Having the hives within a shed helps keep the temperature around the hive more consistent. This aids the bees during cold winter months more effectively.



Bees in a Slovenian hive consume less honey during the winter because they receive greater protection from the wind and cooler outside temperatures.

Small scale commercial beekeepers are also creating mobile apiaries, like they do in Slovenia, that no longer require forklifts to lift and place hives from the truck into pollination fields – saving them time and money.

## Flow Hive

The Flow system is a whole new way of extracting honey from Langstroth-style European honeybee hives. Of course, you'll still need to look after your bees, as the brood box stays the same and when it comes to taking care of bees, there's still much to learn.

The Flow Hive is a beehive designed to allow honey to be extracted by simply turning a lever or key. The hive does not have to be opened and the bees are not disturbed as in a normal extraction.

The frames contain a partially-formed plastic honeycomb lattice with vertical gaps. Bees fill in these gaps with beeswax and the cells with honey, which they cap as in all bee hives. When the mechanism of the frames is activated, the vertical gaps are offset by one half of a cell, breaking the wax seal and allowing the honey to flow down through the cells into a channel at the base of each frame and out into a collection vessel.



The system is then reset and the bees remove the capping and refill the cells, beginning the process again. Some critics question the use of plastic, although plastic foundation is commonly used in conventional beekeeping. The Flow Hive uses food-certified plastic in the honey super only, allowing the bees to produce their own natural wax comb in the brood box.

The honey super on a flow hive has clear side and end frame observation windows so the beekeeper knows when to extract honey. However, it is advised that the frames be inspected to ensure that the cells have been capped before extraction.

## Bee Hive Advantages and Disadvantages

Hive Type	Advantages	Disadvantages
Langstroth	<ol style="list-style-type: none"> <li>1. Readily available and reasonably priced.</li> <li>2. Interchangeable parts available from multiple suppliers.</li> <li>3. Easy to maintain. A coat of paint every few years keeps it going.</li> <li>4. Available as an assembled product or as a flat pack.</li> <li>5. Ideal for honey production.</li> </ol>	<ol style="list-style-type: none"> <li>1. Requires a bit of heavy lifting. The hive grows vertically so as the hive grows the upper boxes will need to be lifted for inspections.</li> <li>2. When you start harvesting the honey super can weigh 20 to 25 kilograms, which is not easy to lift.</li> </ol>
Long	<ol style="list-style-type: none"> <li>1. No heavy lifting.</li> <li>2. Everything is on one level.</li> <li>3. Ideal for the disabled or children.</li> <li>4. The top can be hinged and open like a treasure chest, giving you room to keep your tools in the lid.</li> <li>5. Frames are the same as the Langstroth frames and are interchangeable.</li> <li>6. Modified versions allow for the addition of supers.</li> </ol>	<ol style="list-style-type: none"> <li>1. Not easy to buy assembled as they can be hard to find.</li> <li>2. More expensive than the Langstroth.</li> <li>3. Other than frames, other hive fixtures, like, Queen excluders, may not fit.</li> </ol>
Warre	<ol style="list-style-type: none"> <li>1. Very low maintenance as you only need open the hive or remove honey once or twice a year.</li> <li>2. It's the naturalists dream hive because the bees build comb downwards</li> <li>3. Every time you harvest you take away comb that has previously contained brood, so the Queen is always laying in fresh comb and old infected comb is being removed from the hive.</li> <li>4. No need for a queen excluder as she lays her eggs downwards which leaves the top for honey storage.</li> </ol>	<ol style="list-style-type: none"> <li>1. Although you only have to lift twice a year it requires very heavy lifting, because the bees build comb from the top down.</li> <li>2. Inspecting the hive is very cumbersome and can cause a lot of damage to the comb.</li> </ol>



