Amateur Beekeepers Association NSW

THE AMATEUR BEEKEEPER

Newsletter for members

APRIL/MAY 2017 ISSUE

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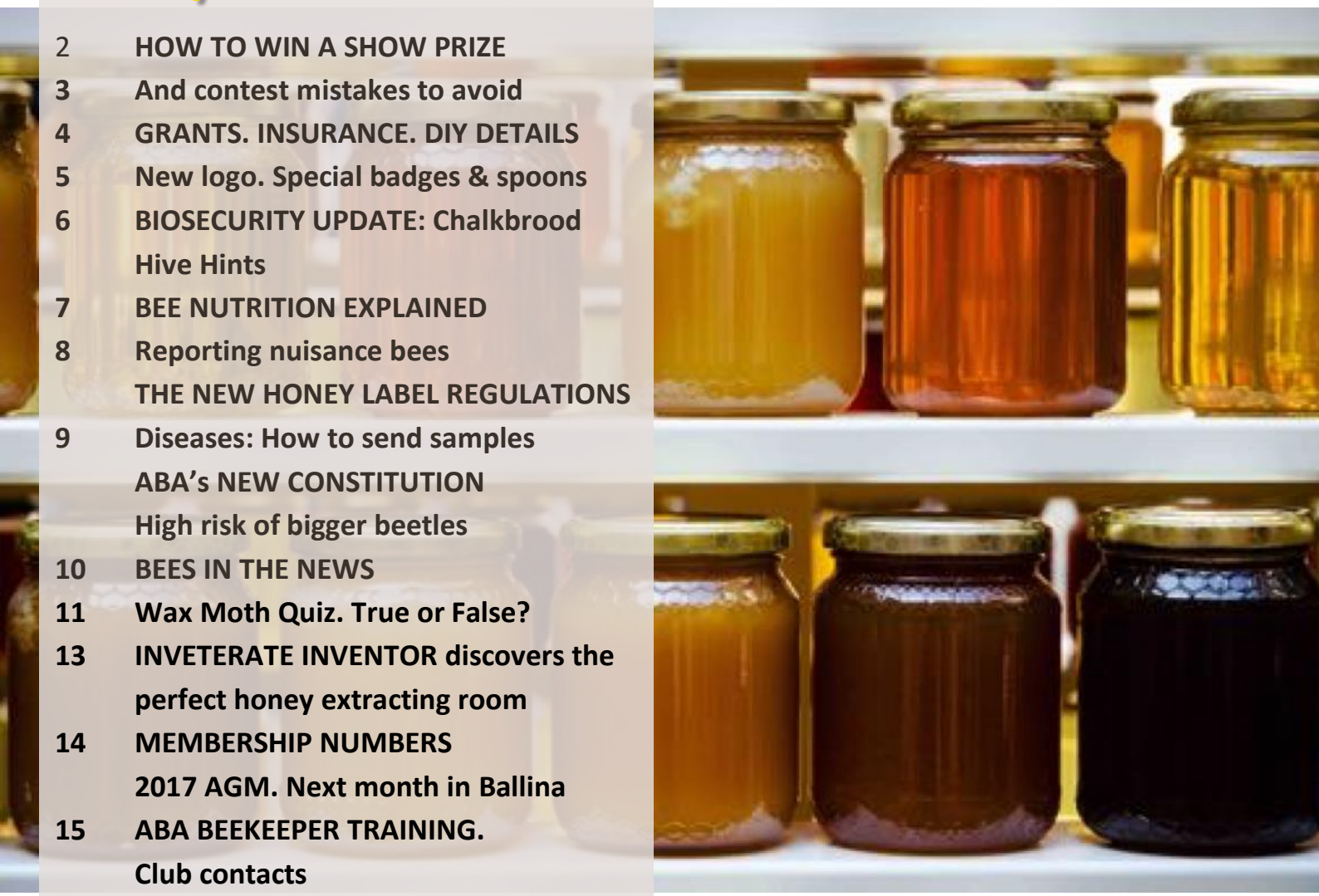
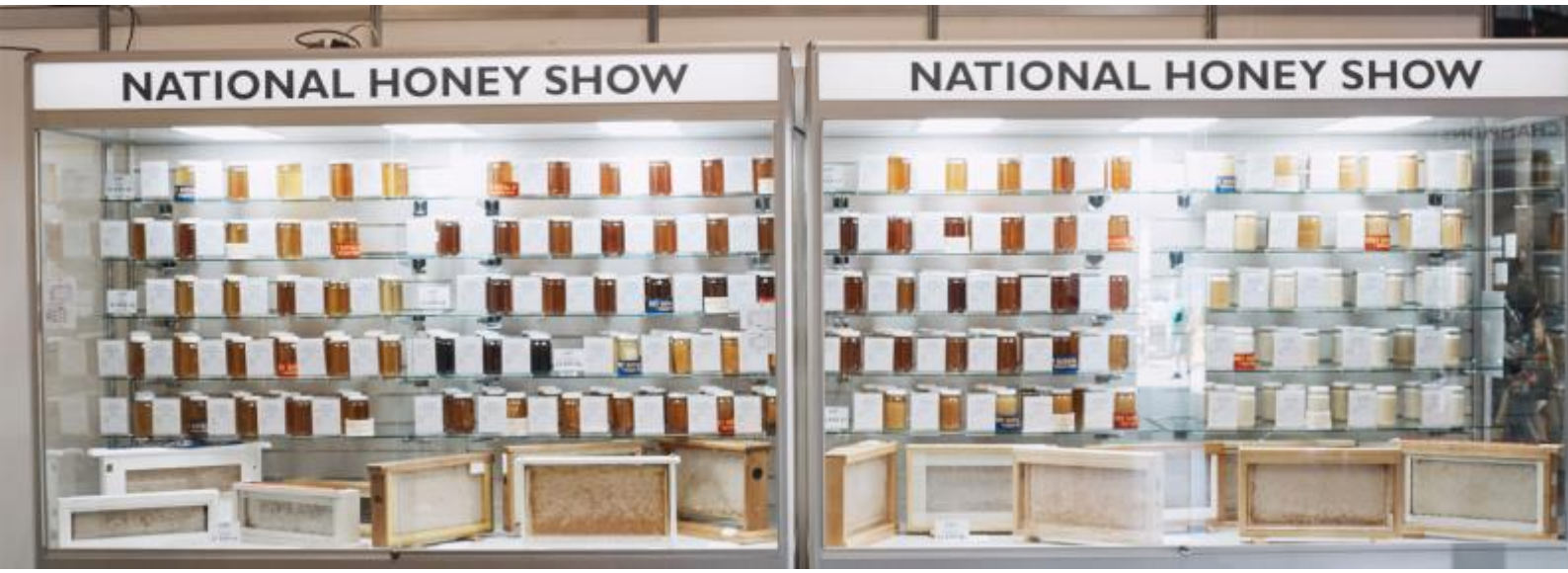


