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Volume 7 Number 2
March -April 2014

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COVER: 500 + hives dead on cotton near Warren this year PHOTO: Bryn Jones

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PRESIDENT'S REPORT

As we go into autumn, we have seen good rain over most of the State. This has come a bit late for this season, with cooler weather some follow up rain should make for a fair spring.

NSWAA submission to the Senate Inquiry on the future of our industry
The Executive have been working hard on this document, and we would like to thank the Branches who were able to provide feedback on the draft version that was circulated by our Secretary. Our document was submitted by 31 March, we are also planning to take part in the public hearings. The Executive certainly hopes that the outcomes from this inquiry will be of benefit to NSW beekeepers, as well as to the whole Australian industry. We will also have the submission available when we launch our new website.

Forestry Corporation
The Executive continues to work with the Forestry Corporation on their state beekeeping policy.

The Southern Region of the Forestry Corporation will recommence the allocation of bee ranges as of 1 April this year. Details can be seen on their website www.forestrycorporation.com.au, under SPOTLIGHT).

NSW National Parks
On 11 March Neil Bingley and I, as well as Dr Doug Somerville, went to Sydney to meet with National Parks Policy Officer's, Claire Allen and Brian Leahy, to review and discuss the National Parks beekeeping policy. The meeting was very productive. Some of the points we covered included:

- The lose of bee sites when National Parks acquires land, particularly when it is difficult to prove previous beekeeper use of the site
- The need to standardise the consent and duration; we would like to see 5-10 year periods
- The possibility of fee waivers during detrimental events such as fire or drought
- Locked gates and road maintenance

Cotton Industry and the Environmental Protection Agency (EPA)
While we were in Sydney we also took the opportunity to meet with representatives of the cotton industry and the EPA – unfortunately this meeting was not as productive. Despite a growing number of incidents where significant bee losses have occurred due to cotton spraying and spray drift, the cotton industry refuses to take any responsibility and the EPA appears to be toothless, and/or to lack the will to act in a way that would protect beekeepers and their businesses.

We would urge beekeepers to not only report incidents through chanels such as the EPA, but also to do things like go to the media. The general public are very interested in honey bee health, and an increased public awareness of the impact of spraying on our businesses and our bees may well lead to increased pressure on the cotton industry to take us into account.

2014 Conference
Included in this edition is a Registration Form for Conference which will be held at the Crossing Theatre, 117 Tibbereena Street Narrabri on 8 & 9 May.

There is a good range of accommodation available in Narrabri. Contact: Narrabri Shire Tourism (02) 6799 6760 or tourism@narrabri.nsw.gov.au

Thanks to Therese Kershaw the 2014 Trade Show, which runs in conjunction with Conference, is shaping up to be the biggest yet and not to be missed.

Plans for the Pilliga Trip including a barbecue lunch at the Salt Caves on Saturday 10 May are well underway.

I'm looking forward to seeing you at Conference. Details of the program are in this edition, and I am sure the opportunity to listen to the talks as well as catch up with your fellow members will be very useful for you. Also the opportunity to find out more about the Levy increases and the National Bee Biosecurity Plan (see below).

Association Workshop - Narrabri 7 May
The Branches have nominated participants for the workshop we will be holding the day before Conference, and they have already received detailed background on the Workshop, as well as "homework". Make sure you think about these points, and give your 2 cents worth to your Branch rep – we want as much input from you as possible.

1. What are the top 5 issues facing the *NSW beekeeping industry*?
2. What are the top 5 issues facing the *NSW Apiarists' Association*?
3. What should the role of the NSWAA be in addressing the key issues we face, and in any other areas?
    I. What role should the Branches play?
    II. What role should the Executive play?
4. As the resources of the NSWAA are limited, are there areas or issues that should NOT be dealt with by the Association?
    I. What areas/issues should be left to AHBIC or other bodies

Levy increases and the National Bee Biosecurity Plan

This is one of the most important issues we are facing as an industry and I urge you to engage with the process and think about the consequences or the outcome of the upcoming vote. Below are some consequences;

If you vote yes:

- An effective surveillance program, in every state and territory, conducted at around 40 ports. This program will continue to act as an early warning system for varroa, tropilaelaps, tracheal mites, pest bees, etc. It will also continue to provide critical trade support for beekeepers who export package bees or queen bees.

- New Bee Biosecurity Officers in each state who will provide inspection services, training, education and communication for beekeepers.

- For the Surveillance Program and the Bee Biosecurity Officers to be managed nationally by AHBIC and PHA.

- Bee Biosecurity Officers to provide an approved framework to respond to an incursion of a new pest, so we can manage it better than the past incursions of Asian bees, small hive beetles, etc.

If you vote no:

- No surveillance program - no early warning system for exotic pests. They could turn up and we would not know until it is too late! That means we could not eradicate them.
- No surveillance program - very hard for any beekeeper in Australia to export queen bees or packaged bees to an overseas country. This program currently provides critical trade support for beekeepers to demonstrate proof of freedom of pests. If we lose this program, beekeepers who export will very likely lose export markets.
- No Bee Biosecurity Program - state governments will continue to reduce services for the honey bee industry, until there is none left.
- Continued reduction in specialised apiary officer staff.
- No support for industry for established pests and diseases, and no support for industry for surveillance of exotic pests.
- No training, education, communication or awareness material for the honey bee industry.

***Honeyland* at the 2014 Royal Easter Show**
Things are shaping up well for *Honeyland* at the Show this year. Thanks to the hard work of Bruce White, Margaret Blunden, the Show Committee and our Secretary it looks like we will have a good year.

Casey Cooper
State President

CONGRATULATIONS

BEST WISHES TO.... Brett Bingley & Melissa Kershaw on their recent engagement.

YOUR EXECUTIVE AT WORK

The Executive Committee met in Orange on 17 & 18 February 2014.

Listed below are some of the items addressed by the Association:

- Forestry policy
- Senate inquiry
- Meeting with Cotton Australia and other stakeholders
- Biosecurity Code of Practice
- AHBIC code of practice for the transport of bees
- Website upgrade
- Finalisation of Conference agenda items
- Healthy financial status of organisation
- Next year's Conference will be in conjunction with AHBIC AGM
- DPI development of AgGuide on Healthy Bees
- Stakeholder workshop details for 7 May in Narrabri

Vote Yes to increase the biosecurity component of the honey levy

Government services for the honey bee industry are reducing. Industry need to raise the biosecurity levy to contribute to national programs and prevent governments from walking away. If industry cannot contribute, these services will disappear for all beekeepers.

If the honey bee industry does not do something now, then they will not have this opportunity again. It is time to grasp this opportunity and contribute to biosecurity programs and activities (outlined below) that benefit all beekeepers and levy payers.

For this reason, the Australian Honey Bee Industry Council (AHBIC) are proposing to reform and increase the honey levy from 2.3c/kg to 4.6c/kg which would apply to a producer selling over 1500kg per year.

National Bee Pest Surveillance Program

- This program acts as an early warning system to detect new incursions of exotic bee pests and pest bees. This greatly increases the possibility of eradicating an incursion of an exotic pest (i.e. Varroa) and limits the scale and cost of an eradication program.
- This program provides important trade support for packaged bees and queen bees to be exported from Australia to overseas countries.

National Bee Biosecurity Program

- This program would be established in 2015 and levy funds would go towards funding the placement of a new Bee Biosecurity Officer in each state
- The Bee Biosecurity Officer would assist with greater industry training, education material and inspection services for beekeepers.
- It would help reduce the incidence of established pests and diseases
- It would provide the framework for an industry/ government partnership to help manage any future incursion of an exotic pest (i.e Varroa mite, Tracheal mite etc.)

By voting yes you are helping to:

- Keep Australia Varroa free by funding a national surveillance program
- Keep markets open for beekeepers who export queen bees and packaged bees
- New Bee Biosecurity Officers in each state
- Additional training, inspection services and educational material for beekeepers
- Better management and action on established pests and disease of honey bees

For more information about the proposed reforms and increases and how to vote go to http://honeybee.org.au/programs/honey-levy-reform-and-increase/

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Recreational beekeeping – Blossoming, but not all sweet

The following article has a number of messages for the reader. Depending on your view of the world, you may be interested in what is happening with recreational beekeeping organisations in NSW. You may also be concerned with what one club is going through having to deal with a very unsympathetic council and its view of beekeeping.

The vast majority of people who keep bees are what I term 'recreational'. They do it for pleasure and not for profit. Recreational beekeeping is taking off around the planet and NSW is no different. The Amateur Beekeepers' Association of NSW (Inc) (ABA) has 50 years of history and has something like 500 members. In recent years the number of organisations associated with the ABA has grown to ten, with the addition of the Southern Highlands, Mid-North Coast and Northern Rivers branches. Only a few weeks ago yet another branch was formed at Goulburn. Guess who their guest speaker was?

