BEEKEEPERS.ASN.AU

Amateur Beekeepers Association NSW

THE AMATEUR BEEKEEPER

NEWSLETTER FOR MEMBERS

DEC 2020 | JAN 2021

LEARN AT HOME
Beekeeping videos that deliver the facts

HONEY LEVY
What it is, who pays and how everyone gains

CRANKY BEES!
A bad day – or always badly behaved?

NEWS
Campaigns

CITIZEN SCIENCE

Giveaways

ADVICE

Links

All in this issue!

PERFECT HONEY FRAMES
Here's how, every time

DEC 2020 | JAN 2021

Amateur Beekeepers Association NSW

The Amateur Beekeeper is the journal of the Amateur Beekeepers Association of NSW Inc. It is distributed to members six times a year, in December, February, April, June, August and October.

The editor will consider adverts from businesses relevant to beekeepers to run free of charge where they contain a discount or special offer to ABA members. Please email editor@beekeepers.asn.au

Do you have a photo you'd like to be considered for the cover of the next issue. Send it in to editor@beekeepers.asn.au

ABA NEWS

20/20 hindsight

ABA president Sheila Stokes looks back on 12 months that thrown up many challenges and some delightful solutions

Here we are at the end of 2020, and it's time to exercise a little twenty-twenty hindsight. What would *you* have done differently if you'd known in advance what a shake-up of a year this would be?

Judging by our booming membership numbers, I can guess that a lot of people have taken advantage of having more time at home to embark on a new hobby. And although regular big face-to-face meetings were abandoned for much of the year, it's been great to see so many clubs coming up with innovative ways to keep in touch and support their members. We've seen clubs introduce regular online meetings, online Beginning in Bees courses, micro Getting Started workshops, virtual quizzes, and various buddy and mentor programmes.

It's been interesting to note that online meetings have made club activities more accessible to some people who previously had been unable to attend physical meetings.

Throughout Australia and the world, talks, training and discussions on beekeeping have been videoed and shared with audiences that can now sit at home and catch up when they want. We share a few links to these videos on page 9 but there are many more out there to explore and enjoy. (And, of course, the usual caveats apply: consider the sources of your information carefully, and understand that beekeeping equipment, regulations and risks differ across regions.)

Do let us know if you or your club has introduced new beekeeping activities that take advantage of social distancing rules – and if you plan to continue with them in 2021. And don't forget: your current membership lasts through to mid 2021. So no renewals are due over the summer.

Happy holidays everyone!

president@beekeepers.asn.au

FEES

Renew in . . . June

A REMINDER TO everyone (and it's good news): current ABA and club memberships last through to 31 June 2021. This means renewal notices (usually sent out at this time of the year) will not be sent until next autumn/winter.

A while back the ABA moved the membership cycle from a calendar year (January to December) to a financial year (July to June), giving all 2020 members an extra six months on their current term.

MEMBERS

4000 and growing

WE'RE excited to announce we now have more than 4000 members in our network, with new signups coming in every day. Thankfully, our online membership system keeps track of everyone and handles all payments. (Log in at beekeepers.asn.au to update your details.)

CLUBS

Gold Coast Regional

THE LATEST club to affiliate with the ABA is Gold Coast Regional Beekeepers. Based at the Vietnam Veterans Complex at Nerang, the club donates all its apiary products to raise funds for veterans' initiatives. GCRB is our 31st club and second club on the Gold Coast. Welcome!

SWARMS

A bouquet of bees

HUNDREDS of bee colonies are relocated each year by ABA members who are contacted by members of the public through the online swarm register.

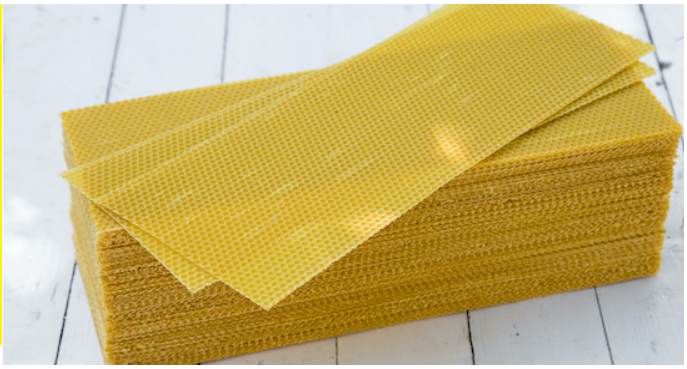
We recently received this little note of thanks from one grateful user: "(Your member) kindly came out to remove a swarm and did a great job! He was fast and friendly and left us with a jar of honey. Couldn't rate him more highly! Thanks, and thanks for your great organisation!"

We applaud all collectors who relocate swarms as a community service – and by doing so, bolster the reputation of beekeepers, bees and beekeeping.