Hive Type	Advantages	Disadvantages
<b>Top Bar</b>	<ol style="list-style-type: none"> <li>1. No heavy lifting.</li> <li>2. Easy to harvest as you just chop the comb under the bar and replace the bar.</li> <li>3. Another hive ideal for naturalists as the top bar allows the bees to build comb according to the needs of the colony.</li> <li>4. Easy to inspect.</li> <li>5. Allows for the addition of Langstroth supers.</li> <li>6. They are relatively cheap to build.</li> </ol>	<ol style="list-style-type: none"> <li>1. Learning about the hive is a challenge as the number of experienced beekeepers using top bar hives is very small.</li> <li>2. They are not readily available in kit form.</li> </ol>
<b>Slovenian</b>	<ol style="list-style-type: none"> <li>1. The heaviest thing you need to lift is a full frame of honey.</li> <li>2. Hives can be inspected in any weather even if it is raining.</li> <li>3. Less stress on the bees during an inspection.</li> <li>4. Extraction equipment is close by in the same shed as the hives.</li> <li>5. Hives are positioned side by side and on top of one another allowing a large apiary in a small space.</li> <li>6. Bees use the front entrance and are less aware of what you are doing at the back of the hive hence you need less smoke.</li> <li>7. Feed the hive from the rear so less robbing by other bees.</li> <li>8. Mesh screen on each level ensures minimal numbers of bees escape from the hive.</li> </ol>	<ol style="list-style-type: none"> <li>1. The frames are different from the Langstroth frames so you will have to make your own, unless you design the hive to take Langstroth frames.</li> <li>2. Ideally the hive needs to be housed inside a shed.</li> <li>3. Learning about the hive is a challenge as the number of experienced beekeepers using Slovenian hives in Australia is very small.</li> <li>4. They are not readily available in kit form and have to be ordered from overseas.</li> </ol>
<b>Flow</b>	<ol style="list-style-type: none"> <li>1. Simplifies the task of extracting honey.</li> <li>2. No expensive extraction equipment required.</li> <li>3. A good starting point for new beekeepers as it simplifies the extraction process and saves costs.</li> <li>4. Uses food grade plastic frames, which offer a better food safety system.</li> <li>5. Uses Langstroth box and frames in the brood box.</li> <li>6. Standard Langstroth box can be used with modifications for the honey super.</li> <li>7. Less likely to get AFB.</li> <li>8. Exactly the same as a Langstroth hive except for the extraction process.</li> </ol>	<ol style="list-style-type: none"> <li>1. In colder climates the honey can crystallise in the frames which have to be removed and soaked in hot water.</li> <li>2. Seen by traditionalist as honey on tap, however regular hive inspections must be done several times a year.</li> <li>3. Flow frames can initially, be quite expensive to purchase.</li> </ol>

## Reference Books

The following books are worth putting on your Birthday wish list, and are good for information on bees and beekeeping:

1. "Backyard Bees – A guide for the Beginner Beekeeper", by Doug Purdie (ISBN 978-1-743-36508-3)
2. "The Bee Book – Beekeeping in Australia", by Peter Warhurst & Roger Goebel (ISBN 978-0-734-50330-X)
3. "The Bee – A Natural History", by Noah Wilson-Rich (ISBN 978-1-78240-596-2).
4. "Beekeeping for Dummies", by Howland Blackiston (ISBN 978-1-119-31006-8)
5. "Australian Beekeeping Manual", by Robert Owen (ISBN 978-1-9258-2092-8)
6. "Bee AgSkills A Practical Guide to Farm Skills", By NSW Dept of Primary Industries (ISBN 0731 306603-1) Very practical guide.
7. "The Barefoot Beekeeper", by Phillip Chandler (ISBN 978-1-326-19225-9) Good for Top Bar Hives
8. "A-Z Beekeeping with the Slovenian Hive", by Janko Bozic (ISBN 978-1-545-50916-6)
9. "The Australian Native Bee Book", by Tim Heard ISBN 978-0-646-93997-1) Probably the best book on Australian native bees.
10. "Beekeeping for All". Abbé Warré. Link: [Beekeeping For All](#)

## Beekeeping Equipment

### Obtaining your Equipment

The nearest beekeeping supply shop to the club is V's Bees located Unit 11, 229 Brisbane Road Biggera Waters.

They stock everything for the beekeeper and Rachael and Vern are always willing to help and give advice.

### Hive Equipment

The primary piece of equipment you will need as a beekeeper is a hive to house your bees. The hive is generally made up of the following:

- Hive Lid
- Inner Cover
- Honey Super
- Queen Excluder
- Brood Box
- Frames for the brood and for honey.
- Hive Closer
- Hive Entry
- Bottom Board

These segments of the hive can be purchased from beekeeping suppliers in a flat pack form and assembled and painted at home. Both the inside and outside of the hive should be painted with 3 coats of paint. The type of paint that you use is entirely up to your personal choice, just use the simple rule that if it is safe enough for humans to use, it is safe enough for your bees.

Once again colour is a personal choice, remembering that the softer pastel colours reflect heat better than dark colours. Bees do recognise a range of colours from ultra-violet through to orange, and can recognise landmarks, local features and other hive features.

It is recommended that joints are glued and screwed/nailed for strength, security and ease of assemble, a few basic tools such as a hammer, screwdriver, drill and drill bits are required with jigs that can easily be made from timber offcuts from your shed, Simple jigs such as a frame assembly jig don't take long to knock up but can save you a great amount time, particularly if you are preparing 30, 40 or more frames, or bring your frames to a club day and use the club's framing jig.