I am also in correspondence with a nucleus of keen and enthusiastic individuals in the Bega Valley who are gauging the interest to form a group in this region.

The ABA provides:

- A newsletter, six times per year
- Field days
- Optional beekeeping insurance
- A coordinated swarm collection system
- Regular branch meetings

For more information on this organisation, go to www.beekeepers.asn.au

For the rest of this article I am going to concentrate on another group, not affiliated with ABA but certainly in the same category - that being the North Shore Beekeepers' Association (NSW) Inc. It was formed in 1954 and holds regular field days (each month), night meetings (every second month) and produce a regular newsletter.

A brief conversation with the club's secretary recently indicated that it had 177 members as at 31st December 2013. This organisation sent me copies of correspondence they received from Ku-ring-gai Council asking them to provide an Environmental Impact Statement to relocate 4 hives.

Re-read the above, yes an EIS for 4 hives! The council base the need for this input and statement on the fact that honey bees are listed as a threatening process.

Unfortunately, the council failed to read the listing in full, as the wording refers to 'feral' bees and clearly states the ruling does not relate to managed bees. Anyway, the following is my response to the council on behalf of the North Shore Beekeepers' Association (NSW) Inc.

The following information is provided in response to the Ku-ring-gai Council's correspondence directed to the North Shore Beekeepers' Association (NSW) Inc for an Environmental Impact Statement to relocate four (4) managed hives to a site adjacent to a shed at Curagul Rd, North Turramurra, next to a golf course.

At the request of the North Shore Beekeepers' Association, I visited the site on 9 January, 2014 in the company of the association's president Mr Phil Kavanagh. Excerpts from my notes on this inspection follow:

- A seriously modified site
- Scattered light regrowth with many dead and fallen specimens of casuarinas
- An active white-ant nest in a power pole on site
- Major works in the form of excavations/removal of trees to create a new golf course adjacent to the proposed site
- Three (3) dead eucalypt (gum) trees on the proposed site (no evidence of hollow formation)
- Note of vegetation in area comprising of casuarinas, scribbly gum (eucalypt), melaleucas, angophora, acacias and pittosporum.

In the Council's attachment (1) in the correspondence to the North Shore Beekeepers' Association Inc.; a key environmental consideration is said to be "European Honey Bees considered a key threatening process under the Threatened Species Conservation Act 1995 (TSc Act)".

The listing of "competition from feral honey bees as a key threatening process" was published in October 2002. The overview and subsequent notes supplied on this subject are available on the National Parks & Wildlife Service (NPWS), NSW Scientific Committee web site that clearly distinguishes feral honey bees from managed honey bees. In the supplied information on the NPWS web site I quote "The term feral honey bees does not include managed honey bees".

A statement from the web site states that, "the NPWS recognises the importance of the apiary industry to the NSW economy and managed honey bees were not the subject of the Final Determination. The NPWS has worked with the apiary industry to develop a Policy on managed honey bees in its reserves".

As the intent of the North Shore Beekeepers' Association is to relocate a small 'managed' apiary for the purposes of education and as a centre for the club's activities, this is not considered a 'Threatening Process' under the definition of the final determination.

Having said that, it is clear from the fact an environmental impact statement has been requested, that the Ku-ring-gai Council would have some concerns about honey bees in their area of responsibility.

Honey bees (Apis mellifera) were successfully introduced into Australia in 1822. They established throughout the Sydney basin within the following years, both in a feral and managed state. Management of bee hives in their earlier years would have been minimal as was the pest and disease pressure on honey bees.

A NSW Government inquiry into beekeeping in urban areas was conducted in 2000. This report recognised that the benefits of urban beekeeping were multiple. To quote the report:

"The social benefits include enjoyment of a hobby by individuals and/or families from all walks of life and all ages that is able to produce a healthy, nutritious product for home consumption or sale.

The retail value of honey and beeswax produced by hobby beekeepers in NSW is over $5 million annually. Support industries providing beekeeping equipment rely heavily on the business generated from hobby beekeepers".

There are over 3,000 registered beekeepers in NSW, with the majority of these being recreational beekeepers. The 2000 inquiry reported the possibly of an equal number of unregistered beekeepers keeping bee hives in NSW. As the Sydney basin is

one of the densest populated regions within NSW, it would be easily conceivable to suggest that there are upwards of 2,000 to 3,000 beekeepers in the Sydney basin.

Beekeeping clubs and associations are regarded as desirable socially positive bodies that will promote good beekeeping management and thus assist in managing any social impacts of keeping bees. Beekeeping associations also provide excellent forums to increase and disseminate information on matters of biosecurity affecting the management of honey bees.

Addressing the two broad areas of the Key Threatening Process listing:

1. Competition for tree hollows
Managed honey bees are not occupying tree hollows. They are kept and reside in specially made bee boxes referred to as bee hives. There is potential for honey bee colonies to swarm, particularly in the spring period, but in a managed apiary, steps are routinely carried out during this period to limit this behaviour.

As an adjunct to direct management of the hives within the apiary it is also possible to place swarm catching boxes in proximity to the managed hives. These are empty bee hives which are extremely attractive to a swarm of bees seeking a suitable new hive.

The author's experience is that swarm-catching boxes are frequently occupied by swarms originating from other locations other than the hives under direct management. The use of swarm catching boxes then becomes a service by the individual or club in removing potentially nuisance swarms.

Hollow formation in eucalypt trees may not occur until the tree is at least 70 years of age. Various studies suggest that the occupancy of hollows by honey bees is less than 1%. The limitation of honey bees occupying tree hollows will be related to the number of feral colonies a location may be able to sustain and the number of suitable hollows for honey bees.

Given that the Ku-ring-gai Council region is occupied by both starlings and Indian mynas, both exotic birds with a high dependency on tree hollows to provide nest sites, plus the documented very aggressive behaviour of Indian mynas to native birds, the consideration that honey bees pose a threat needs to be put in perspective.

2. Competition for floral resources
Competition for floral resources is an issue if:

a. there is a limited supply of pollen and nectar, or
b. there are sensitive fauna that are dependent on the same floral resources as honey bees.

Managed honey bee colonies do particularly well in urban environments, primarily due to the abundance and diversity of 'backyard' plants. A number of Australian native species including grevilleas, callistemon and melaleucas are particularly reliable producers of nectar. Grevilleas and callistemon are extremely popular as garden and landscape shrubs and are a regular and prolific flowering plant.

The abundance of nectar in urban landscapes is probably best illustrated by the increasing numbers of rainbow lorikeets that are becoming more common in urban areas. These birds are reliant on the availability of nectar and pollen to maintain populations. Observation would suggest that their numbers are growing and their geographic spread is increasing in correlation with urbanisation.

The essence of listing feral honey bees as a key threatening process also suggests that feral honey bees have the capacity to continue to expand into new areas. The evidence is of the contrary with the feral bee population static and even declining.

There have been several pests and diseases arrive in Australia that have had a major impact on honey bee health. Prior to the seventies, the resident honey bee population had one group of significant pests, the wax moths, only two brood diseases of consequence – American foulbrood and sac brood, and an adult disease Nosema apis. Since the seventies we have seen the arrival and establishment of:

European foulbrood – mid seventies
European wasps – 1978
Chalkbrood – 1993
Small hive beetles – 2002
Nosema cerane – 2007

The combination of these pests and diseases has meant that honey bee colonies, whether managed or unmanaged, have been placed under increasing selection pressure. Anecdotal evidence suggests that in some coastal locations the arrival of small hive beetles has resulted in a major reduction in the feral bee population.

Australia is still free of the parasitic varroa mite which has seen the complete collapse of the unmanaged honey bee population around the world. Varroa mites were discovered in New Zealand North Island in 2000 and the South Island in 2006. Australia remains the last major beekeeping area on earth that is free of this parasite. Various expert opinions suggest that this mite will eventually arrive and we will see the unmanaged honey bee population completely collapse.

In countries where this has happened, local government authorities have become very conscious of the need to encourage local beekeeping, primarily to support the growing of backyard fruit and vegetables. As honey bees are frequently the primary visitor of the majority of our agriculturally economic important flowering plants, the role of honey bees becomes acutely apparent.

Footnote:
The Ku-ring-gai Council has provided a site for the activities of the North Shore Beekeepers' Association for over 25 years. The club invested in a building to store equipment and as a base for their field days. In July 2013 the club received notification from the council, also accompanied by a solicitor's letter, giving the club five weeks notice to vacate the site. It cost the club $2,300 to dismantle and remove their shed, which is in storage at a member's property.