CAMPAIGN

Protect Australian beeswax. Act now!

We must prevent our beeswax supplies from contamination



AUSTRALIAN beeswax is highly prized for its purity. It demands a premium price – here and overseas – for making cosmetics, wraps and candles. Local beekeepers have been able to confidently say that local foundation used in hives is 100% natural.

But the purity of the Australian supply pool is now under serious threat from cheap imports and products containing chemical residues and parrafin wax. Once those products are used, cycled out of hives and sold back into the pool of beeswax used to make local foundation, it may be difficult to reverse..

Contaminated and counterfeit beeswax foundation is being advertised and sold locally, often through online market places, to take advantage of beekeepers and the public attracted by 'bargain' prices. Compounding the problem: the influx of enthusiastic new beekeepers attracted to the hobby, and the fact that it can be difficult for the untrained eye to spot a fake product –other than it is cheaper than the beeswax available through reputable suppliers.

It's one thing to buy bad bad wax for your own bees; it's another to then harvest wax from those hives and try to use it or sell it as pure. Recently beekeeping equipment store Hornsby Beekeeping Supplies stopped buying rendered beeswax from recreational beekeepers after finding that many of the blocks were contaminated in some way. To try to protect the Australian pool of beeswax, Hornsby's manager Atif Jamal will now buy wax only from commercial beekeepers that have purchased their hive equipment from him.

The Australian Honey Bee Industry Council (AHBIC), of which the ABA is a member, has recently rung alarm bells about imported foundation and block wax that contains chemical residues thought to be from varroa treatments. As beeswax is not classified as a food (despite it being in cut-comb honey), the federal Department of Agriculture has been powerless to control imported beeswax or even check it is real beeswax.

AHBIC is now asking beekeepers to boycott imported foundation, and to report suspect products so that it can make a case for change: "This is the only way we can make sure that our beeswax stays pure and the price premium for that clean wax can be maintained on the world market."

AHBIC is also keen that the public understands the potential exposure to chemicals in purchasing overseas beeswax: "Buy only Australian beeswax to protect our industry and use only Australian beeswax for your own wellbeing."

How ABA members can help

1 **WHEN YOU BUY wax foundation, ask the supplier about the origin of the product. Can they guarantee that it has been made in Australia only from local beeswax? Ask about the production process. Not satisfied with the answers? Shop elsewhere. Be wary of bargain prices offered on social media.**

2 **IF YOU HAVE BOUGHT suspect beeswax, send us a sample. The ABA will work with AHBIC to get samples tested. If any samples are found to have unwanted chemicals or other waxes, AHBIC can lodge a complaint with the Australian Competition and Consumer Commission and ask for a prosecution.**

Mail 100 g (or two full-depth sheets of foundation) along with details of where and when it was purchased, if you believe it has been imported, and why you suspect it is not 100% pure beeswax. Send to ABA Biosecurity Officer Bruce White, 14 Rondelay Drive, Castle Hill, NSW 2154

3 **IF YOU SEE *any* products on sale that claim to be made with beeswax but plainly aren't, complain to the retailer. If you don't get an adequate response, take it up with NSW Department of Fair Trading (or your state equivalent).**

4 **EDUCATE OTHERS about the look, feel, smell and qualities of pure beeswax. Australian beeswax is a premium product with outstanding qualities. It deserves its world class reputation and needs everyone's help to keep it that way.**

BEST PRACTICE

Swarm catch boxes

If you're looking to catch a colony of bees, keep to the rules

TAKE AN EMPTY BOX. Add a beekeeper (or wannabe beekeeper) seeking free bees. Put the box in a spot atttractive to swarms looking for a new home. And wait with fingers crossed.

While advice on where to place the box – ideal height, direction to face the entrance, distance from working hives etc – is easy to find and often conflicting, some actions are non negotiable. They are legally binding under the Biosecurity Code of Practice for Beekeepers.

Do you know these four MUSTS?

1. A swarm catch box must be properly constructed and maintained so bees can enter and exit only via designed access points. (That rules out using that spare old brood box with some rot around the corners.) Why? If bees do move in, they can more easily defend their stores from robber bees. reducing the threat of disease spreading through the area.

2. The catch box must not contain drawn comb, honey or pollen. Why? Exposing bee products to bees that haven't produced them is a significant biosecurity threat. If you want to include something to make the box more desirable, insert clean frames and fresh foundation. Some beekeepers swear by a drop or two of lemongrass oil or a squirt of a proprietary swarm lure. That's okay. A bunch of spare stickies isn't.