### Frame Assembly Jig

A 10 Frame Assembly Jig plan is shown at [10 Frame Assembly Jig \(wordpress.com\)](http://10FrameAssemblyJig.wordpress.com) and takes about an hour to construct. The frame side bars are inserted, top up, into the gap between the rail and jig ends, glue applied to the rebated area then the top rail placed into position and nailed, before the jig is turned upside down so that the bottom rails may be inserted using a similar method.

## Commonly Used Tools

There are many and varied tools that are used in beekeeping mostly purchased but many old-time beekeepers have their favourite homemade tools that have served them well for many years. Here are some that you may need to purchase.

### Hive Tool

This is your main beekeeping tool of trade -a chippy has a hammer; a beekeeper has a hive tool. The J hook is useful in lifting out the frames easily, the right-angle rebate near the curved fluke fits neatly onto the adjoining frame that you are working on to provide leverage and purchase when removing frames. As with all tools, always use gentle and smooth movements so you do not alarm the bees. You may find that having two hive tools will be useful.

### Bee Brush

Bee Brushes are used to gently remove the bees from frames during hive inspections or when you are closing up your hive. They are also used to remove bees from your capped frames when removing them to extract honey. Again, use slow and smooth movements. in a gently sweeping movement.

When brushing bees from a brood frame ALWAYS brush them off over the hive box, not onto the ground as the Queen could possibly be on that frame. Brushes are normally made from nylon or horse hair and are best used wet after shaking off the excess water.

### **Foundation Embedder**

Used to embed frame wire into the wax foundation to provide strength to the comb when extracting. Can be either manual or battery powered and used in conjunction with an embedding board that supports the wax foundation whilst the frame wire is embedded.

### **Wiring Board**

A jig to enable the correct tension to be applied to the frame wire before the foundation wax is embedded.

### **Uncapping knife / Uncapping Fork**

Used to uncap honeycomb cells and release stored honey.

### **Honey Strainer and Honey Bucket**

Used to strain raw honey after extraction prior to bottling or storing, removes small particles to provide clean honey. Fits over the honey bucket or decanting bucket so that all smaller containers such as jars and tubs can be filled quickly without mess. Many beekeepers strain their honey in double strainers twice before bottling. It is recommended that you only use food grade buckets and lids. The decanting bucket is fitted with a food grade plastic tap.

### **Smoker**

The bee smoker is used when inspecting your hives to calm the bees. It is made in stainless steel with a heat guard. Fuel for the smoker is dependent on your local area. Here on the Gold Coast some of the more commonly used fuels are Tea Tree bark, Paper Bark, Sugarcane mulch, dried gum tree leaves and pine needles. The main criteria for any fuel used in the smoker is that it produces a 'cool' smoke.

When lighting a smoker, place a small amount of fuel at the base of the container and ignite it, give a couple of light puffs on the bellows then slowly add small amounts of fuel. As the fire increases add more fuel and compress it down whilst working the bellows. When full of a good fuel such as paper bark it should last you for the length of the work planned.

### **Frame Gripper**

This frame gripper is used to hold a frame in one hand during hive inspections giving you a free hand to attend to other duties. Ideal for the hobbyist or even when you want a free hand to take photographs. It's really handy! Even better still if you are new to beekeeping and wearing gloves or in your senior years with arthritis.

### **The Bee Veil**

For new beekeepers the most important piece of equipment is the Bee Veil, you should never attempt to work your bees without using a smoker and wearing a bee veil.

### **Bee Gloves**

Bee gloves are made from cow hide with cotton gauntlets and elastic cuffs. DO NOT soak leather gloves in water, as they will shrink and become hard.

### **Beekeeping Suit**

For beginner beekeepers a full one-piece suit can provide maximum protection while working with bees. However, if you don't want to outlay the cost of a full suit until you are sure that beekeeping is for you, it is recommended that you wear long pants, such as jeans, tucked into thick socks and closed in shoes or boots, with a thick long-sleeved shirt fully buttoned up to the neck and with the sleeves inside your long-sleeved gloves. A beekeeping jacket with attached veil is essential.

### **Duct Tape**

A very handy piece of equipment to have in your pocket is a roll of duct tape than can be used for emergency repairs to tears in your veil, suit or to tape the button line of your shirt or around the sleeve cuffs where bees love to sneak in.

### **Mobile Phone**

Mobile phones that take photos, video and record memos are very handy as an aid to keeping records. Describing what you are doing and seeing, can be transcribed at a later date to comply with the requirement to keep accurate hive records.