The area of the original bee shed and apiary is to be part of a greater extension to the North Turramurra recreation area, including playing fields, netball courts etc. By all accounts, dealings with council by the eleven executive members have been less than rewarding. Sheer persistence has gotten them this far.

Clearly the bee group is out of favour, and the Ku-ring-gai Council, who once had a good working relationship with the North Shore Beekeepers' Association, no longer looks on them in the same light. It doesn't pay to be complacent!!

The end story is sweet. Discussions by the group with the neighbouring Warringah Council have shown this council to be a lot more encouraging and sympathetic to the bee club's needs than the Ku-ring-gai Council. (For interest the North Shore Beekeepers web site is www.nsbka.org.au

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NSW Apiarists' Association Annual Conference Program

Day 1 - Thursday 8 May 2014

The Crossing Theatre 117 Tibbereena St Narrabri

8.00am	**REGISTRATION**
9.00am	NSW Apiarists' Association AGM including welcome, apologies and remembrance pause, confirmation of 2013 Conference Minutes, business arising from minutes, financial report, President's Report, Branch Reports, Show and Australia's Honeybee News – as published, Marcus Oldham session. **Casey Cooper ,** *NSW Apiarists' Association President*
9.45am	AHBIC Report - Activities for the year. **Ian Zadow,** *Chairman* AHBIC
10.15am	Official Opening
10.30am	**MORNING TEA**
11.00am	Forestry Corporation Update.
11.30am	National Biosecurity Strategy - model and funding proposal **Craig Klingner and Ian Zadow,** AHBIC
12.15pm	Nominations for Executive Council
12.30pm	**LUNCH**
2.00pm	The prebiotic effect of eating Australian Honey. **Dr Nural Cokcetin**, School of Biotechnology and Biomolecular Sciences University of NSW
2.30pm	Beekeeper expectation and the role of the NSW Environmental Protection Authority. **Andrew Hawkins**, *Manager Chemicals Regulation* and **Simon Smith**, *Manager Armidale Region* NSW Environment Protection Authority
3.00pm	Working with the cotton industry - the role of bees in cotton production. **Adam Kay**, *Chief Executive Officer* Cotton Australia
3.30pm	The Chinese Industry - An Australian Beekeeper's Perspective. **Craig Klingner,** *Apiarist*
4.00pm	The way forward for our industry - workshop summary. **Greg Mills,** GoAhead Business Solutions
4.30pm	General Business
6.00pm	**WINE & CHEESE NIGHT IN THE TRADE SHOW - sponsored by Capilano**

Annual Conference Program cont.
Day 2 - Friday 9 May 2013

The Crossing Theatre 117 Tibbereena St Narrabri

8.30am	**REGISTRATION**
9.00am	Bees and coal seam gas mining - overview of the relationship in the Pilliga. **Annie Moody**, *Team Leader Community and Land* Santos
9.30am	RIRDC Honeybee and Pollination Report. **Ben Hooper,** *Honeybee Advisory Committee* Rural Industries Research and Development Corporation
9.50am	NSW Department of Primary Industries Reports. **Dr Doug Somerville and Mick Rankmore**, NSW Department of Primary Industries
10.00am	Using satellites to move beehives. **Jonathan Arundel,** *PhD student* University of Melbourne
10.30am	**MORNING TEA**
11.15am	Varroa mite in Papua New Guinea and pathogens in Australian honeybees. **Dr John Roberts,** *Bee Scientist* CSIRO
11.45am	Beekeeping and Social Media. **Jaye Hughes,** *Apiarist*
12.00pm	Local Land Services. **John Macarthur-Stanham**, Chair of the Local Land Services Board of Chairs
12.30pm	**LUNCH**
2.00pm	Beekeeping in the Dakotas. **James Kershaw,** *Apiarist*
2.30pm	Interspecific matings between Apis cerana and Apis mellifera in Cairns. Does it happen and what does it mean for the industry? **Professor Benjamin Oldroyd**, *Professor in Behavioural Genetics* University of Sydney
3.00pm	Opportunities and benefits for genetic improvement in the honeybee industry. **Dr Robert Banks,** *Director Animal Genetics and Breeding Unit* University of New England
3.30pm	Plant Health Australia and the honeybee industry. **Sam Malfroy**, *Project Officer* Plant Health Australia
4.00pm	General Business
4.30pm	Close
7.00pm	**ANNUAL CONFERENCE DINNER**

HONEY LEVY REFORM & INCREASE

The Australian Honey Bee Industry Council (AHBIC) proposes that changes be made to the existing honey levy which is collected by the Levies Revenue Service (LRS) of the Department of Agriculture.

- **What is the honey levy?**

Australian honey producer levies are set at 2.3c/kg for annual honey sales greater than 600kg. These levies fund:

1) Research and Development (R&D) – a levy of 1.5c/kg is matched by the Australian Government and managed by the Rural Industries Research and Development Corporation (RIRDC).
2) EADRA Biosecurity – a levy of 0.7c/kg provides resources for the Emergency Animal Disease Response Agreement (EADRA) and is also used to meet industry's contribution to the National Bee Pest Surveillance Program.
3) National Residue Survey (NRS) – a levy of 0.1c/kg manages the risk of chemical residues and environmental contaminants in Australian food products including honey. This is a requirement for Australian to be exported to the European Union.

- **Who pays and submits the returns?**

The producer, or the person who owned the honey immediately before sale, or the person who uses the honey in the production of other goods is liable to pay the levy. Where the producer sells the honey to a buying/selling agent (e.g. Capilano), processor or shopkeeper, it is the buyer's responsibility to lodge a quarterly return, on behalf of the producer.

Where the producer sells the honey directly via markets or other retail opportunities, it is their responsibility to pay the levy via an annual return.

- **Are there exemptions in the levy payments?**

Exemption from payment of the honey levy only applies when the producer sells less than the 600kg of honey per year. Any producer selling over 600kg annually for honey must pay the honey levy. No other exemptions apply.

- **What changes do AHBIC recommend?**

AHBIC are proposing to raise the honey levy from the current 2.3c/kg to 4.6c/kg to pay for improved industry biosecurity – endemic pest and disease management and surveillance of exotic bee pests and pest bees.

The current R&D levy and the NRS levy will not be changed.

AHBIC promotes the following administrative changes:

- Changing the Emergency Animal Disease Response Agreement (EADRA) biosecurity component into an Emergency Plan Pest Response Deed (EPPRD) biosecurity component.
- Increasing the newly established EPPRD biosecurity component from 0.7c/kg to 3.0c/kg to help industry fund established and exotic pest and disease biosecurity activities.
- Establishing a Plant Health Australia levy of 0.1c/kg to pay for AHBIC annual subscription fees. This 0.1c/kg PHA levy will be established by reducing the newly established EPPRD biosecurity component by 0.1c/kg from 3.0c/kg to 2.9c/kg.
- Changing the management of the AHBIC Contingency Fund from Animal Health Australia to Plant Health Australia
- AHBIC are also proposing to raise the threshold of honey produced from which the levy applies from 600kg to 1,500kg per annum

- **How is the consultation being carried out?**

Consultation with the honey bee industry will be carried out over an 8 month period from between December 2013 – July 2014 in a variety of industry and association newsletters, journals, websites, popular media articles, and state department of agriculture mail outs. This consultation will be inclusive of all beekeepers which could be affected by the proposed changes.

Presentations on the proposed levy changes, with an open floor discussion on the proposed changes are scheduled for each of the six state beekeeping association conferences in 2014. At each of these conferences, voting on the proposed changes will also be undertaken.

- **Why is there a need for the proposed increase to the honey levy?**

The proposed increase in the honey levy will fund endemic pest and disease management and provide industry's contribution to exotic pest and pest bee surveillance.

Established pests cause significant financial and emotional harm to beekeepers. In particular American Foulbrood (AFB) is present in all Australian states and territories and is the most fatal and costly established pest. Evidence shows that problems caused by pests, such as AFB, are only getting worse and the current state based policies and systems are not working. Overseas experience also suggests that if major established pests such as AFB are not properly controlled when an exotic pest such as Varroa mite arrives, the dual effect is worse than expected. For these reasons, greater national coordination, industry leadership and funding are urgently needed.

Australia is currently free of some of the most significant pests of honey bees, namely the Varroa mite and Tropilaelaps mite. The establishment of these pests in Australia would be catastrophic for the honey bee industry causing huge losses in production. An industry – Government partnership known as the National Bee Pest Surveillance Program is in place to provide an early means of detection of exotic bee pests and pest bees. A sustainable source of funding is required to meet industry's contribution to its partnership agreement with Government. The National Bee Pest Surveillance Program also provides valuable trade support for exports of queen bees and packaged bees from Australia.