3. The box must carry your beekeeper registration number (also known as a hive brand number, rego number or licence number). This is the code you are given when you register with the state government. Why do you need a rego number on a box that doesn't have bees? In NSW the DPI insists you are registered at the point where you *intend* to keep or manage bees (as opposed to waiting until you actually get the bees). If you put out a swarm catch box you are intending for bees to move in and so you need to be registered. The rego number needs to be clear and legible.

YOU MUST BE A REGISTERED BEEKEEPER to catch a swarm or to place swarm catch boxes anywhere (even in your own backyard)

4. If you are putting swarm catch boxes on land where you don't normally live – that means someone else's property or some place you own but don't consider your principal place of residence – **you must also mark it with your name and contact number in characters at least 25mm high.** Why? That way you are easy to contact if anyone has queries or concerns.

And you might just find someone rings with news that bees are pouring in through the front entrance. It does happen!

A swarm catch box might have lured this collection of bees. Instead they settled for an Aldi shopping trolley in Cranebrook last month. Photo: James Carpenter

HIVE SCIENCE

Towards perfect wax combs

Brian Window examines the heat factor

A few years ago, I wrote an article describing how the parallel wires in the conventional wiring of a wax frame have to sag to support a load. I suggested that a cross-wiring arrangement (like an X) which can support the load without sagging is preferable. Maybe if the wires didn't sag, the combs would not distort, and the beekeeper would get perfect flat wax combs every time.

In practice, I found this different wiring pattern does not always prevent foundation from buckling. In fact, combs after drawing are often badly distorted regardless of how the frames are wired. But quite a lot of frames are very good. The baffling question: *Under what conditions do the bees produce the perfect flat wax combs?*

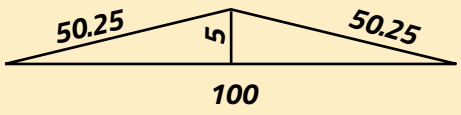
The answer I realised is that the frames have to be drawn at low temperatures. This is counter to the accepted practice.

Most books say to draw the foundation in the centre of the first super above the excluder. There could hardly be a worse place. Remember that the bees maintain the brood nest at 35C, and the heat rises in the hive.

The properties of beeswax that lead to the poor drawing at high temperatures:

1. The high thermal expansion of beeswax

Beeswax expands by, typically, 500 parts per million (ppm) for every degree rise between 25C and 35C. In comparison, most metals expand by less than 20 ppm. This means that a piece of wax 100mm long held at the ends expands by 0.5 mm when heated from 25C to 35C.



It doesn't sound much, as the simple diagram shows, the centre displaces by 5 mm.

This explains why a heated sheet of wax foundation held at the edges bulges out as it warms.

(2) The rapid decrease in the mechanical strength of the wax as it warms

While beeswax is quite strong at 25C, as evidenced by how the thin sheets can be readily handled in the bee shed, it rapidly softens as it approaches 35C, becoming unmanageable (Beeswax shows signs of partial melting at 40 C).

As far back as the nineteenth century beekeepers were experimenting with different ways to secure foundation in frames, as evidenced by diagrams published by Al Root in the US. in 1878

Drawing at Low Temperatures

- The wires are embedded in the wax at say 25C, and the assembly put into a part of the hive at 25C.
- The wax has sufficient mechanical strength that the wires are kept straight by the wax when the frame is stood up and loaded with bees.
- The load is carried at the edge where the wires penetrate the frame.
- The bees quickly bridge the foundation to the woodwork in various places for more support.
- Thermal expansion is not a factor.

Drawing at High Temperatures

- The wires are embedded in the wax at 25C, and the frame heated to 35C by inserting it into the brood nest or directly above in the first super.
- Thermal expansion causes the wax to buckle and bulge between the wires. At the same time, the wax softens to the extent that it can no longer support the load, and the wires have to sag to do so.
- In a frame with parallel wiring this sagging pulls the buckling out of the top couple of panels, and most of the distortion ends up towards the bottom wires where the wax will fold and be badly distorted. (This sagging leads to the well-known effect of getting the comb drawn to the bottom bar in the first super).
- With cross wiring under the same conditions, this does not occur because the wires do not sag appreciably, but the wax sheet buckles, bulges and sags between the wires.

The main sources of heat in a hive are the bees, particularly in the brood nest, and sunlight heating of the sides and lid. So if you are after good combs, places to avoid are the brood nest proper, and directly above

the brood nest in the first super. Evaporation of water while drying the nectar helps to lower the temperature further up.

Probably the best spots are: a) directly under the lid in a second super, perhaps with some extra insulation placed on the lid, and b) the outside frames.

If the frames are drawn at 25C, it does not matter if the wires are parallel or crossed: they are securely held by the sheet of wax, and it is not necessary to have high tensions in the wires. Once the frame is drawn, the structure put on the foundation by the bees will give it the necessary 3D strength to not distort if it is put in the brood nest at 35C.