OUR NEW LOOK

The story behind our fresh logo. And don't miss your chance to get a piece of ABA history. See page 4

For latest details of ABA and local club meetings, click on the events tab at beekeepers.asn.au



HONEY: HOW TO WIN AWARDS

EVERY YEAR HUNDREDS of prizes, medals and sashes are up for grabs at community and regional shows – and at the National Honey Show held each Easter at Homebush. So, whether you produce hundreds of kilos of honey or are proud of your sole new hive, there's every chance you could win yourself some glory. You just need to follow the rules of the contest, fine tune your production and learn what the judges are looking for. Here are some pointers to set you on your way

SHOW HONEY IS DIVIDED into classes according to colour and form (liquid, creamed, candied, comb or chunk). Let's look at liquid honey as this is typically the most popular category for entries.

Colours are defined by the Pfund scale (usually pronounced *pea foond*), a grading system that measures colour. Pfund colours are expressed in millimetres (mm), according to the original measuring instrument that required operators to slide glass wedges along a scale until a colour match was achieved.

The National Honey Show classes are:

Very Light	0 to 15 mm
Light	16 to 34 mm
Medium	35 to 59 mm
Dark	60 to 120 mm

Other shows and other competitions may use different classes.

You need to enter your honey in its correct category. Often the stewards will give you advice though this is less likely with larger events. The RAS website shows a photo of typical entries at www.rasnsw.com.au (then search on Pfund).

Tools to accurately measure honey colour vary in price from under $100 to over $300. (Check if your club has any it lends out.) Some use a system of matching colour cards. Jacks Colour Cards, for example, display colours at 10 mm Pfund intervals. The honey to be assessed is poured into a small cup and then its colour compared to the swatch cards. Other more precise systems, such as the Hanna Honey Color Portable Photometer, use a combination of reflected and transmitted light to measure within 2 or 3mm on the Pfund scale.

Liquid honey is usually judged on six aspects: **Flavour, Density, Colour, Aroma, Clearness and Brightness.** The first three of these are the most important and get the bulk of the awarded points. At the NHS, Flavour, Density and Colour are together allocated up to 75 of 100 potential points.

Flavour is to some extent a subjective judgement. Judges often reference the flavour to those of the classic Australian honeys such as Yellow Box or White Box. Unfortunately judges report that they regularly find at each show at least one jar of honey that has fermented – a sure way to lose out in this category.

Density is the viscosity of the honey, with top marks going to the most viscous. Sometimes judges will see how long it takes honey to drip from a small glass rod. Other methods involve inverting the honey jar and measuring the time it takes for the air bubble to rise to the top. Honey from drier climates tends to be more viscous and so scores well in this category.

Colour is typically judged by eye, though often the judge or organiser will have standard honey samples to mark the divisions between the classes. Most honeys will change

colour over time and for this reason some beekeepers will freeze samples between shows. Some judges use standard glass slides to help assess colour.

It's a case of 'the lighter the better' for the light classes and 'the darker the better' for the darker classes. In the classes between, the honey closest in colour to the midway colour is marked up, with lower scores as honey drifts further to the colour boundaries.

Aroma is marked on how desirable the honey smells, along with the strength of the aroma. Typically honeys that score highly for flavour score highly for aroma. Honeys that have been exposed to the air for some time progressively lose their aroma, as do honeys that have been warmed. Honeys that have only been recently sieved to separate the honey from residual wax tend to have a stronger aroma.

Clearness is judged by holding the honey up to the light. Some honeys are quite milky, with a great deal of suspended particles (wax, pollen, honey crystals), while others seem to be almost perfectly clear. Filtering with the finest filters possible will help improve clarity. Leaving the honey to settle and decanting the upper part also tends to minimise suspended material in the sample. Pouring the honey into the jar with the jar tilted helps to keep the upper parts of the jar clean and shiny. Avoiding air bubbles also helps.

Judges often look around the neck of the jar and on the inside of the lid. If there is solid material in the honey it

will often be found here. Keen competitors will swap on clean lids immediately before entering the honey. They try to prevent the jar being tilted so no honey goes onto the lid. They'll also use a cotton bud to clean around the neck.

Brightness is closely related to clearness. Some honeys seem to sparkle in the light yet are quite clear. Others seem dull and almost earthy. Having clean honey in a good quality jar always helps. In a quest for the perfect display sample some competitors will reject 20 empty jars before settling on the best and brightest container.

In major contests the jars should be the standard 375 ml food jar, and lids should be white (either plastic or metal). Check carefully to make sure your honey is correctly packaged for the contest you are hoping to win.

SPECIAL THANKS TO DAVE WILSON AND NORM WEBB FOR HELP WITH THIS ARTICLE

HONEY SHOWS Five ways to lose precious points

1. **You'll ruin your chances** if you fail to study the competition rules. This is no place to assert your individuality. Larger competitions are usually stricter about disqualifying entries that don't comply. Read the rules several times over and ask if there's something you don't understand.
2. **Air bubbles in liquid honey** will get you marked down. Extract your honey a couple of weeks before the competition to allow bubbles and particles a chance to rise to the top where they can be skimmed off before bottling.
3. **Scratched or smeary glass** does you no favours. Jars need to be clear and gleaming so invest in a few new, top-quality containers. Cheaper glassware tends to have a greenish tinge which is not what you want to impress the judges.
4. **Don't enter fermented honey.** Really. And make sure liquid honey is not starting to granulate. Granulation can be reversed by gently heating honey in a water bath to no warmer than 43°C. Any hotter than this and you'll affect the honey's colour, flavour and aroma.
5. **If you prepare just the number of jars** you intend to enter, you can't make last minute substitutions. Always have several jars in reserve to cater for emergencies. You can do a bit of judging of your own – and make sure the very best of your harvest goes into the show.