Hive Tools



Bee Brush



Smoker



Frame Grippers



Bee Jacket



Bee Suit



Bee Veil



Gloves



Uncapping Knife



Uncapping Fork



Honey Strainer



Food Grade Bucket



Wire Embedder



Electric Wire Embedder



Hive beetle traps

## GCRB Web Site

The club web site can be found at <http://www.gcrb.org.au> It contains a lot of information for members including a series of excellent Instructional videos on Beekeeping. Topics of the videos are listed below:

Selecting an Apiary Site	Re-Queening a Honey Bee Colony	Providing a Pollination Service	Artificial Insemination of Queen Bees
Staying Safe Around Bee Hives	Why do Bees Sting?	Steps to Take when Stung by a Bee	How a Smoker Calms Bees
How Reactions to Bee Stings can Become More Severe Over Time	How AFB is Spread	Inspecting a Hive for AFB	Collecting Cell and Bee Samples.
How to Burn a Hive	Lab Testing for AFB	Alcohol Washing	Sugar Shaking
Drone Uncapping	Sticky Mat Examination		

## **Responsible Hive Location and Keeping Bees**

### **Hive Registration**

If you own one or more honeybee hives, you must register as a biosecurity entity with Biosecurity Queensland. A registrable biosecurity entity is allocated a hive identification number (HIN) and only one HIN relates to each biosecurity entity. The Act requires at least one hive out of every 50 to be marked with the registered HIN, but it is recommended that you display your HIN on every hive. Registering your hives is not necessary if you have native bee hives.

If you live in the Gold Coast City Council area you must also be a member of a beekeeping club, like Gold Coast Regional Beekeepers. This is where you will learn about responsible beekeeping, and talk to mentors which will make you a more productive beekeeper and help you better manage your bees within your local urban areas.

### **Managing Beehives in Suburban Areas**

One of the primary limitations to keeping bees is the real or perceived interaction between the bees and people who live in or use the surrounding area. Talk to your neighbours before placing hives in your backyard, let your neighbours know you will be keeping bees. Explain how you plan to manage your hives to avoid bees becoming a nuisance.

Beehives must be set up and managed so they do not interfere with the community. This includes:

- Setting up hives in a quiet part of the property, away from neighbouring properties, roads, footpaths and parks.
- Having no more than two hives on a 750 square metre block.
- If you live on a large block or acreage place your hives as far away from your neighbour's house as possible.
- Ensuring a beehive is not located within a radius of 10 metres of:
  - a residence on an adjoining premises.
  - a place used for the manufacture, preparation or storage of food intended for human consumption.
- Facing hive entrances across your property.
- Using barriers to shield adjoining properties from bees coming and going.
- Managing bee colonies to prevent or minimise swarming.
- Ensuring each beehive is adequately identified.

### **Location of Hives in a Backyard**

Bees require a dry, sunny position, preferably with a north-east aspect. Windy locations are not suitable for maintaining temperature and humidity in the hive.

Consider flight paths and place hives away from human traffic areas like footpaths, roads, back doors and vegetable gardens. The hive entrance should not face an exterior light as this will attract bees if kept on overnight.

### **Use a Smoker to Assist with Handling Bees**

Smoke can be used to subdue bees, but check fire regulations before using a smoker in residential areas. Noisy machines such as whipper snippers and mowers can upset bees and make them aggressive. It is a good idea to smoke the entrance to the hive before using these devices, or if you know that your neighbour plans to use them.

### **Provide Barriers**

Place hive entrances so bees fly across your property rather than directly into a neighbouring property. If this is not possible, provide a barrier to encourage the bees to fly up and over so that they don't bother neighbours. Barriers can be hedges or shrubs, or shade cloth fixed to a trellis.

Bees are attracted to lights, particularly fluorescent types, so you may also need to use physical barriers between hive entrances and lights on neighbouring properties.

### **Provide your Bees with Water**

Bees use water to air-condition the hive. The hive is kept at a constant temperature and humidity to ensure that the brood nest does not suffer stress. On a hot day in the middle of summer a hive may collect a litre of water or more to maintain their internal temperature.

Bees will often fly to the nearest source of water. In urban situations, bees tend to favour swimming pools and other local sources of water.

It is important to arrange a water source in your own yard close to the hives and keep this replenished. Provide landing sites for the bees in the water to prevent drowning. This can be done by using rocks or sand protruding from the water surface.

A common complaint from neighbours relates to bees in and around their swimming pool, so by providing an alternative source of water for the bees, you will reduce nuisance to neighbours. Once bees start foraging from a given area, it is impossible to stop them, apart from moving the hive out of the area. Your bees may still collect water from several locations, but at least you have taken steps to reduce the problem.