- **How will the increased levy benefit levy payers?**

The proposed honey levy increase will be spent on two national biosecurity programs that will both bring numerous benefits to beekeepers.

The National Honey Bee & Pollination Industry Biosecurity Management Strategy (The National Biosecurity Strategy) has a vision of increased productivity and profitability in the Australian honey bee industry through the control of endemic bee pests and diseases (National Bee Biosecurity Program), and improved surveillance and preparedness for exotic pests and diseases (National Bee Pest Surveillance Program). The 5 major benefits for the establishment of the National Bee Biosecurity Program are for:

1) Greater industry communication, training and educational material to be produced and provided to beekeepers which will focus on surveillance, identification, prevention and control of honey bee pests and diseases;
2) Improved level of overall biosecurity of commercial beekeepers in Australia through the development of the Australian Beekeeping Code of Practice;
3) Reduced incidence of established pests and diseases, such as AFB, thereby lowering the economic losses presently experienced by beekeepers;
4) Improve surveillance for exotic pests (such as Varroa mite) as beekeepers will be required to inspect hives more frequently and have better knowledge of identification of pests and diseases;

5) Establish an effective working management and coordination structure between industry and government, which will help in the event of an incursion of exotic bee pests (such as Varroa mite)

The National Bee Pest Surveillance Program (NBPSP) is an early warning system to detect new incursions of exotic bee pests and pest bees. The Program involves a range of surveillance methods conducted at locations considered to be of most likely entry of bee pests and pest bees throughout Australia. The NBPSP benefits beekeepers in 2 critical areas:

- The NBPSP acts as an exotic bee pest and pest bee early warning program
- The NBPSP provides critical trade support data to facilitate the export of queen bees and packaged bees

- **How much levy is needed? How will it be spent?**

Around $460,000 per annum is needed to help fund industry biosecurity activities. This includes:

- AHBIC's estimate for their contribution to the National Biosecurity Strategy is approximately $385,000 per annum. For more information, go to www.honeybee.org.au (under the Programs tab)
- AHBIC's contribution to the National Bee Pest Surveillance Program which is $75,000 per annum. For more information about this program, go to www.nbpsp.com.au

- **Why are you raising the threshold?**

AHBIC are proposing to raise the current threshold of 600kg to 1,500kg. Therefore, producers would be exempt from paying the honey levy if they sold less than 1,500kg of honey per annum. The reason for raising the current honey levy threshold from 600kg to 1,500kg per annum is because the costs of collecting the levy in these lower ranges are far exceeding the revenue raised. These proposed changes are an effort by AHBIC to make the honey levy more cost efficient.

- **What am I paying more levy and hobby beekeepers are not paying anything?**

The simple reality is that research funded with the honey levy and managed by RIRDC has not been able to identify a cost effective or legal mechanism for collecting levy from very small producers including amateurs. See for instance Granger and Woodburn (2010) and Ryan (2013).

Currently, the only model available for the honey bee industry to raise funds is through an increase in the honey levy.

The majority of the funds raised as part of this proposed levy increase will be spent on the proposed National Bee Biosecurity Program. Therefore, Stage 1 of the proposed National Bee Biosecurity Program will be targeted at commercial beekeepers which are registered for more than 50 hives. Therefore, this commercial honey levy will be spent directly on commercial producers with a direct benefit.

Stage 2 of the proposed National Bee Biosecurity Program will focus on raising additional funds from hobby beekeepers, where the benefit from this separate source of funds will be spent directly on hobby beekeepers.

- **Why should I pay more levy?**

AHBIC is mindful of low honey prices, high production costs and the perilous state of the industry's profitability. The proposed levy increase has been carefully costed, will be directed at biosecurity and is at the request of Australian beekeepers and beekeeping associations. The National Bee Biosecurity Program and the National Bee Pest Surveillance Program will be industry driven and reviewed on a regular basis to ensure they are meeting industry's aims.

Currently, the only model available for the honey bee industry to raise funds is through an increase in the honey levy. Since the raising of the honey levy will be paid for by commercial beekeeper, stage 1 of the proposed National Bee Biosecurity Program will be targeted at commercial beekeepers which are registered for more than 50 hives. Therefore, honey producers and levy payers will receive a direct benefit from the levy.

Stage 2 of the proposed National Bee Biosecurity Program will focus on raising additional funds from hobby beekeepers, where the benefit from this separate source of funds will be spent directly on hobby beekeepers.

- **Who is eligible to vote?**

Every beekeeper in Australia who is registered for more than 11 hives, and is therefore considered a levy payer is eligible to vote on the proposed levy changes. Because of the current levy threshold of 600kg, it is estimated that using the average production of 54kg from each hive (ABARES 2008), only beekeepers that are registered for 11 hives or more would be producing the current 600kg per year.

- **How can I vote?**

A formal ballot will be held at each of the six state beekeeping conferences held between May – July in 2014. At these conferences, every registered beekeeper owning more than 11 hives will be provided with the opportunity to vote. The vote will be tallied on both a yes/no basis, as well as using a weighted production basis.

- **How can I vote if I can't attend the state beekeeping conference to vote in person?**

If you are unable to attend the ballot held at the state beekeeping conferences in 2014, you are able to submit a postal vote. **The postal votes open Australia-wide on 1 March 2014**. You can download a ballot form and post it to your relevant state department of agriculture representative for counting when the ballot is tallied. Each state department of agriculture has nominated an independent voting scrutineer for the ballot. For more details, and to print out a ballot form and vote, go to www.honeybee.org.au (under the Programs tab). If you are unable to access the internet, contact AHBIC about how to receive a postal ballot form on (07) 5467 2265

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- **How do I get more information about these proposed changes?**

More detailed information about the proposed levy reforms and changes are contained on the AHBIC website. Go to www.honeybee.org.au (under the Programs tab).

For more information about specific changes contact AHBIC on (07) 5467 2265 or by email on ahbic@honeybee.org.au

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NICK's NEWS

from DPI NSW

Nick Annand
Livestock Officer (Bees), NSW Department of Primary Industries, Bathurst
Ph: 02 6330 1210 Email: nicholas.annand@dpi.nsw.gov.au

One of the benefits of working as a public servant, as opposed to being self employed, is the long service leave. This has become available to me and I am not prepared to wait till retirement to take it. So on the 21March I started my long service leave at half pay. This has allowed me to take one full year off. The department is hoping to fill my position in my absence, so if interested please contact Doug Somerville. So this will be the last article for 12 months and I will see and hear from you next year.

The last job completed prior to leaving was updating the NSW DPI Honey bee web site. The basic structure of the web pages will remain pretty well the same but in this article I will discuss some of the changes. We do have a lot of useful information and links on the web site that hopefully meet your needs as beekeepers.

The opening page of the "**Honey bees"** website lists the main headings for each of the linked web pages for honey bees. Hopefully these heading are descriptive enough to enable insight on where to find the information you are looking for. I will run through these main heading outlining changes we have made.

Beekeeper registration
The only new addition is a direct link to the online registration system.

Industry contacts
This includes NSW DPI employees and beekeeping associations. We have added a link to the NSW Apiarists Association website.

General Public and bees
We have added the 'Abandoned and neglected hives and material' to this area as you do not have to be a beekeeper to report this. Often it is a farmer trying to find out who bees have been left on his property.

Apiaries Act 1985 No. 16 and supporting material
Have just tried to make sure every thing is accurate and current. Some of the minor headings on the page have also been changed and we have included links to the Australian Pesticides and Veterinary Medicines Authority (APVMA) website for those products under permit for use in beekeeping. We have linked to this site as permits come and go. This enables us to provide current information. Products that are registered for beekeeping will have labels detailing their use for bees. These products have also been listed. If you know of any others please contact us.

Honey bee management
Some minor heading changes have occurred and as a result a few publications have been relocated. Anything to do with queen breeding has been consolidated under the one heading "Queen breeding," including information on drones. We have linked to a few more of John Rhodes RIRDC reports on queen rearing and drone fertility. The links to other state department's information have also been updated.

Pests and diseases of honey bees
The first heading has been changed to 'Sampling and reporting' which covers areas that are relevant to the whole pests and diseases section. Again some articles have been shifted around. A separate heading for European foulbrood has been made to make it easier to find this information as oppose to it getting lost amongst the AFB information.

The YouTube videos on SHB and AFB have also been split and included under the relevant corresponding headings. For chalkbrood a link to Plant Health Australia (PHA) fact sheet has been incorporated. The PHA web site is continually improving, covering a variety of pests and diseases. Click on the web site link and then click on 'Pests' to bring up a range of fact sheets. We have also linked to the QLD Asian honey bee web page which details hat is happening with this unwanted pest in North Queensland.