DO YOU WANT to brush up your food handling smarts?
The Sutherland Shire offers a free online course in Food Safety. Locals can log on, indicate where they run a business and complete the modules online. On successful completion, you get a food handling certificate

ABA Technology Grant 2017 *Apply before June 30*

Would your club like $400 to help purchase equipment needed for club and ABA administration? This grant is available to all clubs with more than 10 members.* Send your application to education@beekeepers.asn.au

The application must include the following:
1. Club name 2. Name of member(s) making the application 3. List of item(s) or service(s), costing(s) and supplier(s) 4. Details of how the item(s) or service(s) will support technology for the club 5. Date of meeting and details of motion indicating that this application has the support of club members 6. Name(s) of member(s) who will be responsible for purchases and implementing the project.

What can you use the grant for? Here are some suggestions:

- Simple laptop. The ABA can help configure a laptop to work with ABA systems
- Mobile broadband device. This would be ideal for clubs without internet access at their meeting venue
- Portable printer. This is useful if you want to do printing in locations with no regular mains power

*Clubs that received a grant in 2016 must have submitted a report on how that money was spent. Send the 2016 report, stating what was purchased, to editor@beekeepers.asn.au

KEEP YOUR RECORDS UP TO DATE

A big advantage of the ABA's online membership system is that you can sign in at any time to check and update your details.

- **Do we have your current email?**
- **Have you moved since you joined or renewed?**
- **Want to take out liability insurance as a beekeeper?**
- **Need to change the information we display about you as a swarm collector?**

- **Go to beekeepers.asn.au**
- **Click on the SIGN IN button at the top right.**
- **Your user name is the email address you gave us when you last accessed the system**

BEEKEEPING INSURANCE: DO YOU WANT WIDER COVER? HAVE YOUR SAY

RECENTLY A CLUB ASKED if the personal beekeeping policy available with ABA membership could be extended. At the moment, it protects the beekeeper (ABA member) alone from claims of negligence. It does not cover the landowner of a site(s) where a beekeeper arranges to
locate bee colonies. This question was put to the Insurance Agent and Underwriter.

The short answer was yes, we can get that cover, but with a premium increase of 15%.

This change and the 15% increase would need to apply to all personal beekeeping policies available via the ABA. Given that the premiums reflect the cost of the insurance charged to the ABA, the rise would need to be passed on in full to all members who opt for insurance.

A second question is: should this wider cover also apply to the policies that the ABA purchases to cover clubs and club premises? These policies are funded directly by the ABA out of money raised through member fees. The wider club cover would cost the ABA an additional 15% but how this would impact the setting of next year's member fees is unclear. Any capitation increase due to this insurance change would certainly be less than 15%.

ABA insurance policies cost more than $30,000 a year so, by any measure, these are significant decisions.

What's your view? This matter will be resolved at a coming Council Meeting ahead of the ABA insurance rates being set at the October Council Meeting.

A NEW LOGO.
A NEW LOOK!

BEEKEEPERS who have been loyal members of the ABA for years will have noticed a raft of recent changes. Paper communications have given way to electronic; membership records are now centralised and easier to keep current; and the ranks of clubs across the state are swelling with bee enthusiasts discovering the joys of traditional keeping, Flow Hiving, natural beekeeping and protecting Australia's native bees.

While records are a little hazy on when the ABA's old black-and-white logo was developed, it's been looking a little weary of late. A coloured version made it brighter but still didn't immediately signal what the ABA was all about. "Australian Bees?" "Associated . . . something?"

At the end of last year, the ABA executive voted to develop a new symbol to clearly identify the association to members and the wider community.

We applied as a not-for-profit organisation to 99designs, an online marketplace where designers pitch for work. Each month, 99designs sponsors a design contest on behalf of one community organization, paying all costs associated with creating a new logo for the group. In our application, the ABA described exactly what it does to support and educate beekeepers around the state, and then highlighted what we were looking for in a new design. Just before Xmas, 99designs contacted us with the news we had been selected out of all the organisations applying for a grant from around the world. Our grant paid for all costs to pitch to an international team of graphic artists and then to pay our chosen designer for their work.

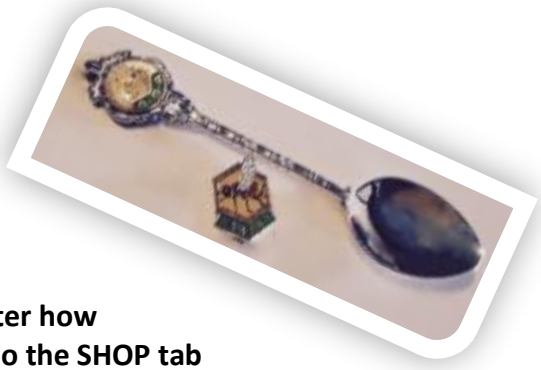
Over several weeks, 26 designers submitted sketches for consideration. Editor Sue Carney, with the help of executive members Len Verrenkamp, Sheila Stokes, Lamorna Osborne, Dave Wilson and Lianne Colwell assessed ideas and provided feedback to artists. Eventually the ABA executive whittled the contenders down to six finalists and voted on the winning artwork at a special meeting in February. This decision was ratified by Council in March.

So now we have a bold, bright and simple design that clearly shows in symbols and words what the ABA is about.

The new yellow-and-black logo will be used on all new communications and as old brochures or banners are reprinted or replaced. We also have black-on-white and white-on-yellow versions of the logo for use when needed.

All clubs who wish to use the new logo can obtain a localised version that includes their club name. Please contact Sue Carney at editor@beekeepers.asn.au for details.

Celebrate with us!



We have limited stocks of commemorative spoons and badges bearing the old ABA logo. These items are a great way to show your loyalty to the traditions of the association!

They are $6 each. Postage and packing is a flat rate of $8.50 no matter how many you order. So get in quick before stocks run out! To order, go to the SHOP tab on beekeepers.asn.au for further details.

BIOSECURITY UPDATE with Doug Purdie

WITH THE WET WEATHER we have been having this last month don't be surprised if you see a bit of chalkbrood in your hives. This is a very common problem and should clear up once the weather dries out again. If it's a severe infection, changing the queen will usually fix the problem, but that's a remedy best left till Spring. (At this stage of the season, new queens are unlikely to be well mated.) Chalkbrood spores survive in old beekeeping equipment so, to minimise the disease risk, it's good practice to cycle out old brood- and honeycombs when the wax becomes dark. For the same reason, insist on a health certificate when you purchase hives, and be aware that disease can be present in all bee colonies,
including package bees.