I suspect some beekeepers already keep the foundation frames away from the brood nest, having found it works better. This piece is intended to explain why, and to inform other beekeepers of the advantages.

ABA MEMBERSHIP Q&A

"WHEN'S MY NEXT RENEWAL DUE?"

Current memberships and insurance carry through to 30 June, 2021

"HOW DO I GET MY MEMBERSHIP PACK?"

New and renewing members are sent a log book, biosecurity manual and membership card. These packs are lodged in batches with Australia Post to get bulk mailing rates. We work to get them sent in the second week of each month but bear with us if they sometimes take a little longer.

"HOW DO I CHANGE CLUBS?"

If you are already a member of an ABA club, email membership@beekeepers.asn.au with details of the other ABA club you wish to join. We will send you details of the fees due to the new club.

Unexpired club membership fees are not refunded

SWARM ADVENTURES

Catching the bug

Julie-Anne Condie recalls the thrill of her first trapout

At 7am I have a knock on my door. I'm in my PJs. I answer my door. In front of me is a elderly gentleman from around the corner. He tells me that a swarm of bees are in the tree in the vacant block next to his home. He continues by saying it was like a huge black cloud coming down the road.

At this stage we are all very excited and start gathering equipment. I go and check the situation and discover the bees have found a hole in the tree.

My thoughts are: Oh, it's just not a snip of the branch and drop them into a box.

I go home and go online and research what to do. I also call my go-to for support, Lyall Zweck from Bega Valley Beekeepers.

OK. I have my fly-wire cone, No More Gaps, smoker, ladder, nuc box and other gear, and proceed to encourage the bees into the nuc. I place the cone over the hole in the tree, seal it with No More Gaps and start smoking the bees.

After quite a bit of smoke and a fair bit more No More Gaps – and lots of people stopping to see me in my pink bee suit – I finally leave feeling confident I've done the job.

The next day I go back, close up the nuc box and take the bees to their new home. My first trapout swarm, thanks to Lyall and YouTube!

I love the challenge and have caught a bunch of swarms since this adventure.

"I'm relatively new to beekeeping: I did a beginning in beekeeping course, then got my first hive. Since then I've been bee crazy and have grown my little apiary with ups and downs due to drought and bushfire on the south coast.

I help other beekeepers in my area and catch the occasional swarm with help from my hubby. Shopping these days consists of all things bee related! I joined my local bee club. The support I get from Bega Valley Amateur Beekeeping Club is invaluable. Thank you Lyall and the gang for all the help and support I get!"

DO YOU have a swarm tale? Or want to thank someone who has helped you on your beekeeping adventures?

We'd love to hear from you. Send your story to editor@beekeepers.asn.au

HEALTH CHECK

When poison strikes your hives

The sources, the symptoms and some emergency measures to try

HOW BEES PICK UP POISON

Bee poisoning generally occurs after a pesticide has been applied to plants or weeds which have flowers or secrete substances attractive to bees.

- Pesticide has been applied directly onto foraging bees.
- Bees have flown to treated plants and collected contaminated nectar and/or pollen.
- Bees have collected contaminated water on or near treated plants.
- Bees have picked up pesticide dust and/or contaminated pollen and returned these to the hive.
- Pesticides have drifted from their point of application onto flowering plants or across hives in apiaries.

COMMON SIGNS OF POISONING

- Large numbers of dead adult bees are on the ground in front of the hives.
- Most or all of the hives in the apiary are affected.
- Adult bees all die within a few days of each other.
- Dead adult bees typically, but not always, have their wings unhooked and at odd angles to their body, their proboscis (tongue) fully extended, and their hind pair of legs outstretched behind them.
- In severe cases, dead adult bees are inside the hive between the frames and on the hive floor.
- Few bees are foraging.
- Live adult bees move slowly or behave abnormally, showing signs of paralysis.
- Surviving bees show abnormal signs of aggressiveness.
- In severe cases, when few adult bees remain, temperature and humidity control in the brood area is lost and brood is not fed. Brood die from chilling, overheating or starvation.
- Queen failure may occur within 30 days from the first date of poisoning.
- Some pesticides, particularly systemic pesticides, have a less noticeable, but debilitating effect, resulting in an overall weakening of the colony. Signs are reduction in adult bee numbers and stages of the brood cycle or complete brood cycles missing.

HOW TO TREAT A POISONED HIVE

- Move it to a safe area.
- Keep bees warm by removing excess supers.
- Feed bees inside the hive with a 1:1 water:sugar syrup until recovered. Loss of field bees results in a lack of fresh nectar and water being brought into the hive.
- Add frames of sealed brood and adult bees from healthy hives, if required.
- Be prepared to manage the hives for queen failure or supersedure problems which may occur a number of weeks after the initial pesticide poisoning event.