### **Robbing and Working Hives**

Avoid working bees when conditions are poor (such as cool, windy or rainy weather) and there is little pollen and nectar available for foraging bees. This places the colony under stress, encourages robbing, and makes bees more aggressive.

Cooperate with neighbours when you need to work the bees. Recommend that they stay inside while you work the bees or work out a mutually convenient time which won't disturb them.

### **Handling Your Bees**

Bees are cold blooded and their flight and activity will increase on warm sunny days as compared to cool, overcast days.

Older field bees are the more aggressive individuals in the hive. Thus it makes sense to work your hives on a sunny day, during peak activity when the more aggressive bees are occupied away from the hive. If you handle bees on overcast or cool days you will find most of the field bees at home and the hive will be a lot more aggressive.

A complication to working bees during warm days is that other people are more likely to be outside during the time bees are most active. In warm weather people like to barbecue, garden, swim and enjoy the outdoors just when you wish to work your bee hives. Again, it is most important to consider your neighbours.

### **Manage Swarms**

Swarming of bees is a natural occurrence. The old queen leaves the colony with half the workers, leaving behind a ripe queen cell to replace her, thus creating two colonies.

Familiarise yourself with the stimuli that promote swarming and take measures to reduce it, particularly in spring time.

- Re-queen regularly with a reduced swarming strain
- Relieve the brood nest of full combs of honey and replace them with empty combs
- Remove a nucleus colony from the hive (called artificial swarming).

Swarming is very alarming to the general public with thousands of bees on the loose. It is one of the prime causes of complaints against bees in urban areas, so you need to do all you can to prevent swarming, however, once the bees have decided to swarm there is no stopping them.

## Beekeeping Training and Resources Hub

GCRB has developed a web site with links to more than 500 free beekeeping training resources online. The resources include links to training programmes, books, videos, fact sheets and more. The hub consists of more than 30 pages each containing at least 10 links to resources on topics ranging from bee pests and diseases, hive management, swarming, flora and more. You can access the hub at this link:

[Training & Resources Hub](#)

## Bee Diseases & Biosecurity

The Code of Practice and Biosecurity Act 2014 is now in force throughout Australia, Under the Biosecurity Act 2014 pests and diseases have been divided into two groups:

- Prohibited Matter (Tracheal Mite, Bee Louse, Tropilaelaps Mite and Varroa Mite, Africanised Bee and Bumble Bee), and
- Restricted Matter (American Foul Brood, (AFB) & Asian Honey Bee.

There is a General Biosecurity Obligation regarding these pests and diseases, part of these obligations is the reporting of their presence to the Queensland Department of Agriculture and Fisheries at -

<https://www.daf.qld.gov.au/biosecurity/about-biosecurity/biosecurity-act-2014>

If your hives are in Queensland you need to report the pests and diseases listed above to the Department of Agriculture and Fisheries within 24 hours by phoning

If your hives are in New South Wales you need to report the pests and diseases listed above to the Department of Primary Industries within 24 hours by phoning 1800 084 881.

In section 42 of the Biosecurity Act it states that there is an obligation to report the presence of category 1 or 2 restricted matter. American Foul Brood is categorised as category 1 Restricted Matter.

There are several diseases that are common in South East Queensland/Northern NSW, the 4 most common of these include:

- American Foul Brood - AFB
- European Foul Brood - EFB
- Small Hive Beetle
- Chalkbrood - CB

## American Foul Brood (AFB)

American foulbrood (AFB) is a fatal microbial disease of honey bee brood caused by the spore forming bacterium *Paenibacillus* larvae. The disease is caused when young larvae ingest spores of the bacterium which germinate in the honey bee's gut. The brood usually dies at the pre-pupal or pupal stage.

Brood combs should be thoroughly examined for AFB at least twice a year, preferably in spring and in autumn, although AFB can occur in hives at any time of the year.

Beekeepers should remove each brood frame from the colony and look for symptoms such as sunken, darkened and greasy looking, perforated caps and irregular brood pattern in advanced infections.

Look closely, as early infections may only have as few as one or two cells showing disease signs.

AFB must be reported to the Qld DAF or the NSW DPI.



It is important to look for AFB suspect cells among healthy brood. 3 potentially infected cells have been enlarged

## Signs of AFB

A common test is to insert a matchstick into the dead brood and if there is a 'rope' or 'string' AFB could be present. Advanced infection of AFB will show a large area of sunken, dark and chewed through capped cells.

Brood infected with AFB generally dies after the cells are capped and the effected brood becomes discoloured, changing from the healthy pearly white to a darker brown as the disease progresses. At this stage of infection beekeepers should conduct the rope or string test with a match stick, as described above. After about a month, infected brood dry to a dark scale which adheres to the wall of the cell.