NSW Bee Biosecurity Officer

Over 40 people applied for this recently advertised position as the state's BBO. A selection committee is assessing these applications and will be arranging interviews for the short-listed candidates. The new officer should be appointed and in place by the time of the ABA AGM in May.

Club biosecurity officers

I would like all branches to consider appointing their own biosecurity officer. This would to make it easier for the ABA to communicate about biosecurity related issues and respond in a timely fashion.

I can be reached on biosecurity@beekeepers.asn.au – Doug Purdie

HIVE HINTS with Frank Karabaic

BY NOW YOU SHOULD have extracted some delicious honey. What are you going to do with it? Keep enough for
yourself and give some to family and friends. Give a jar to neighbours to sweeten them up so they won't complain about your bees.

Honey should be stored in tightly closed containers in a dry place. If lids are not properly closed, honey can absorb moisture from the air, ferment and spoil. Some of your honey may candy with time but this is a normal process. The sweeter the honey, the quicker it will candy. Honey will also candy more quickly if refrigerated.

Now that hives are lighter, it's a good time to move them out of a shady corner. You can even change the orientation of the entrance. Move hives gradually --- about 30 centimetres per day. A better option is to move the boxes at least 3 km away for a couple of months before returning them to the desired position.

Hives left in deep shade over Winter may get a Nosema infection. Spores get into the bee's gut, shortening its life. There are no visible symptoms except spotty soiling on the front of the hive. The hive will not die but will not progress either. The infection could persist up till next Summer.

Now you should be pleased at what a good beekeeper you are. You may make a few mistakes but that is a way to learn. Next season you won't make the same mistakes. Keep a diary to record your successful strategies and those that proved less so. Try to attend your branch meeting and encourage others. We always learn something from each other. Love those bees!

MORE HINTS

- **After inspecting your hives, try smearing some Vaseline between your bee boxes before you put them back together. It will stop the bees sticking them together so well with propolis.**

- **If you have a full super of honey that is too heavy to lift, take out 2 or 3 frames, or more, before you take the box off the hive to make it lighter to lift. – *Gary Christoffel, Parramatta***

BEEKEEPING ESSENTIALS with Doug Somerville

BEE NUTRITION

HONEY BEES COLLECT nectar and pollen as well as propolis and water.

Nectar is the carbohydrate (energy) source for the colony and is collected from the nectaries of flowers. Nectar is ultimately converted into honey and is stored by the bees in the hive. The pollen is collected from the male parts of the flower, stashed on the bees' back legs and returned to the hive. Pollen is composed of protein, amino acids, fatty acids, lipids, vitamins and minerals, providing the building blocks for bee development. It is important that different floral sources of pollens are available for the colony in order to overcome any imbalances that might occur with a single pollen source.

Not all pollen sources are the same nutritionally: some are extremely good and some are very poor. Some species that produce significant volumes of nectar, such as the ironbark and the box eucalypt group, are renowned for producing either no, or very poor quality, pollen collected by bees.

Doug is the Department of Primary Industries' Technical Specialist: Honey Bees, based at Goulburn

Managing these two components of nutrition becomes a vital activity for successful commercial beekeeping. In most cases, pollen deficiency or imbalances, or even nectar deficiencies, are not likely to occur with recreational beekeepers where a few hives are located in an urban environment.

Weather permitting, honey bees are capable of flying four kilometres in any given direction from their hive. This equates to a foraging area of 50 square kilometres. Two or three hives in an urban setting are going to do quite well, given the diversity of flora that exists in an urban landscape. In a rural or natural landscape, there tends to be one or two dominant flowering species. Occasionally a seasonal flush of a range of flowering species associated with rainfall events will provide good quantities of pollen and nectar for bees over a limited time frame.

The essential skill for successful commercial beekeeping in the Australian context is understanding what floral resources are available within your operational range and to manage the nutritional needs of the bee colonies. This is achieved through transportation of colonies from one flowering event to another to maintain a steady supply of pollen as well as produce surplus honey to be harvested.

NSW Department of Primary Industries provides a number of services to the state's beekeeping community.

> Education through Tocal Agricultural College. Short courses on beekeeping are available for all levels of beekeeping and include the delivery of a full qualification in beekeeping.

> Diagnostic services through the Elizabeth Macarthur Agricultural Institute

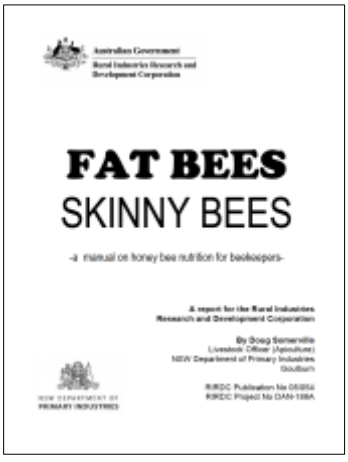
> Compliance functions, administering the relevant Acts as they relate to honey bee pests and diseases.

> Development and research.

For more information and specific contacts refer to the NSW apiculture industry

FREE DOWNLOAD

Doug's comprehensive reference manual *Fat Bees, Skinny Bees - A Manual on Honey Bee Nutrition for Beekeepers* is available to order for $35 via the RIRDC website or as a free digital download.
Go to https://rirdc.infoservices.com.au **/items/05-054**



Nuisance bees – and what to do about them

Amateur beekeepers can do their bit to keep Australia's bee population safe from uncontrolled pests and diseases, and at the same time help to reduce the harm that nuisance colonies can do in the community.

The Department of Primary Industries runs a Domestic Quarantine telephone helpline where anyone can report nuisance bees or alert officers to abandoned, neglected or diseased hives. Reporting forms are available online at the dpi.nsw.gov website, or email quarantine@dpi.nsw.gov.au

For compliance issues, the contact is Mick Rankmore on 0402 078 963 or michael.rankmore@dpi.nsw.gov.au

NEW FOOD LABEL REGULATIONS
How they affect amateur beekeepers

The federal government released new Country of Origin food labelling standards last July. Businesses have 24 months (until July 2018) to introduce the new mandated information on food sold in Australia. Here's an outline of what you'll need to do if you sell your honey

HONEY IS CLASSIFIED as a 'priority food' under the new standard. (Foods are either priority or non-priority.) The priority classification means local beekeepers who sell their honey will need to include on their labels a box containing three elements – the kangaroo in a triangle symbol to identify the food's Australian origin, a bar-chart to indicate the proportion of Australian content, and explanatory wording.