Pollination by bees
A few extra links have been added including a link to Pollination Australia which connects you to fact sheets on pollination for a range of different horticultural/ agricultural crops and Pattersons curse. Also at this site is the publication 'Pollination of crops in Australia and New Zealand' written by Mark Goodwin. In this publication is an example/template of a pollination contract (Appendix 2) that beekeepers can use.

Another useful publication at this website is the 'Honeybee Pesticide Poisoning – A risk management tool for Australian farmers and beekeepers". Providing this to farmers in the area when providing pollination may be a good investment helping reduce the chances of pesticide poisoning.

Useful links for the bee industry
A few new links have been added including Pollination Australia, the NSW Apiarists Association and Plant Health Australia (PHA). Unfortunately state departments are exceptionally good at name changes so many of the state web page links required updating to link to their sites.

If anybody has any constructive ideas on how to better improve the web page please feel free to tell us (or Doug since I am going to be away). If any errors are seen or links do not work please let us know so we can make corrections.

So I wish you all a productive year and see you in 2015.

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INTERNATIONAL NEWS

Courtesy of : *It's a Buzz*

Study Reveals that Costs Outweigh Benefits of Toxic Insecticides Implicated in Bee Kills

Centre for Food Safety today released a scientific literature review which reveals that neonicotinoid insecticide seed treatments offer little benefit, do not increase crop yields, and cause widespread environmental and economic damage. In particular, neonicotinoids have been implicated in bee population declines and colony collapse. While some fear that crop yields will suffer without the use of neonicotinoids, the study released today demonstrates that their benefits do not outweigh the costs.

The authors examined 19 peer-reviewed studies of the relationship between neonicotinoid treatments and actual yields of major U.S. crops. Eight studies found that neonicotinoid treatments did not provide any significant yield benefit, while 11 studies showed inconsistent benefits. The studies corroborate evidence from European countries that were able to maintain crop yields even after neonicotinoid bans. The review cites the Environmental Protection Agency (EPA) for failure to conduct a thorough cost-benefit analysis and calls on EPA to suspend seed treatment product registrations.

"The environmental and economic costs of pesticide seed treatments are well-known. What we learned in our thorough analysis of the peer-reviewed science is that their claimed crop yield benefit is largely illusory, making their costs all the more tragic," said Peter Jenkins, co-author of the report and consulting attorney for Centre for Food Safety.

Seeds of commercial crops in the U.S., particularly corn and soybeans, are widely treated with neonicotinoid pesticides, ostensibly to protect emerging seedlings from pests and thus improve yields. Almost all of the corn seed and approximately half of the soybeans in the U.S. are treated with neonicotinoids.

Neonicotinoids are a class of pesticides known to have acute and chronic effects on honey bees and other pollinator species and are considered a significant negative contributor to pollinator health. Neonicotinoid pesticides are also slow to break down, so they can build up in areas where they are applied. They contaminate surface water, ground water, and soil, endangering not only pollinators, but also other beneficial species that inhabit these ecosystems.

Pesticide seed treatments are regulated by EPA under the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), which directs the agency to evaluate whether the use of any pesticide proposed for registration presents "any unreasonable risk to man or the environment, taking into account the economic, social, and environmental *costs* and *benefits*."

"Their impact on honey bees, other pollinators and on the nation's beekeepers is especially troubling. Because the available scientific studies show little if any benefit, EPA should suspend all neonicotinoid seed treatment product registrations as required under FIFRA until the costs and benefits are adequately reviewed," said Jenkins.

"Although there is no doubt that neonicotinoids are highly toxic to insects, this does not mean they are routinely effective in pest management. In many contexts they provide no benefit, and in others they are not a cost-effective option. The bottom line is these toxic insecticides are being unnecessarily applied to seeds in most cases, while harming pollinators and the environment," said Sarah Stevens, researcher and co-author of the report.

"The economic costs of neonicotinoid seed treatments are real. In addition to paying for unnecessary treatments, the overuse of these pesticides has led to significant costs to society at large," added Stevens.

New Model For Virtual Hive Lets Everybody Look At Bee Problems

Alan Harman

British scientists have created a virtual hive that gives them just about everything except a bee sting.

In their search to unravel the complex causes of colony decline, the new computer model will help scientists, beekeepers and regulators to understand multiple environmental effects on honeybee colonies.

The model simulates a honey bee colony over the course of several years.

It is freely available at http://www.beehave-model.net

The scientists, led by Prof. Juliet Osborne of the Environment and Sustainability Institute at the University of Exeter, created what they call the Beehave model to simulate the life of a colony including the queen's egg laying, brood care by nurse bees and foragers collecting nectar and pollen in a realistic landscape.

"It is a real challenge to understand which factors are most important in affecting bee colony growth and survival," Osborne says. "This is the first opportunity to simulate the effects of several factors together, such as food availability, mite infestation and disease, over realistic time scales."

The model, published in the *Journal of Applied Ecology*, allows researchers, beekeepers and anyone interested in bees, to predict colony development and honey production under different environmental conditions and beekeeping practices.

To build the simulation, the scientists brought together existing honeybee research and data to develop a new model that integrated processes occurring inside and outside the hive.

The first results of the model show that colonies infested with the common parasitic mite Varroa can be much more vulnerable to food shortages. Effects within the first year can be subtle and might be missed by beekeepers during routine management.

But the model shows these effects build up over subsequent years leading to eventual failure of the colony, if it was not given an effective Varroa treatment.

Beehave can also be used to investigate potential consequences of pesticide applications. It can simulate the impact of increased loss of foragers.

These results show colonies may be more resilient to this forager loss than previously thought in the short-term, but effects may accumulate over years, especially when colonies are also limited by food supply.

Beehive simulations show that good food sources close to the hive will make a real difference to the colony and that lack of forage over extended periods leaves them vulnerable to other environmental factors.

Addressing forage availability is critical to maintaining healthy hives and colonies over the long term.

"The use of this model by a variety of stakeholders could stimulate the development of new approaches to bee management, pesticide risk assessment and landscape management," Osborne says. "The advantage is that each of these factors can be tested in a virtual environment in different combinations, before testing in the field."

While Beehive is mathematically very complex, it has a user-friendly interface and a fully accessible manual so it can be explored and used by a large variety of interested people, she says.

"It is a real challenge to understand which factors are most important in affecting bee colony growth and survival," Osborne says. "This is the first opportunity to simulate the effects of several factors together, such as food availability, mite infestation and disease, over realistic time scales."

British Beekeepers Association president David Aston says the model will be an important tool in helping to understand the interactions and impact of the diverse stressors to which honey bee colonies can be exposed.

"Not only will it be invaluable for scientific research purposes, but it will also be an important training tool to help beekeepers better understand the impacts of their husbandry and other factors on the health and survival of their colonies," Aston says.

BEEHAVE simulates the development of a honey bee colony and agent-based foraging of nectar and pollen in a realistic landscape. Varroa mites, transmitting DVW or APV, can be included as well as several beekeeping practices. BEEHAVE can be freely downloaded at: **http://www.beehave-model.net.** It comes together with a user manual and a detailed model description. BEEHAVE is implemented in the free, open source software NetLogo (http://ccl.northwestern.edu/netlogo/).

Like BEEHAVE on Facebook (facebook.com/BeehaveModel) and join the Facebook group "Beehavers" (https://www.facebook.com/groups/635012383219568/) to keep updated.

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SICK BEES

PART 18a

Colony Collapse Revisited

by Randy Oliver - ScientificBeekeeping.com

In my article on almond pollination last month I pointed out that beekeepers in the US started experiencing increased colony mortality in the mid 2000's. What made the headlines was an unusual form of sudden colony mortality eventually given the name "Colony Collapse Disorder" (CCD). But this season CCD has sort of fallen off the radar. So perhaps it's time to look back at what we've learned.

Gone, or Just Taking a Breather?

The question is, has CCD now gone the way of previous cases of "Disappearing Disease"—episodes in which some disease caused bouts of sudden mortality, and then disappeared before anyone could figure out what caused it? A number of researchers suspected that CCD would do the same, following the typical progression of a pathogen-induced plague. The surprise was that it stuck around as long as it did.

If CCD is indeed caused by one or more novel virulent pathogens, we'd expect that pathogen's virulence to be burning out by now. On the other hand, if CCD is caused by an extraneous environmental factor, such as cell phones, GMO's, or some pesticide, we would not expect to see a change until that factor was removed from the environment.