Hives infected with AFB must be destroyed and the boxes and frames either burnt or treated by irradiation.

See the free GCRB Booklet "AFB - What YOU need to know" on the GCRB web site for more details on this disease.



An AFB infected larva being roped out with a matchstick.

## European Foul Brood (EFB)

European foul brood disease is a serious disease of honey bees in Eastern Australia. It is a disease that is caused by the *Melissococcus pluton* (formerly called *Streptococcus pluton*) bacterium, which invades the mid-gut of four to five-day-old larvae and multiplies rapidly causing death.

American foul brood, chalkbrood and sacbrood diseases affect the larvae in sealed brood cells. However, European foul brood disease commonly affects larvae in open brood.

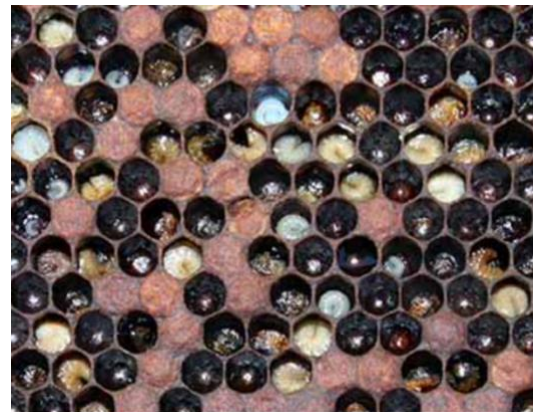
### Signs of EFB

Infected larvae move about inside the cell instead of staying in the normal curled position. Unlike American foul brood disease, where the larvae consistently slump to the lower side of the cells, larvae infected with European foul brood appear twisted in different positions.

Infected larvae lose their pearly white sheen, turning creamy white through to yellowish brown and drying into loose brown scales. In severely affected colonies, the capped brood may appear irregular, similar to a failing queen or to American Foul Brood disease. However, the brood caps do not appear dark and sunken as with American foul brood.

The bacteria may not cause any odour in infected colonies. However, secondary invasion by other bacteria could result in a sour or foul smell. The secondary bacteria that flourish in dying larvae can cause variations in the classic signs of European foul brood disease.

Once the first signs appear, strong colonies can become non-productive within four weeks and the entire colony may die out if severely affected. Diseased larvae turn yellow-brownish, and have a sourish smell, and decompose into a slimy mass. EFB can be treated with antibiotics.



Rob Snyder, [www.beeinformed.org](http://www.beeinformed.org)





## Small Hive Beetle (SHB)

Small hive beetle *Aethina tumida*, is a small brown-black beetle with clubbed antennae. It originated from sub-Saharan Africa. In Africa, hive beetle is not a significant honey bee pest, however, since arriving in Australia in 2002, the hive beetle has caused a major impact to honey bee colonies throughout the warm and humid coastal strip between Victoria and North Queensland. It is probably the most common pest that beekeepers will need to deal with, but is not reportable.

Hive beetle is attracted to active hives because of the availability of food. The development of the hive beetle throughout its lifecycle, depends primarily on humidity, temperature and food availability. It has been detected in all states and territories of Australia, except Tasmania, Northern Territory and southern parts of Western Australia. The hive beetle lifecycle can take between 3–12 weeks and has four stages: egg, larva, pupa, and adult beetle.

### Hive Beetle Eggs

Female Hive Beetles can lay approximately 1,000 eggs in their lifetime, with some research suggesting an upper limit of 2,000 eggs. The female will lay the clusters of approximately 10–30 eggs within capped brood cells or in the small cracks and crevices around the hive. The eggs are pearly white, and approximately 1.4mm long and 0.26mm wide, about 2/3 the size of a honey bee egg. The number of eggs that will hatch depends primarily on the relative humidity, with some evidence suggesting at 30°C, no eggs will hatch at or below 34 per cent relative humidity. It takes approximately 1–6 days for larvae to emerge from the eggs, though most hatch within 3 days within a hive.



Close up of Small hive beetle 'sliming out' a frame. Nick Annand, NSW DPI

### Hive Beetle Larvae

The larval stage of the Hive Beetle lifecycle is the most damaging because the larvae immediately start to burrow through combs and capped cells, and consume honey bee eggs, pollen and honey.

They also defecate throughout the comb, releasing the yeast *Kodamaea ohmeri*, which contaminates the honey in both active hives and stored combs. This yeast causes the honey to ferment, which may cause the hive to become 'slimed out' and die or abscond.

The larvae are approximately 10mm long and 1.6mm wide and are a creamy white with a tan-brown head. They have three pairs of prolegs at the front of their body and two rows of small spikes down the length of their back. The developmental period for the larvae depends on the temperature and the availability of food but generally takes between 8–29 days.