The new rules apply if you are offering your honey for sale. However, honey sold at a fund-raising event, such as a school fete, is exempt. (And, of course, the government can't tell you how to label the honey you give away to friends and relatives.)

To find out what you need to include on your jars or tubs, go to the online tool available on the business website of the Australian Government. This tool guides you through a series of questions to find out which label is most appropriate for your product, then allows you to download the right symbol in several formats. **www.originlabeltool.business.gov.au**

Typically, for honey extracted from hives in Australia and packaged here with no other ingredients, the online tool will create an element for you containing the Australian kangaroo symbol, a chart showing 100% filled in, and allow you to select from a range of short descriptions. The words Australian Honey, Produce of Australia, Product of Australia or Produced in Australia are all acceptable.

The standard does not set a minimum size for the country-of-origin element on your labels, only that it must be displayed in its entirety in English, be legible and prominent. In other words: clearly visible so consumers can understand it.

The standard allows for packages with a surface area of less than 100cm^2. to omit the kangaroo and bar-chart elements and simply include the explanatory words in a box. If you think 100cm^2 sounds large, it's not. That's a small sample jar less than five centimetres tall. Need to check the area of your jars? Google on 'surface area of cylinder' to find how to calculate the numbers.

COUNTRY OF ORIGIN FOOD LABELLING
The ACCC has released a clear set of guidelines to answer most questions on how the new rules will be applied. Read it online or download from here
www.accc.gov.au/system/files/1097_Country%20of%20Origin_

Remember: you've got until July 2018 to adopt the new labelling regulations

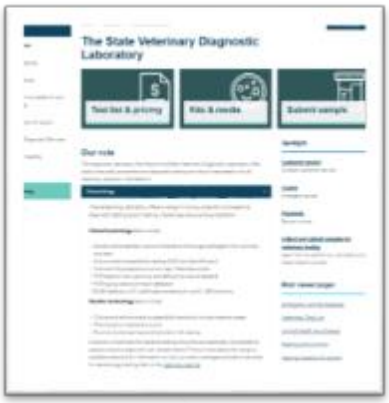
UPDATING THE ABA CONSTITUTION

THE ABA CONSTITUTION – the rules that govern how this association operates – are set to change. Recently the NSW Department of Fair Trading (DFT) updated the 'model' constitution that it recommends organisations such as ours adopt. So, with this in mind, and with recent changes to the way we handle memberships and payments between the ABA and affiliated clubs, the ABA embarked on a project to review and revise our guiding principles.

The first approach was to try to update the existing documents but that proved incredibly complicated. So the ABA decided to start afresh, using the new DFT model constitution as the template and amend that document to cover our affliated club structure. Lyall Zweck (Assistant Treasurer) produced a draft proposed constitution. This was reviewed by the ABA Executive and executive members of several clubs. After minor changes, that draft document was approved at the recent Council Meeting in Parramatta.

This draft Proposed Constitution will be sent to all members of the ABA so that everyone has the opportunity to comment. The ABA will consider all feedback and make any further changes necessary. Later the final Proposed Constitution will be sent to all members with notice of a motion to replace the current constitution at the ABA AGM on May 21 at Ballina. Lyall can be contacted on treasurer2@beekeepers.asn.au
Dave Wilson
ABA Secretary

Advice from DPI: How to Submit Samples for Testing



The State Veterinary Diagnostic Laboratory collects samples to test for problems such as AFB, EFB or chalkbrood.

The Laboratory has requested beekeepers' take a few moments to understand the collection and submission guidelines so that any samples sent in can be processed efficiently. This will help minimise potential delays in getting results.

http://www.dpi.nsw.gov.au/about-us/services/laboratory-services/veterinary
Here you will find information on collecting, packaging and shipping samples and a form that must be completed to ensure the lab has all relevant information regarding your sample. A series of four short online help videos explain the whole process. https://goo.gl/8ffaE6

A BIGGER BEETLE?

YOU MAY NOT HAVE HEARD of *Oplostomus fuligineus* but the Large African Hive Beetle (LAHB) is a serious pest of bee colonies in southern and central Africa. The heavily armoured scarab beetles grow to more than two centimetres, can survive more than a month without food and water, and once inside a hive can cause serious damage by eating brood and pollen. Until now the risk of these pests was graded as low by Plant Health Australia. Now after a study for the Rural Industries Research and Development Corporation, that risk has been upgraded to high. The "risk of importation of eggs, larvae or pupae in dung is medium, the likelihood of establishment after importation is high, and the likely economic impact of large African hive beetles is high," notes project report by Professor Ben Oldroyd of the University of Sydney and Mike Allsopp, of the Plant Protection Research Institute, Stellenbosch, South Africa.

Currently beekeepers in Africa manage LAHB by reducing the hive entrances of their hives, setting traps to catch flying beetles outside the hive and by manually removing beetles that get inside. The full project report is at https://rirdc.infoservices.com.au/items/16-054

Beetle trying to enter hive **Photo courtesy RIRDC**

Bees in the news

A quick roundup of recent stories from print and online media, with links to the full story, video or audio.

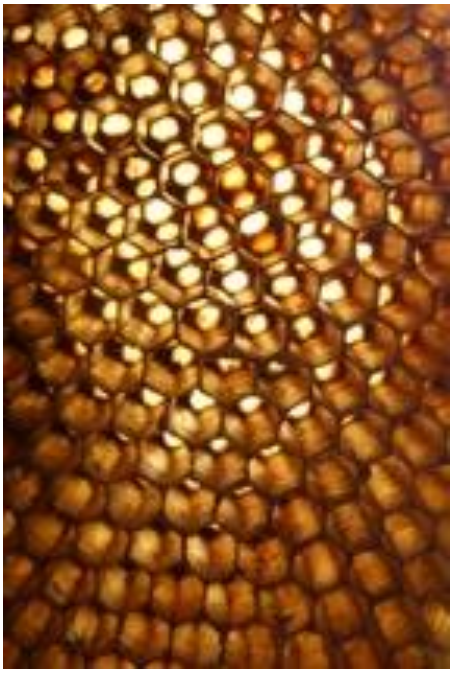
BEES GO VIRAL – IN A GOOD WAY
It seems the whole world is watching this video of how bees can be trained (in this case, to score a goal). Watch it again and cheer!
http://www.abc.net.au/news/science/2017-02-24/smart-bees-learn-how-to-use-tools-by-watching-others/8297576