ADAPTED FROM DPI PRIMEFACT 148 PESTICIDES: REDUCING DAMAGE TO HONEYBEES

EDUCATION

Learn from home

Listen to a 20-minute podcast highlighting the threat of Varroa jacobsoni (varroa mite) to the Australian beekeeping industry and the work of the National Varroa Mite Eradication Program (NVMEP) in Townsville. Find out how recent incursions have been detected and dealt with at daf.qld.gov.au/news-media/podcasts/eradicating-varroa-mites-the-sweetest-success

Beeaware.org.au now has links to a wide range of local videos to help beekeepers learn new skills and understand current issues.

These include a series of local beekeeping webinars presented by Queensland Bee Biosecurity Officer Rebecca Laws earlier this year. The series covers topics such as how to check your hive for pests and diseases, and keeping good records.

The site also links to videos and fact sheets detailing different methods of checking for exotic pests, including sugar shaking, drone uncapping, sticky mat examination and alcohol washing.

Tocal College has uploaded videos from the 2020 Beekeepers' Virtual Field Day on its YouTube channel. Watch presentations from local and international experts, including University of Florida's Jamie Ellis talking about the biology and behaviour of worker bees, Adrian Grew on nuc colonies, and Madlen Kratz on how and when to feed bees.

ExtensionAus is where local experts educate professional beekeepers. Access is open to all and many of the items relate to anyone with an interest in or experience with bees. Check out Bruce White talking about how to produce award winning honey or Trevor Monson talking about the effect of nosema on honey bee colonies. The site also has links to a fascinating video on bees fanning to keep a hive cool.

Illawarra Beekeepers continues to upload useful and instructional vidoes on practical aspects of beekeeping, at illawarrabeekeepers.org.au. This includes practical demos and field talks on a range of topics.

REGULATIONS

My bees. Your bees

DID YOU KNOW that each time you sell or give a queen bee or colony of honey bees away, or if you have a hive lost, stolen or destroyed, you need to keep detailed records? These include the date, number of queen bees or colonies, and how they were 'disposed of' (sold, gifted, destroyed etc). You also need to note the name, postal address and registration number of any beekeeper who you sell or give a queen or colony of live honey bees to. You are required by biosecurity legislation to keep these records for at least five years. Records can be written or electronic.

If you get bees from someone else, either by buying them or receiving them as a gift, it is also good biosecurity practice to keep a record of where they came from. An easy way to do this is to note down the who, where and when in your log book. Should there be a subsequent pest or disease outbreak, records make it easier to trace the root of the problem.

FILM PASS GIVEAWAY

MAYA THE BEE: THE GOLDEN ORB

Win a family ticket (worth $88) to see this kids' animated movie, in cinemas from January 7. Rated G.

We have two family passes, from StudioCanal to give away.

Email editor@beekeepers.asn.au before December 20 with your favourite bee pun or joke.
Include your name, club and address.

VEGETATION

Planting guides

Looking for ways to encourage the pollinators at your place?

Help is at hand, with a new series of planting guides for landholders and gardeners. Five Powerful Pollinators brochures, covering regions in Victoria and New South Wales were released in November by the Wheen Bee Foundation, with another 15 guides scheduled to be completed before the end of 2021.

The guides help landholders and gardeners select a range of plants for year-long flowering and to provide pollen, nectar and nesting sites for bees and other insects.

Pollinators affect 35 per cent of global agriculture, supporting the production of 87 of the leading food crops worldwide. Australian's native bees and the European honey bee are keystone pollinators of our forests, fodder, flowers, fibre and food crops and together provide pollination services with an estimated annual economic value of $28.4 billion.

The Wheen Bee Foundation's Dr Anna Carrucan, and Dr Megan Halcroft from Bees Business ran webinars during Australian Pollinators Week, explaining the importance of pollinators, what we can do to support the pollinators in our local areas, and how to use the Powerful Pollinators guides.

To watch the webinar or download a guide: wheenbeefoundation.org.au/our-work/powerful-pollinators/

Currently available:

NSW Central Slopes, Murray-Riverina and NE Victoria

Mallee: Victoria and SE South Australia

Western District: Victoria

West Gippsland and Westernport: Victoria

South East Melbourne

Bilpin, Blue Mountains is due for release this month

SCIENCE

NAME OUR NATIVES

AN ESTIMATED 1000 native bee species have yet to be formally identified. But there's good news: Taxonomy Australia has an ambitious project to discover, name and describe all of Australia's bee species over the next six years.

To date around 1650 of our native bees have been named – that's a rate of around eight species a year for the last 200 years. Now the worry is that without an accelerated programme, many bees will already be extinct by the time they are properly described from dead specimens held in museums.

The $3.6 million project is being supported by the DiscoverBees Fund, launched by Wheen Bee Foundation in November.