After a feeding period of between 6–14 days larvae enter a 'wandering' phase where they could travel up to 200m outside the honey bee colony to find an appropriate site for pupation, typically moist soil.

At this point the Hive Beetle may be vulnerable to predation by ants or birds. When larvae cannot find an appropriate site for pupation, they are able to pause development for a period of time until suitable conditions arise. If you have free range chickens you will often find them around the base of your hives looking for larvae on the ground.

### Hive Beetle Pupation

Once the larvae find a suitable site, they will burrow approximately 5–20cm into the soil and construct a smooth-walled pupation chamber. Moist soil and warm temperatures are critical for successful pupation and the emergence of the adult beetle. Pupation can take between 2–12 weeks depending on the environmental factors. During cold periods of less than 10°C pupation can take up to 100 days.

Pupae are initially creamy-white and then change to chestnut brown or black as they develop into an adult beetle. Once the adult beetles emerge from the soil, they fly in search of new honey bee colonies to infest.

Adult Hive Beetles 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 Hive Beetle adults find the hives by detecting the odour of adult bees, honey and pollen. There are some suggestions that the adult beetles can also detect the honey bee alarm pheromone.

Adult beetles are 5–7mm long and 3–4.5mm wide and on average females tend to be longer and heavier than males, and occur in greater proportions in the population. The adult beetles have clubbed antennae and are initially a yellowish- or reddish-brown transitioning to brown or black as their exoskeleton hardens.

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. They 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 Hive Beetle then consumes.



Small hive beetle head and distinctive club shaped antennae.  
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.

Comb infected with Chalkbrood disease shows a scattered brood pattern with mummies in cells.

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.

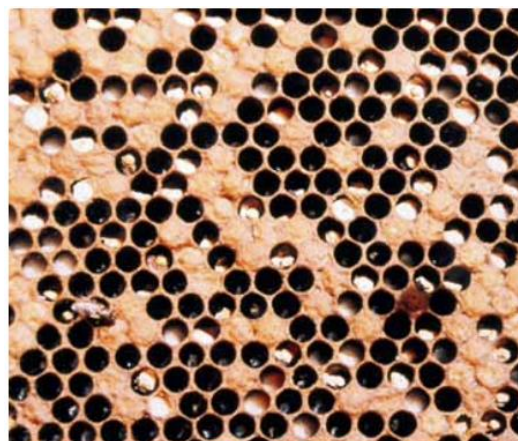
Some stress on the colony may include long periods of wet or dry conditions, poor nutrition, a failing queen bee or the movement of hives.

Chalkbrood occurs worldwide and is spread by pollen, drifting bees, and contaminated equipment.

Beekeepers themselves are often cited as the primary carriers of disease, through insufficient hive hygiene. There are no chemicals or other substances known to currently counteract the chalkbrood fungus, so the best measures against the disease are preventative.

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.



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

## Useful Web Sites

The following are some useful web sites and journals that you may find helpful:

“The Australasian Beekeeper”, the best and most up to date source of information available. Published monthly - subscription rate \$84.00 per annum.

Rural Industries Research and Development Corporation - [www.rirdc.gov.au/publications](http://www.rirdc.gov.au/publications) - contains many informative research papers on work carried out within the honey bee industry. Be warned, a quick look will normally result in you being on the site till way past bedtime.

Australian Honey Bee Industry Council - [www.ahbic.org.au](http://www.ahbic.org.au) - Code of Practice and National Bee Biosecurity Program and other industry information.

NSW Department of Primary Industry - <http://www.dpi.nsw.gov.au/animals-and-livestock/bees/pests-diseases> - Great site with plenty of information on Pests and Diseases

Plant Health Australia - <http://www.planthealthaustralia.com.au/industries/honey-bees/> also has a fantastic Bee Biosecurity Video Series

Gold Coast Regional Beekeepers Inc. - [www.gcrb.org.au](http://www.gcrb.org.au)

GCRB Beekeeping Training and Resources Hub: - [Training & Resources Hub](#)

NSW Department of Primary Industry – <https://www.dpi.nsw.gov.au/animals-and-livestock/bees/management/beekeepers-responsibilities/backyard> - this site contains information on what beekeepers can do much to reduce possible inconvenience to the general public, from their bees.

## Bees and the Community

Bees are an important insect in our community and economy, as they are responsible for the majority of the pollination of flowering plants, and crops both in urban and rural areas. Legislation empowers Queensland DAF and NSW DPI to prohibit the keeping of bees on premises which are unsuitable for that purpose if the bees are a public nuisance or are a danger to public health and safety. It is limited to bees that are hived and under some form of management and does not have a legal obligation covering feral colonies or swarms.