Or perhaps, CCD simply requires enough chilling of colonies to kick it into gear (figure 1):

Figure 1. The unusually warm winter may have contributed to better colony survival this year. These maps show winter temperature "departures from normal" for December, January, and February. Red areas experienced higher than normal temperatures; blue areas colder. Each color step indicates an additional 2°F deviation. Colony mortality is often related to weather patterns. Source http://www.ncdc.noaa.gov/img/climate/research/cag3/asos-feb2012-nocities.gif.

Practical application: to minimize mortality, winter your colonies in the warmest possible locations—sunny southward slopes, out of cold pockets, or move them to warmer areas.

CCD in Retrospect?

I wish that I could have entitled this article "CCD in Retrospect," but I'm still seeing some colonies suffering sudden collapse! This winter when I moved my strong hives to almond pollination, I left the dinks behind in my bee yards in the foothills. The apparent reason for many of these colonies being dinks is that they are fighting a virus or nosema infection, which they may eventually get the better of. I've learned that if you simply leave them to their ways, they will often dwindle down to a couple of frames of bees, and then either ramp up their antiviral response or gain the upper hand over nosema, and turn around, vibrantly recovering with the first pollen flows as though nothing had happened!

I feel that in many cases in which the queen is blamed, the actual culprit is a virus or nosema infection of the workers, as these queens often show every indication of being able to lay vigorously, given a healthy cohort of foragers to bring home the bacon. In my neck of the woods, if the colony has "turned around" by late February, it will generally be fine. As it happened, late this February I enjoyed a visit by Bee Culture editor Kim Flottum, accompanied by photographer Kodua Galieti. I took them out to look at some of the recovering dinks (Fig. 2). Kodua snapped some photos, which she has generously granted me permission to use—see more of her photos at www.koduaphotography.com/.

Figure 2. A recovering dink in late February, building up on early alder pollen. This colony was a bit stronger than three frames of bees, but clearly is on the road to recovery! It does not appear that this colony being a dink was the fault of the queen. But note the barely adequate bee to brood ratio—this amount of bees will have a hard time keeping the brood warm in the event of a cold snap!

Practical application: I find that a low bee to brood ratio is a typical sign of a colony struggling with a virus or nosema infection—sick bees abandon the hive. Should the colony in the photo above manage to hatch out its brood before a cold snap, then it will then have a whole new crop of healthy young bees, and a good crack at complete recovery.

The Anatomy of Colony Collapse

Unfortunately, one of the dinks in the same yard told a different story (Fig. 3). It had also built up similarly to the colony pictured above, but then had a relapse during a two-day cold snap—cold snaps being a common precursor to sudden colony collapse. If the bees and brood get chilled, the colony may go into a rapid downhill spiral. I've previously described in detail the progression of colony collapse--see http://scientificbeekeeping.com/sick-bees-part-2-a-model-of-colony-collapse/.

Figure 3. This colony is in the middle of a sudden collapse. You can easily see the outline of the brood area, delineated by the crescents of freshly-packed pollen, which must have been covered by bees a few days prior. This colony continued to collapse quickly, and finally died in a cold snap a week later—with only silver-dollar sized patch of dead bees remaining.

Note also the lack of stored nectar around the brood area—this is despite the fact that a nectar flow was on, and adjacent colonies were whitening comb. This is exactly what I observed when I inoculated colonies with IAPV—they would collapse hungry due to lack of foragers, even in the midst of plenty. Plus the bees in sick colonies seem to be unable to utilize honey stored in close proximity to the broodnest. Collapse can then come suddenly (Fig. 4) in the event of even a minor chill, although the sick bees leave the nest, rather than dying in the typical pathetic cluster indicative of starvation (Fig. 8).

Practical application: sudden collapse can happen seemingly overnight. But it is, in my experience, preceded by a low bee to brood ratio and lack of nectar foraging, which are signs to be aware of. Sick colonies may or may not take syrup.

Figure 4. Collapse came quickly, as evidenced by this fresh, white pupa outside the cluster. Abandoned larvae and pupae soon die and turn gray, and can be used to estimate the amount of time since bees were covering the brood.

The queen, however, had not given up (Fig. 5). This is typical in colony collapse—the disease does not appear to be directly attributable to the queen. It's just that the bees get sick and fly off to die!

Figure 5. The queen appeared healthy and robust, as evidenced by fresh eggs in nearly every single cell in the abandoned brood area (two eggs in some cells). Note the lack of signs of varroa (no guanine deposits, deformed wings, nor partially emerged adults). Also note the presence of "snotty brood."

Practical application: In deadouts, check to see whether varroa/DWV were the culprits. Inspect the remnants of the broodnest for white guanine deposits on the cell "ceilings," bees with deformed wings, and partially uncapped mature worker brood, often with deformed wings. However, DWV can also take down a colony with few of those signs present.

I'd like to draw your attention to the snotty brood. The diseased brood generally matched the signs of EFB, but was not quite typical. Dr Jeff Pettis now uses the catchy term "Idiopathic Brood Disease Syndrome" for this atypical sick brood, which means "we haven't completely figured out what causes it yet". So this poor colony looked like it was going to make it, but then lost its battle with the pathogens. Note that this yard was in a pesticide-free area, and there was no sign of mites.

Relative Risk

Relative Risk: the ratio of the chance of a disease developing among members of a population exposed to a factor compared with a similar population not exposed to the factor.

Dr Dennis vanEngelsdorp and co researchers determined the "relative risk" of several factors often associated with colony collapse. A factor with a high relative risk doesn't necessarily mean that the factor will *cause* the collapse, but rather that it is associated with a higher incidence of collapse (for example cold weather has a high relative risk for colony mortality, even though it isn't necessarily *directly* responsible for their death). Determining relative risk is like setting the odds for eventual collapse—a relative risk of 2 doubles the odds that the colony will die.

Practical application: If snotty brood is present, the relative risk of that colony dying is nearly [redacted] times that of a colony without it.

Sorry, when I asked Dr vanEngelsdorp how to cite the preliminary relative risk figures that he and Dr Jeff Pettis presented at the major conventions this season, he asked me to hold off until they are more firm on the numbers—so I am respectfully deferring to his request. I find this line of research to be of great potential value to beekeepers, and I want to only publish accurate information!

I've currently got a number of colonies with spotty brood and signs of "EFB-like" snotty brood. I'm familiar with the classic symptoms of EFB—curled, twisted young larvae with white tracheal tubes standing out against a yellowish background, slight sour odor, minor ropiness, and drying to a removable rubbery scale. I'd occasionally see EFB in springtime; especially when strong colonies were deprived of pollen due to rain, and then the disease would spontaneously disappear with the advent of a good pollen flow.

But nowadays I'm seeing a great deal of "atypical" EFB. It may be associated with mites and viruses, since the signs are similar to those seen in sick brood in colonies suffering from Parasitic Mite Syndrome (PMS), ***but I now see it in colonies with low mite levels!***

One odd thing is the smell, since this dead brood gets really putrid stinky! The scientist who first identified the bacterium responsible for EFB was G F White (yes, the same guy who identified *Nosema apis*). Dr White stated that EFB "is characterized by the death of the brood during its uncapped stage…In advanced cases the disease may be accompanied by an odor, but in the writer's experience this never has been marked and never offensive" [1]. But other bacteria are commonly associated with EFB; perhaps these are causing the differences in smell and appearance. An excellent page on the diagnosis of EFB (with color photographs) can be found at Extension.org [2]. So I sent samples off to the USDA Bee Diagnostic Lab, and wish to thank Sam and Bart for helpful discussion and a speedy turnaround so that I could make deadline for this article. The samples came back positive for EFB.

In the past several years, I'm seeing what appear to be two different forms of atypical EFB-like brood disease:

Syndrome 1:

- Larvae prior to propupal stage turning bright corn yellow, usually remaining in the "C" shape without much twisting. I've heard of this same symptom from many beekeepers across the country.

Syndrome 2:

- A greater proportion of older, rather than younger, sick larvae in the combs, many of them capped over, and having sunken, perforated cappings. These older larvae often turn flaccid without twisting, and eventually melt down into strongly putrid-smelling goo (but with a very different odor than AFB).
- The dead capped brood may melt down into a dark watery pool, rather than the translucent-opaque, slightly ropy goop typical of EFB. The liquid also really stinks with a putrid, rather than sour, odor!
- Capped pupae dying in the same colonies. EFB should not kill pupae [3], since the larva sheds its infected gut lining when it pupates. However, these pupae may be infected by something else, such as a virus—they look very much like pupae dying from DWV.
- The disease does not necessarily go away with a pollen flow.

Practical application: Some of these symptoms can be confused with those of AFB—I was surprised when I sent a very similar-looking sample to the lab last season and it came back positive for AFB! My quandary is that I wish to burn any AFB combs, whereas EFB responds well to the antibiotics oxytetracycline or tylosin (I hear anecdotally that OTC gives better control, plus has less chance of getting into the honey). A brood break, such as by making splits, may help as well.