WHOOP! WHOOP! THE HEAD BUTTING BEE
Listen to the sound of bees as they barge into one another. Researchers wonder: Is this bee language for 'I'm sorry!'
https://www.newscientist.com/article/2121275-honeybees-let-out-a-whoop-when-they-bump-into-each-other

HERE'S HOW BEES' VISION IS DIFFERENT TO OURS
Science that explains how bees have evolved as supreme pollen- and nectar gatherers
http://www.beeculture.com/bees-see-matters/

A BEE FRIENDLY PESTICIDE. AN AUSTRALIAN INVENTION.
And now the company has secured a deal to keep production right here
http://mobile.abc.net.au/news/2017-02-19/bee-friendly-bio-insecticide-secures-sero-x-funding-deal/8276856

THE BEATLES AND THE BEES
Bees use the sound of middle C – or the' Hey' in Hey Jude -- to get flowers to release their pollen. National Geographic to come up with a host of interesting bee facts
http://news.nationalgeographic.com/2017/02/honeybees-honey-insects-pollen-agriculture/



BUZZ KILL
The science and politics of saving America's bees gets messier
http://discovermagazine.com/2017/march/buzzkill

COULD THAT SLEEPING BEE BE DREAMING?
http://www.bbc.com/earth/story/20160621-do-bees-dream

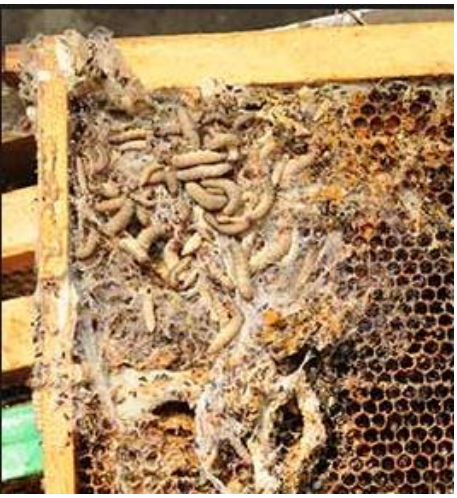
IS THERE ENOUGH EVIDENCE TO BAN NEONICOTINOIDS?
The Guardian investigates the controversial insecticide that harms bees but helps farmers
https://www.theguardian.com/sustainable-business/2017/feb/05/bees-dying-pesticide-agriculture

DRIFTERS OR RAIDERS? HOW GUARD BEES SUS OUT AN UNFAMILIAR ARRIVAL
It can take up to half an hour decide who gets let in and who gets the elbow
https://www.newscientist.com/article/2120274-honeybees-welcome-friendly-migrants-to-hives-but-repel-raiders/

FIRST, HARNESS YOUR BEE
If you want to test how pesticides affect a bee's flight, you need to go to extraordinary lengths
https://www.insidescience.org/video/pesticides-can-mess-how-bees-fly

VOTES FOR BEES!
Plans are in place to bring hives to Parliament House in Canberra
http://www.smh.com.au/federal-politics/political-news/parliament-house-abuzz-with-plan-for-new-beehives-20170317-gv0iov.html

TEST YOUR KNOWLEDGE: Wax Moth Q&A



MOST EXPERIENCED BEEKEEPERS are familiar with wax moth fluttering up from unprotected comb. We often think of the moths and their larval grubs as a nuisance rather than a serious pest of beehives.

However wax moths can cause massive damage to frames of comb if not controlled. The larvae burrow through the wax comb leaving badly damaged wax and a mass of sticky white webs. The larvae will also
damage the wooden frames and occasionally the wooden sides of the bee box.

The behaviour of wax moths is well studied and their basic biology and control is mentioned in almost all beekeeping texts. A Google search on wax moth will produce a plethora of information. The NSW DPI has an excellent Ag Fact on wax moth at http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0010/176284/wax-moth.pdf

But how much do you really know about wax moth? Why not take this quiz? It's been developed by Dave Wilson, with technical assistance from Bruce White. True or False? The answers are on the next page

1. There are two types of wax moth – big and small.

2. Wax moths are a significant source of comb damage in active hives in the middle of summer.

3. Wax in any form, from refined blocks, foundation or fully drawn out comb, will be damaged by wax moths.

4. Wax moths are a typical insect with a life cycle like a bee.

5. The mass of sticky thread across and between the frames found after wax moth damage are the remains of the cocoons where the larval stage metamorphoses into a juvenile wax moth.

6. The life cycle of wax moths is very dependent on temperature.

7. The lifespan of bees is similar to that of wax moths.

8. Stored beeswax combs are particularly prone to wax moth damage.

9. Wax moth larvae can travel to adjoining hives or boxes of stored comb.

10. Wax moth larvae will supplement their diet by consuming wood from frames or box sides.

11. Boxes of comb can be safely stored if all adult wax moths are removed.

12. Collected pollen and comb honey can also be damaged by wax moth larvae.

13. The damage caused by wax moth is due only to physical comb damage caused by the burrowing larvae.

14. Stored combs can be protected by chemical treatment using products such as Phostoxin.

15. Keeping boxes of comb in cool rooms will provide an effective control of wax moth.

WAX MOTH Answers

1. True The larger moth (*Galleria mellonella*) is a mottled grey and is approximately 35 mm long. The lesser wax moth (*Achroia grisella*) is white or silver, smaller, slimmer and approximately 12 mm long. The lesser moth is more common but it generally causes less damage. Both moths are often found in the same location.

2. False Healthy, populous honeybee colonies do not tolerate wax moth larvae in the hive. Wax moths are never the initial cause of colony destruction but in weak colonies their larvae can damage combs not covered and protected by bees.

3. False Wax moths overwhelmingly prefer brood comb, where pollen, honey and the remains of pupating bees provide an essential diet for the wax moth in its larval stage.

4. True Wax moths have the usual insect lifecycle of egg laid by the adult female then the active feeding larva stage. This is followed by the pupae stage where the larval grub metamorphoses into juvenile wax moth. It is the larval stage that does the damage to wax comb

5. False The mass of sticky threads are really travel tunnels. The cocoons are quite separate and are often found on flat timber surfaces of the frames or the hive sides.