In cases where bees on a particular premise are such a danger to public health or public safety as to require the immediate removal of the bee hives, an inspector may, without notice, cause the bee hives to be removed and relocated to another place. It is in the best interest of all beekeepers to advise neighbours and members of the community about any risks associated with bee hives.

## Native Bees

There are more than 1,700 species of native bees in Australia. The majority of these species are solitary bees, which raise their young in burrows in the ground or in tiny hollows in timber.

There are 10 species of native stingless bees that can be kept in hives. Native bees are much smaller than the honey bee and produce about 1 kilogram of honey per year. The hive boxes are much smaller than honey bee hives.

The most prolific of these native bees on the Gold Coast are *Tetragonula carbonaria* and *Austroplebeia australis*. *Tetragonula carbonaria* are tiny native bees, 4 mm long, that nest in large social colonies with hundreds or thousands of bees inside hollow trees. They can be kept in hives and produce delicious, tangy honey with a slight citrus taste.

*Austroplebeia australis* are not as common on the Gold Coast as they prefer drier areas of Queensland

Native bees are very effective pollinators and are being used commercially to pollinate crops like Blueberries.



*Tetragonula carbonaria*  
Hive

## GCRB Resources

Gold Coast Regional Beekeepers web site: [www.gcrb.org.au](http://www.gcrb.org.au)

Gold Coast Regional Beekeepers Facebook Page: [GCRB Facebook](#)

Amateur Beekeepers Association ABA (NSW) Web Site: <https://www.beekeepers.asn.au/>

Equipment Suppliers: V's Bees, Unit 3 / 90 Spencer Road Nerang, Phone: 0415 192 662

## GCRB Management Committee Contacts

Position	Email
President	<a href="mailto:gcrb.president@beekeepers.asn.au">gcrb.president@beekeepers.asn.au</a>
Vice President	<a href="mailto:gcrb.vp@beekeepers.asn.au">gcrb.vp@beekeepers.asn.au</a>
Treasurer	<a href="mailto:gcrb.treasurer@beekeepers.asn.au">gcrb.treasurer@beekeepers.asn.au</a>
Secretary	<a href="mailto:gcrb.secretary@beekeepers.asn.au">gcrb.secretary@beekeepers.asn.au</a>
Membership	<a href="mailto:gcrb.membership@beekeepers.asn.au">gcrb.membership@beekeepers.asn.au</a>
Biosecurity	<a href="mailto:gcrb.biosecurity@beekeepers.asn.au">gcrb.biosecurity@beekeepers.asn.au</a>
Newsletter Editor	<a href="mailto:gcrb.editor@beekeepers.asn.au">gcrb.editor@beekeepers.asn.au</a>

## GCRB Membership Information

The Gold Coast Regional Beekeepers Inc. hold their monthly club day meetings at the Veterans Support Group Men's Shed, 18 Leagues Club Drive, Nerang, on the 3rd Saturday of each month, starting at 8:30am with inspections of the club's five hives, followed by a presentation on aspects of beekeeping and a sausage sizzle.

This is an excellent way for new beekeepers to become familiar with bees and learn from experienced beekeepers how to handle them and identify what is happening in the hives, and when to take honey from the hives. Nearly all meetings include an educational component on beekeeping.

This is a hands-on experience where you can be involved in the inspection, ask any questions you have about beekeeping and gain practical experience in handling bees and all aspects of beekeeping.

Attendees must wear a bee suit, or veil with clothing such as jeans / a long sleeved shirt / thick cotton socks and closed in shoes. The club has a limited number of bee veils and gloves available for use on meeting days for those who do not have their own equipment.

The Gold Coast Regional Beekeepers Inc. (GCRB) is affiliated with the Amateur Beekeepers Association (NSW) (ABA). Membership to GCRB is available online by following these steps:

1. Go to [www.beekeepers.asn.au/portal](http://www.beekeepers.asn.au/portal)
2. Click the **Sign Up** button at the bottom of the screen displayed.
3. Enter your name, email address and create a password to sign up (remember your password)
4. Click **Submit** to create an ABA account
5. To pay your membership fees click **Back to Portal**
6. Enter your email address and the password you set in Step 4 and click **Sign in**
7. Click **Pay my membership fees**
8. Follow the prompts to select your club (**GCRB**) membership fee \$10.

9. Add **ABA** membership (\$25), and (if required) optional Public and Product Liability insurance (\$20)
10. Use your credit/debit card to pay your fees

Affiliation with the ABA provides many additional benefits to our members, including optional low cost personal public liability and product liability insurance for members, personal accident cover and significantly reduced club insurance costs.