The Holst Milk Test

While I was waiting for the lab results, I tried a diagnostic technique that I'd never done before—the Holst Milk Test for AFB [8]. This test detects the presence of the strong proteolytic enzyme that the sporulating AFB bacteria release in order to melt down the larval bodies in the last stage of infection. The enzyme will also break down milk protein—and "clarify" a weak solution of powdered milk within minutes. Luckily, I had a comb of obvious AFB on hand to show to my beginners classes, so I tested fully decomposed suspect EFB-like larvae against known AFB scale. The results were impressive (Fig. 6)! I highly recommend this test for beginners who suspect AFB in deadouts.

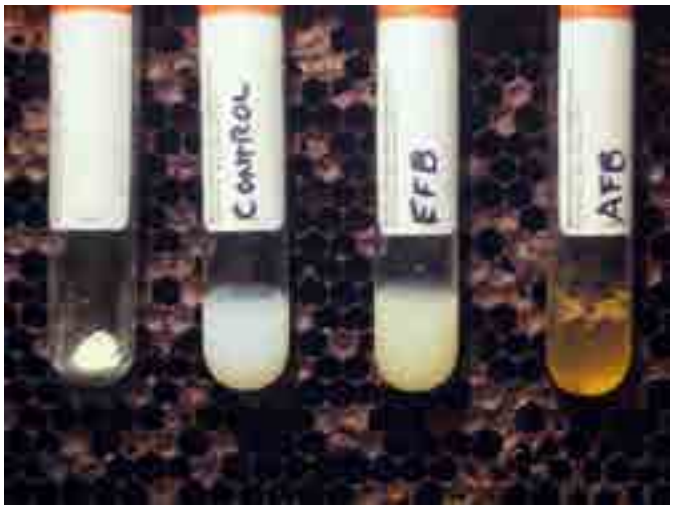

Figure 6. The Holst Milk Test—a simple field technique for diagnosing AFB from dried scales. Put a tiny pinch of nonfat milk powder into a clear tube, add ½ tsp water, and then add one or two well-decomposed suspect larval remains (scale). Keep the tube at body temperature for 20 minutes, shaking occasionally. In the background is a typical comb from an AFB deadout. See [8] for additional details.

I experimented with the test a bit. The more concentrated the milk solution, the longer it takes AFB to clear it—sometimes overnight (use less milk powder than in the photo above for a quicker field test). EFB will cause the milk to clump, but you don't get the clear "apple juice" look as with AFB.

Treating for nosema

Speaking of treatments, since I recently found a correlation between weak colonies and the prevalence of nosema (percentage of bees infected), I tried treating all my dinks once a week from late January through early February with a drench of fumagillin (Fig. 7), 3-4 times total [4].

Figure 7. I find that using a garden watering can to apply medication by drench is very quick. Since I only apply ¼ cup to small colonies, I stand little chance of contaminating my spring honey. Multiple weekly drenches spread the medication out over an entire brood cycle. Take caution if you add essential oil "feeding stimulants"—they can cause wetting and drowning of bees! Note the uneaten pollen supplement patty.

Because I had treated these dinks recently against nosema, I assumed that I could rule it out as the cause for the collapse. But beekeeping certainly has a way of making an ass of you when you assume anything! As I'm writing this article, it occurs to me that I should go back to the yard and grab a sample of the remaining dead bees to test for nosema…

O.K., I'm back now-- Result: 8 out of 10 of them had their guts loaded with spores! And one contained amoeba cysts to boot. That was an eye opener!

Dr vanEngelsdorp found that even a relatively low level of nosema (1M spores in the house bees) increases the odds of a colony collapsing by a factor of [redacted]. More to the point, having 8 bees out of 10 infected is a death sentence for a colony! Oh, and by the way, there was no sign of dysentery.

Disclaimer: Now please don't get me wrong—I'm not saying that *Nosema ceranae* is the cause of CCD! It is not necessarily present when colonies suffer sudden collapse—the viruses are quite capable of doing that on their own!

Practical application: The "spring turnover" of colony population, during which the aged winter bees must rear replacements, is a dicey time for weak or sick colonies. The old bees must not only fight parasite buildup and winter cold, but must also generate heat for the broodnest, and produce jelly in order to rear healthy young bees to take their places. If they don't pull this feat off, the colony can quickly crash!

This colony collapsed during a mild California foothill winter, with a good nectar and pollen flow on, interspersed with occasional bouts of snowfall. The chill events appear to be the fatal factor.

Practical application: My guess as to why fumagillin did not clear the infection is that I was simply too late in applying it—the infection had already seriously taken hold, and this colony was simply unable to replace the infected bees with healthy ones in time. But remember, most of the dinks recovered quite handily!

As we looked through the dinks, we came upon some with yet another indicator of impending collapse—the presence of supersedure cells (Figures 8 and 9).

Figure 8. This is a two and a half-frame dink in late February with numerous supersedure cells. And yes, I realize that they are on the bottom bar, but this colony was in no shape to swarm, and had no drones yet. A healthy virgin emerged from a ripe cell that broke open. The presence of supersedure cells suggests that this colony has a [redacted; but substantial] relative risk of dying.

I commonly see unexpected supersedure cells in heavily infected colonies—it doesn't really seem to matter what the pathogen or parasite is. I'm not sure whether the bees are blaming the queen for their misery, or whether the queen gets infected and puts out a pheromonal signal to replace her.

Figure 9. Here is yet another dink that died with supersedure cells (I'm pointing to two), despite the presence of an apparently healthy queen (see Figure 10). You can see that this colony had recently covered a fairly large brood area. Note also the remains of a pollen patty fed at an earlier date.

Of even more import is that some risk factors may synergize. If you multiply the relative risk due to a nosema infection times the relative risk due to the presence of supersedure cells, you then get a combined relative risk of [redacted; but much higher]. **Practical application: the combination of a nosema infection plus supersedure cells does not bode well for a colony's survival!**

Figure 10. A close up of the dead cluster—you can see the queen near the top center. In none of these deadouts were there any appreciable numbers of dead bees on the bottom boards. Note the absence of "heads in the cells" typical for starvation.

As I'm looking at this photo I realize that my readers would be curious as to whether this colony also tested positive for nosema, so off I go again back to the same yard (through the rain—what I *do* for my readers)…

OK I eventually found this exact same frame of dead bees, and squashed the abdomens of ten of them. Wanna guess? Nine of them were chock full of spores! So the infection had clearly moved into the last few young bees. Unfortunately, I had given the dead queen to Kodua to photograph, so couldn't test her (the queen) for spores.

Practical application: don't count on dysentery to be a reliable indicator of serious *Nosema ceranae* infection—it isn't, although I see it occasionally over the snow in front of infected colonies. If you're not testing your dinks and deadouts for nosema, you have no idea as to whether *Nosema ceranae* is causing winter/spring mortality!

Practical application caveat: over the past few years when I've tested the few remaining bees in collapsed deadouts, nosema was generally not evident (leading me to conclude that nosema was not a problem). In those cases, collapse was likely due to a virus infection. I'm not clear as to why this year is different, although my nosema levels have been ramping up each year (I hadn't been treating against nosema). Overall, my bees this year have not been at their best, although a strong majority went to almonds and look fine. I'll spot test them when they return (I'm typing these words in early March).

Pollen Supplement Patties

I haven't heard the researchers mention it, but I observe that yet another indicator of elevated risk for later collapse is that the colony does not consume pollen supplement in the fall. Beekeepers have long noticed that untouched protein patties are generally a sign of queenlessness, but I'm finding that they are also often a sign of a sick colony. Most all of my dinks had uneaten patties on the top bars in February (Figs. 7, 9, and 11).

*Figure 11. It seems that I could largely predict which colonies would eventually dwindle or die by whether they consumed protein patties in fall (the size of this patty suggests that the cluster was much larger when we put it on—we only put patty over seams filled with bees). Healthy colonies gobble supplement up, leaving no scraps. We checked every colony that didn't consume their patty in the fall to confirm that they indeed had a laying queen; yet few that had patty remaining in February were strong enough to go to almond***s.**

Practical application: a good indicator that a colony is going downhill is that it doesn't consume protein patties. It might be a very good idea to quarantine those colonies to an isolated "sick yard" (like far away from my hives in the almonds!).