6. True Wax moths can survive a quite significant temperature range but the reproductive cycle time reduces noticeably as the temperature increases. It takes up to 35 days for wax moth eggs to hatch at 18°C but fewer than five days when the temperature is between 29 and 35°C.

7. False Female worker bees may live for up two months, drones on average live for about 50 days, while the queen may live for several years. The lifespan of the adult wax moth varies depending on the sex of the moth. Females live for approximately 12 days and males can live up to 21 days.

8. True Comb with available honey and pollen and not protected by adult honey bees is particularly vulnerable to attack by wax moth.

9. True Wax moth larvae can travel more than 30 metres and so can infect adjacent boxes of comb or weak hives nearby.

10. False The larvae will chew into the wood to form a hollow to spin their cocoons. This can cause substantial damage to wooden frames.

11. False Comb to be stored may well have eggs or even small larvae present that have not been seen. These will eventually develop into active feeding larvae and damage will result.

12. True Both will provide a food source for wax moth larvae and so damage may occur. This is particularly true for pollen.

1**3. False** There is certainly damage caused by the burrowing larvae but there is considerable damage caused by the sticky mass of threads. This will certainly render cut comb unfit for consumption. The excreted products from the larvae encourage fermentation and so render the honey unfit for consumption.

14. True Phostoxin (trade name for aluminium phosphide) reacts with moisture in the air to produce phosphine gas which is extremely toxic. It will kill all stages of wax moth. Note that as time passes the phosphine gas disperses and if the boxes are opened reinfection by wax moth is possible. Phostoxin cannot be used unless you have completed a course in the safe handling of
fumigants.

15. True While freezing is required (5 hours at -7°C) to kill all stages of wax moth, keeping stored combs at around 4 °C will prevent wax moth infection.

PHOTOS: WAX MOTH DAMAGE © KATHY KEATLEY GARVEY, UC DAVIS DEPARTMENT OF ENTOMOLOGY VIA BEEAWARE.ORG.AU,
WAX MOTH COCOONS: CHANTAL FORSTER

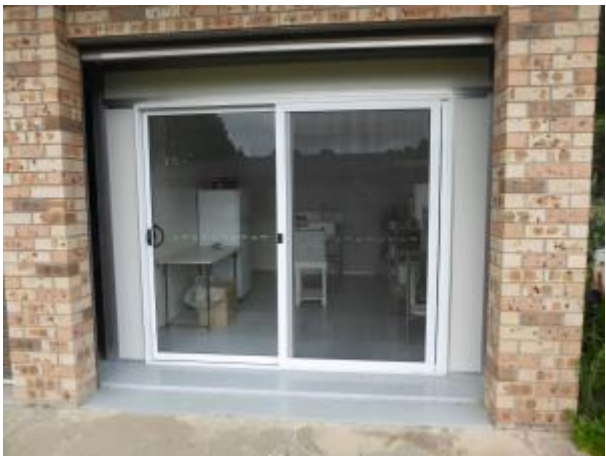
WANT TO SHARE YOUR VIEWS ABOUT THE IMPORTANCE OF BEEKEEPING?

Researchers at Liverpool John Moores University are conducting an online survey aimed at amateur and professional beekeepers. If you would like to share your views, go to:
https://ljmbusiness.az1.qualtrics.com/jfe/form/SV_agcFQ8MPn9Ko7d3

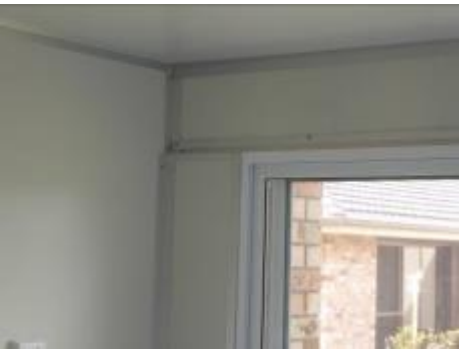
THE INVETERATE INVENTOR FINDS THE PERFECT HONEY EXTRACTION ROOM

MANY BEEKEEPERS DREAM of having a purpose built honey extraction room to house all their associated gear and to allow honey extraction to be carried out in ideal conditions.

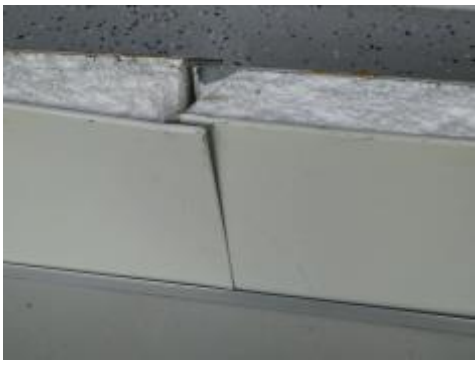
The inveterate inventor is lucky to have many friends who are beekeepers. One has constructed the Rolls Royce of honey extraction rooms. You may not be able to build a complete room like this right now – but who knows for the future. And there's always the club honey room project!



This honey room was constructed in the corner of an existing garage. No external waterproofing was required but decisions were needed about wall and ceiling materials. Conventional construction of a room like this would involve timber stud walls with Gyprock or compressed sheeting. Walls would probably be tiled to some nominal height to allow a water-resistant surface. This type of construction involves quite a few building skills or multiple trades if contractors need to be employed.

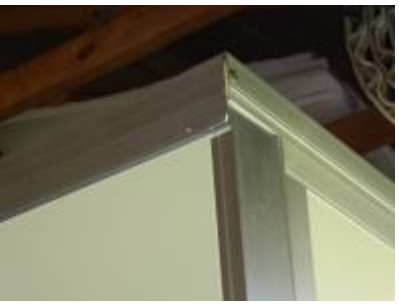


In this case "cool room panels" were used. These panels have a central core of high-density foam insulation with a cladding Colourbond steel sheeting. One face has a quality finish so no painting or tiling is required.



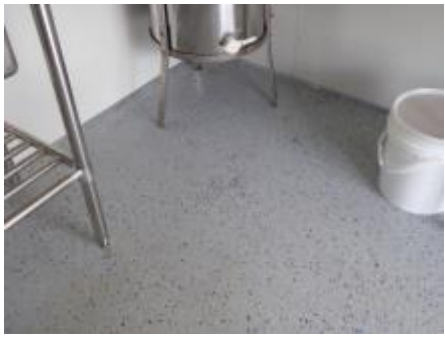
The panels are strong, light and have a high thermal and acoustic insulation rating. They have a tongue-and-groove edge so they can be simply clipped together to form a continuous wall or ceiling. The panels can be easily cut with a regular circular saw fitted with a metal cutting blade. They can be cut with an angle grinder though this needs to be done slowly to avoid damaging the inner foam core.