For more about the project and to watch an hour-long webinar "Discovering Australia's Native Bees" featuring native bee scientists Dr Tobias Smith, Dr Rosalyn Gloag and Dr Ken Walker, go to wheenbeefoundation.org.au/our-work/discoverbees/

Toby Smith discusses our amazing bee diversity and the different 'families' that exist in Australia.

Ros Gloag explains the special features and anatomy of the bee, the importance of pollination and how efficient native bees are, having co-evolved over millennia with our native flora.

Ken Walker explains the classifications of bees and the importance of naming bees..

HELP US RUN THE ABA

The executive team are volunteers who represent amateur beekeepers, provide services to clubs and members, and keep the organisation running smoothly.

Are you interested in joining the ABA team? We are looking particularly for members with accounting, marketing or business skills.

Contact president@beekeepers.asn.au

The Honey Levy Explained

4.6c PER KILO SOLD

What is it?

The National Honey Levy is a statutory levy beekeepers pay to fund initiatives that support the honey bee industry. Other agricultural commodities,including wool, milk,cotton and wheat also have a levy system.

Who pays?

Australian beekeepers pay according to the volume of their honey sales. The levy is currently set at 4.6 cents per kilo and kicks in if you sell more than 1500 kilos of honey a year.

While 1500 kilos might seem a lot to most recreational beekeepers, it doesn't take many hives to get into levy territory. Commercial beekeepers produce an average of some 60 kilos of honey per hive each year. At that level, a keeper with 25 productive hives can be getting close to or over the threshold for paying the levy.

FOR EXAMPLE, ON 2000 KG, THE LEVY IS $92

Where does the money go?

The levy is collected by the federal government to fund vital biosecurity programmes, research and development, and a testing programme that monitors the purity of Australian honeys.

Biosecurity initiatives include:

- the National Bee Biosecurity Programme, which funds bee biosecurity officers in each state, online training and the Beekeepers Code of Practice,
- a national monitoring scheme to protect Australia from exotic pest incursions (such as the arrival of varroa),
- a contribution to Plant Health Australia, including funding the beeaware.org.au website.

Research, development and extension projects are managed by Agrifutures. Recent projects have examined subjects such as the market potential of propolis, rebuilding the industry after bushfires, sources of Australian leptospermum honey and their bioactivity, and selection of hygienic honey bee lines. Ongoing projects include an investigation into the factors that influence chalkbrood outbreaks, and the potential to increase the value of Australian honey as a health food.

The National Honey Levy was introduced in 1962. A recent review of the system pointed out several ways in which the system could be restructured to make it more effective into the future, particularly taking into account the growth in value of pollination services and the increase the value of some honeys.

The flat rate levy per volume of honey also ignores sections of the honey bee sector such as queen breeders and producers of bee products other than honey (propolis, wax, pollen).

How do I find out how to pay?

Beekeepers who sell more than 1500 kilos a year need to register and lodge an online return via the federal Department of Agriculture. agriculture.gov.au/ag-farm-food/levies/rates/honey

The government charges the industry the costs of collecting the levy from each registered producer. This makes it uneconomic to collect a levy from anyone producing fewer than 1500 kilos and therefore needing to pay less than $69 a year.

CLUB NETWORK

For details of the ABA's network of 31 affiliated clubs across NSW and beyond, check out beekeepers.asn.au/find-a-club

We are always happy to hear from beekeepers wanting to start a new group. Information is at beekeepers.asn.au/affiliation

RESEARCH

Bees to the future: e-noses and superhoney

Dr Doug Somerville chairs the Agrifutures Honey Bee and Pollination Advisory Panel. Here he explains two exciting avenues of research that Agrifutures is funding from the Honey Levy

Innovation to improve hive performance

One of the most exciting of the developments that the [Honey Bee and Pollination] Program will explore in the next five years is using electronic nose technology to detect specific odours that are related to hive health, including queen bee status and the presence of diseases. We know the e-nose has the potential to change the industry, but we need to identify the specific odour signals and program the electronic nose accordingly. Then we have to make sure the technology is affordable for our beekeepers. We're also looking closely at remote monitoring technology for checking on hives and how we can make that work effectively for beekeepers.

Knowing where our honey comes from and understanding its health benefits

Honey has always been delicious but it's only in recent years that we've come to recognise its medicinal properties and health benefits. With this knowledge it's become more important than ever that the industry can provide assurance about the provenance of honey and that consumers can learn about the different properties of our different Australian honeys.

There is a research project that was conducted by the NSW Department of Primary Industries, supported by the Honey Bee & Pollination Program, that identified and reviewed analytical techniques that could determine honey chemistry. Based on this research we've also prioritised the establishment of a database of Australian honeys that reflects their true variability in terms of chemical composition, antimicrobial properties and other qualities.