The surfaces are acid and solvent resistant and the panels have a fire rating consistent with most alternate building materials. The panels used in this project were 2400 mm by 1150 mm and were purchased as "seconds" at around $90 each.



The room had walls formed from 75 mm core panels 2400 mm long. Mounted on their edge, this gives a ceiling height of 2.4 m. It was four panels long (4 x 1150 mm) and three panels wide (3 x 1150 mm). The panels simply clipped together. A standard aluminium corner section provides for an easy join of corner edges. An aluminium channel section provides a neat finish at floor level.

The ceilings were built from 50 mm core panels simply laid upon the walls. The junction between the walls and ceiling was made with a stock aluminium corner section. One wall was cut to accept a double screen door. With this in place, the room is finished. No painting, tiling or plastering is required.



The existing concrete floor was coated with a 2-pack garage floor product claimed to be 20 times stronger than epoxy. The pack covered 23 sq m and, at $160, was worth every cent. The two liquids are mixed and applied to the floor with a long-nap roller. Some hard, brightly coloured flakes are added to provide a non-slip finish. Once "set", the finish is immaculate with a shiny, no slip, easy-clean but absolutely impervious surface.

In the past the cost of custom built stainless steel benches would be prohibitive but with the advent of mass produced modular stainless steel benches they have become much more affordable. The benches are 900 mm long, 600 mm high and purchased as "flat packs" from EBay.

The images really do not do the room justice. The finish and build quality is outstanding.

ABA Membership Trends

The numbers tell it all. We've seen steady growth in the ABA since the start of the year, with over 300 new members applying to join.

The growth is very positive but the demands on clubs to support new beekeepers are great.

The new PaySubs membership system is a "quiet achiever", adding new members to the association and affiliated clubs each day and, hopefully, reducing the demands on club treasurers in terms of notifying the ABA of membership changes and all the associated banking that was involved with the old system.

	ABA paid up members	new members in a month
December 1 2016	1375	
January 1 2017	836	
February 1 2017	988	152
March 1 2017	1116	128
April 1 2017	1184	68

ANNUAL GENERAL MEETING Ballina May 21

The 2017 AGM is to be held at Ballina RSL on Sunday May 21, from 9am, with the traditional club dinner at the same venue the night before. The Colonel Pulling competition will be held as part of the meeting. This event will be hosted by the Northern Rivers Branch of the ABA.

The traditional before-meeting dinner will be in the Ballina RSL Bistro at 6:30 pm on Saturday May 20. While we cannot set aside tables for ABA members and friends, members of the host club, Northern Rivers, will "reserve" tables at the eastern end of the bistro. This dinner provides a great opportunity to catch up with beekeepers from different parts of the state.

On Sunday, apiary product entries to the Col Pulling competition (including the now famous honey cake) and club reports can be organised in the judging area from 8:30 am. Judging will commence at 9 am sharp.

Strong competition is expected for the Colonel Pulling shield and the new "small clubs" shield.

The AGM will commence at 9 am. Items for discussion include:

- possible extension in personal beekeeping insurance to cover the property owner of a bee site
- ABA Conference in 2018
- constitution change
- club grants

FINANCIAL SUPPORT FOR CLUB MEMBERS ATTENDING ABA AGM

The ABA will reimburse expenses for club members travelling to this year's Col Pulling/AGM. Up to two delegates from each affiliated club located more than 180km from the Ballina venue can claim, to a maximum of $500 per club. Receipts and a claim form will need to be submitted via your club's secretary. For queries, contact Dave Wilson secretary@beekeepers.asn.au

Also in Ballina in May . . .

- The Crop Pollination Association is holding its AGM on May 16 in Ballina. A variety of speakers will be attending from across the state and from the USA, and covering current topics affecting beekeepers worldwide. For information, go to aussiepollination.com.au or contact the CPA secretary Eric Whitby on ericwhitby2@bigpond.com

- The Apiarists Association Annual Conference runs on May 18 and May 19 in conjunction with a trade fair and dinner. Events are at the Ballina RSL. Registration for the coference is $350 for non-members of the NSWAA ($300 before April 8). Single day tickets are also available. For full details of the speaker programme, contact info@nswaa.com.au

EDUCATION Calling all beekeeping trainers!

We need your help! The ABA is looking to structure an education program for clubs using the AHC32016 – Certificate III in Beekeeping (Release 2). (Details of this can be found at https://training.gov.au/Training/Details/AHC32016.) The ABA program would provide non-accredited training for members.

If you have been sharing your beekeeping knowledge with other beekeepers or if you have a "Certificate IV, Training and Assessing", we would love to hear from you.

If you or your club has any training resources that you are prepared to share with other clubs (such as PowerPoint presentations, books or media clips that you have found useful) please also contact the ABA's Education Officer Miskell Hampton so that we can start a club resources area for trainers on the members area of the ABA website.

Please contact Miskell Hampton with your details. Miskell is at education@beekeepers.asn.au

ABA Club contacts

Note: to join a club, go to beekeepers.asn.au and click APPLY TO JOIN. Applications are forwarded to individual clubs for approval

Club	*Contact*	*Email address*
Bathurst	***Mary Keys***	secretary@bathurstbeekeepers.org.au
Bega Valley	***Suellen O'Brien***	secretary@begavalleybeeclub.org.au
Central Coast	***Max Rae***	secretary@centralcoastbees.org
Goulburn District	***Lee Towle***	secretary@goulburnbeekeepers.asn.au
Hawkesbury	***Sheila Stokes***	hawkesbury.secretary@beekeepers.asn.au
Hunter Valley	***Linda Winn***	pclawinn@bigpond.net.au
Illawarra	***Geoff Henning***	lincres@ozemail.com.au
Inner West	***Mel Barrs***	melbarrs@hotmail.com
Macarthur	***Anna Grocholsky***	secretary@macbeekeepers.asn.au
Manning Valley	***Vicki Grace***	covenanttreasures@msn.com
Mid North Coast	***Peter Dickson Smith***	pdsbml@bigpond.com
Mudgee	***Claudia Wythes***	claudia.wythes@watershedlandcare.com.au
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