"It's hard to put into words what's so special about beekeeping in Australia, but really it's the symbiotic relationship between the bees and the bush. It feels like a very pure form of agriculture because it is so often about an interaction with the environment that is beyond your control.

As a beekeeper you can manage the bees, but you can't manage the native flora. A single rainfall event might turn on one species so it's ready for bees and turn off another completely.

In a typical year up to 70 per cent of Australia's honey crop comes from our native plants and that makes our honey unique, both in terms of taste and antimicrobial properties.

Our climate and the flowering patterns of our native flora, which varies from species to species, also means our beekeepers can chase flowering events around Australia almost all year round."

We're also funding another exciting research project with the University of Technology, Sydney which is further increasing the health value of honey by demonstrating that some Australian eucalypt honeys have a positive impact on human gut health.

This evolution of our honey from breakfast food to superfood, or even medicine, has the potential to be a major boost for the profitability of the Australian honey bee industry. Australian beekeepers are proud of their honey. It's some of the purest in the world. And it's unique thanks to our unique flora. And that's a message we want to be able to share with consumers.

DIY BEEKEEPER

Bottling made easier

Have trouble propping up the honey bucket when you're filling jars? Tired of honey that crystallises in the frame? Beekeeper Clive Bailey shares his solutions

BUCKET SHELF

I knocked this together from old scraps of marine ply. The front of the box has a piece of ply projecting above the platform to stop the honey bucket sliding off forwards. It has two fixed side rails on top of the box and a loose rod at the back that is about the same length as the box. As the bucket drains I put this rod across the side rails and underneath bucket at the back. If you use a dowel it is easy to roll it forward to tip the bucket more as the honey drains out.

Much better solution than popping the bucket on a pile of books!

FRAME WARMER BOX

Honey is obviously thick when it is cool and a pain to extract in cooler weather. To get around this problem I built what my wife calls the "Frame Coffin"! It is a box about 1.6m long divided into two sections - a long section that can hold 20 frames of honey and a section with a fan heater.

In the model pictured left, a ceramic fan heater blows hot air onto a ramp that directs the hot air over the top of the frames.I subsequently changed the design to blow the air under the frames as hot air will rise through the frames and heat them more effectively.

To control the temperature I connected a thermostat in line with the heater and set the temperature to 35 degrees with a 5 degree control range. (The heater stays on until the temperature reaches 35 degrees, then turns off until it cools down to 30 degrees, before turning back on again). The monitoring thermocouple sits in the middle of the frames in the heating section of the box with the frames. The box is on wheels so I can move it around when it's full of frames. It also has carrying handles to lug it around when empty.

Cost of the plywood was around $50 and the thermostat was about $16 from ebay. The heater was one sitting in my "might come in useful one day"boxes.

Filled your 2020/21 ABA hive log book already?

Extra logbooks are available at our online store at beekeepers.asn.au/shop

Members can download free record-keeping sheets at beekeepers.asn.au/sign-in

BEHAVIOUR

Temper, temper!

No one likes a cranky colony, explains University of Sydney bee researcher Nadine Chapman.

"They can cause a lot of grief for urban beekeepers and pollination contractors in particular. It seems simple enough to just select the nicest hive and use it to breed from, but measuring temperament can actually be quite difficult.

"Scientists love to measure things. Preferably the way in which you measure something should be objective and repeatable – not influenced by feelings or external factors, and you should get similar results each time you make the measurement."

Here's Nadine's list of the many ways scientists measure temperament:

"As you can see some of these methods are quite inventive. Some are more objective than others. Some sound both fun and crazy."

- Hitting a hive and counting how many angry bees come at you
- The distance you have to run before they stop trying to get you
- The time until the first sting and the number of stings in a leather ball or flag that is waved at the entrance to the colony for a set length of time. Often the leather is treated with alarm pheromone to encourage a strong response
- The number of guards recruited to the entrance of the colony when filter paper or a cork treated with alarm pheromone is place there
- The voltage at which a restrained bee will extend its stinger when zapped
- How long it takes for caged bees to respond to alarm pheromone and the number of bees involved
- The level of aggression displayed by bees presented with a moving feather in a petri dish – threatening, chasing, pulling, stinging
- The number of bees outside the entrance before and 3 minutes after puffing human breath into the entrance
- The number of bees that fly out of the hive after opening it without smoke
- Shooting a marble at the colony entrance with a slingshot and photographing the entrance 90 seconds later to count the number of bees that respond
- Measuring oxygen use of caged bees after exposure to alarm pheromone, as a measure of metabolic response. (Increased agitation will increase metabolic rate)
- Rating defensive behaviour on a scale – such as the amount of smoke or protective equipment needed to work a colony
- Rating calmness – the propensity of bees to leave the combs or cluster on the combs when working them

As most beekeepers will know, temperament is affected by the weather and the behaviour of nearby colonies.

Colonies should be assessed a number of times over the season to get a better idea of their general behaviour.

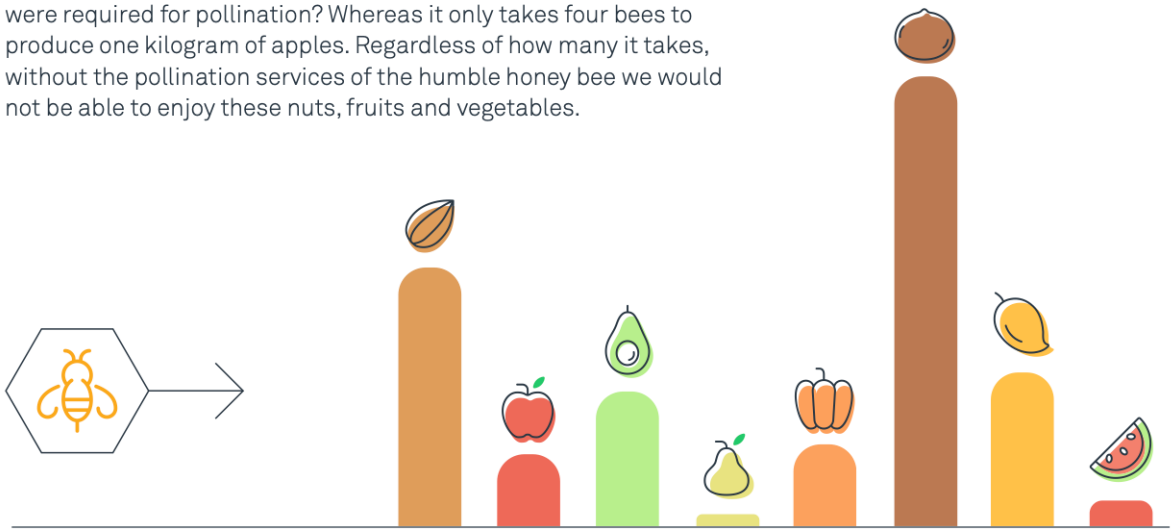
You should work colonies in a different order each time you evaluate temperament to determine if colonies are naturally defensive or if they have been set-off by nearby colonies being disturbed.

If your gloves are covered in stings you're not really giving the colonies a fair chance.

SNAPSHOT

Honey bees required to produce 1kg of crop

Did you know for each kilogram of mangos you eat, 21 honey bees were required for pollination? Whereas it only takes four bees to produce one kilogram of apples. Regardless of how many it takes, without the pollination services of the humble honey bee we would not be able to enjoy these nuts, fruits and vegetables.



The estimated number of honey bees required to produce 1kg of crop from each industry.

69	4	18	1	5	140	21	2

Taken from [The extraordinary honey bee and its impact on the food we eat. Published by Agrifutures, 2020]

CITIZEN SCIENCE

Join the toad hunt

NSW is on the hunt for cane toads! And as cane toads love to gobble up bees, beekeepers can assist by looking out for them around backyard hives.

WHEN Toad at the Hive observation event will run from February 6 to 14. In the summer months, when cane toads are more active and hives are strong with bees (especially when bees are clustering out the front for ventilation of the hive) cane toads like to sit at the entrance at night and feast. Hives are particularly vulnerable if located near fresh water or in yards where toads can find shelter during the day.

HOW Register at nswtrade.wufoo.com/forms/toad-at-the-hive/ then download the MyPestGuide Reporter app to your mobile device (Search for mypestguide at your app store.)

In observation week, choose one night or as many as you like. Start around 9.30pm or later as this gives the toads time to start wandering in search of food. Using a torch, (a red beam is best as bees may fly at a bright white light), look around your yard. Wear your bee protective gear if it makes you feel more comfortable. See a toad? It is important NOT to kill it as it may be a native toad or frog. Take a photo.

NOTIFY Use the app to report your sighting. If you don't have a smart phone, you can file a web-based report via mypestguide.agric.wa.gov.au/reporter/#/create-report

Even if you don't keep bees you are welcome to participate in the event by looking in your backyard or local fresh waterways.

This project is supported by the Periurban Environmental Biosecurity Network (PEBN), Local Land Services, NSW DPI and beekeeper groups.

For updates, go to the PEBN Facebook page.

Cane toads are notifiable pests south of the Cane Toad Biosecurity Zone in NSW's north, (stretching from Yamba on the coast, along the Clarence river to Lawrence then following Pringle Way to Banyabba, then Summerland Way to the QLD border, and following the border out to Cameron Corner.