Yet Another Sign of Impending Collapse
I thought that I was perhaps the only one who noticed this one, but in conversation with other beekeepers who suffered from CCD, I found that others also observed that the cappings over the brood sometimes turned a very dark reddish tint, and instead of being slightly rounded outwards, would be flat. The brood appeared to be perfectly healthy under the cappings. I found this to be a sign that a colony was in trouble. However, I didn't notice it when we later experimentally caused colony collapse with IAPV, nor do I notice it with colonies collapsing from *Nosema ceranae.*

Ag Exposure as a Risk Factor
Oh man, is this a touchy subject, with some very strong and adamant opinions out there! Beekeepers have long noticed that colonies set in certain agricultural areas go downhill, or may not make it through the following winter. Sometimes a certain pesticide is clearly to blame; other times it may simply be due to the lack, or poor nutritional quality, of the forage in the agricultural area, especially in this age of "clean farming" and wall to wall corn or soy.

When I first published my model for colony collapse, mentioning that some pesticides become more toxic to bees at cooler temperatures, Dr Eric Mussen sent me this note:

"When Dr Eric Erickson was employed at the USDA laboratory in Madison, WI, he conducted a small demonstration study based on observations reported by a number of nearby beekeepers. The beekeepers told him that when their hives were located near commercial corn fields and permethrin was applied to the crop during "bloom" (tassels producing pollen), the colonies did not survive over winter.

"Dr Erickson had half the lab colonies moved into an area near a corn field and had an application of permethrin made during bloom. No noticeable bee loss was noted in the apiary at the time. The colonies were then returned to the lab apiary and all colonies were prepared for winter. During the winter all the permethrin-exposed colonies died, whereas all the stay-at-home colonies survived. It wasn't clear as to whether the mortality was due to the corn pollen, the pesticide, or something else, but the point is that colonies foraging upon sprayed corn fields in tassel exhibited a delayed effect of high winter mortality--greater than that of the colonies that were not exposed to the treated corn."

Practical application: in the registration process of pesticides, they are normally only tested on bees at about 80°F. We really have little idea as to the effect of pesticides upon bees at 45°F—the temperature of the bees in the outer shell of the winter cluster!

I recently attended a presentation in Oregon in which commercial beekeepers described the number of pollination contracts that they moved their bees to during the summer, and more to my interest, the sheer number of pesticide applications that the bees had to deal with. To my mind, it's a wonder that their bees survive at all!

Practical application: some Ag crops in certain areas are the kiss of death to bees, but the effect may not be noticed until winter. This is a complex subject, having to do not only with pesticides, but also with colony population dynamics, parasite dynamics, nutrition, symbiotic fungi and bacteria, pesticide and miticide synergies, pesticide/pathogen synergies, and who knows what else! I doubt that the problem has a simple answer.

Dr Mark Carroll of the ARS is currently engaged in a project called "The Costs of Following the Bloom--Nutrient Processing, Microbial Dynamics, and Colony Health in a Migratory Beekeeping Operation" [5]. I hope that his research can help to answer some of the above questions. In a recent presentation, he spoke of "overextended bees" in migratory operations, suffering from poor nutrition and parasite buildup. Perhaps he should also have spoken of "overextended beekeepers," who are simply trying to run more colonies than they can properly manage!

There is a raging debate as to whether the systemic neonicotinoid insecticides are causing CCD, fueled by a great deal of conjecture and hyperbole that is often confused with fact. I'll discuss this in my next article.

Reliving History
There is nothing new about the phenomenon of sudden colony collapse. In 1897 R C Aikin, from Colorado, described a similar phenomenon [6]:

"In [May] of 1891…I had been watching carefully the progress of brood rearing, and had the colonies quite strong in both bees and brood. ... Many colonies were so strong that they were clustering out, although we had not unpacked yet…While they were so, I had looked all over and equalized stores and brood, then was absent about ten days... [when] I went to the out-apiaries to again inspect as to stores… I was astonished at the very few bees in them. I went to some hives that I knew had been clustered out about ten days previously, and I found not enough bees to cover the brood. The weather was warm, the bees packed in chaff, and the few bees left were spread all through the hives caring for the brood.

"Some of the colonies were so depopulated that, when I lifted combs, I could lay my open palm on the face of a comb of brood and scarcely touch a bee. It was not what I understand as spring dwindling. The bees were mainly young, for bees had been hatching for weeks…

"The bees just vanished, and were nowhere to be seen. If they had died in or about the hive, possibly we might have found out what was the matter; but they seemed to evaporate, hence I have called it "evaporation." The loss of bees was so complete that many colonies had not half a teacupful of bees left, where, less than a week before; they covered brood in three combs and upward. The queens, it seems, were always left; but the workers so completely evaporated that the brood perished."

Beekeepers have always had to deal with episodes of colony collapse, sudden or not, and depending upon their fortitude and perseverance, use the bees' biological capacity for rapid increase to recover. This "get over it and get going" attitude is exemplified in a scene from the movie "The Last Beekeeper." While sitting at a diner, a woman commercial beekeeper is despairing about how CCD has financially ruined her operation; meanwhile, her companions, an older beekeeper couple, between bites of food, just keep saying "You gotta restock, you gotta restock." That scene to me was the archetype of the attitude necessary for successful beekeeping.

CCD was never actually a serious bee issue—there was little doubt (other than in the minds of fanatics) that the honey bee would survive. CCD was really about whether commercial beekeepers could financially survive such serious losses. And as I pointed out last month, were it not for the "generosity" of the almond growers, many of us would not have!

In my own beekeeping career, my operation has been devastated by collapse events four times: first by tracheal mite in the late 1980's (to which many beekeepers lost 70% of their colonies); then by varroa (I lost 97% around 1996); then again when Apistan strips failed in the late 1990's. And this dismal record doesn't even take into account those El Niño years in which I decimated my operation myself in order to fill my nuc orders! By the time I got hit by CCD in 2005, collapse events were old hat!

However, each of the above events was followed by seasons in which I could recover. But as we picked up each new parasite, recovery got a bit more difficult, due to increased levels of colony morbidity and mortality. Preceding, and concurrent with

CCD, our colonies were already experiencing an elevated rate of winter loss over the norm. What the heck is the "norm"? Back in the "good old days," beekeepers expected to lose maybe 5% of colonies over the winter; perhaps 10% where winters were severe. Losses were mainly blamed upon starvation, queen failure, or *Nosema apis*.

After the arrival of varroa, the "normal" winter loss rate ramped up to the 15-20% range. CCD (and perhaps *Nosema ceranae)* notched that average rate up to above 30%--a level at which winter losses really started to hurt! The interesting thing is that about a quarter of commercial operations get hit disproportionately hard, and about a quarter have few problems. Beekeepers and researchers are pulling their hair out trying to find the causes for the difference!

What made CCD stand out was our inability to blame it on the "Usual Suspects." However, it also became an oh so handy scapegoat for absolving oneself from blame for losses due to mismanagement, poor timing, lack of varroa control, or anything else. I'm not depreciating the devastation and distress caused by CCD in some operations (the film "The Last Beekeeper" is heart wrenching), but most beekeepers found that given enough financial incentive, they could recover and figure out how to avoid major losses.

Practical application: Those beekeepers, who diligently keep mite and nosema levels down, ensure that their bees get good nutrition, and are not continuously exposed to commercial agriculture tend to have fewer problems with colony collapse (not that I expect you to take that as any sort of revelation!).

As you can see by the blow-by-blow account that I'm giving of my own learning curve, I personally sure haven't figured everything out—beekeeping presents new challenges every year! I like the recent quote from California beekeeper Henry Harlan [7]:

"If you meet a beekeeper who says he knows it all, his bees will probably be dead next year."

In any case, Colony Collapse Disorder has presented us with an opportunity to learn a great deal about bee health. I will follow this article with a critical analysis of the suspect causes of both CCD specifically, and increased colony mortality and morbidity in general, followed by a summary of experiments that actually tested various hypotheses.

Acknowledgements
As always, I am deeply indebted to Peter Borst for his help with research, and to my wife Stephanie for her critical reading of my manuscripts. And thanks to Dianne Behnke of Dadant for digging out and scanning old articles from ABJ for me! I am especially appreciative of the worldwide community of bee researchers, who take the time to discuss my questions at length.

References
[1] White, GF (1920) European foulbrood. USDA Bulletin No. 810.

[2] http://www.oie.int/fileadmin/Home/eng/Health_standards/tahm/2.02.03_EUROPEAN_FOULB.pdf

[3] http://www.extension.org/pages/23693/european-foulbrood:-a-bacterial-disease-affecting-honey-bee-brood

[4] The drench consisted of 2 Tbl Fumagilin-B (200mg fumagillin) per ½ gal of 1:1 syrup, which allowed me to mix up fresh batches as needed. At the rate of ¼ cup of drench per dose, each dink received a dose of 12.5mg of active ingredient, which would be the recommended rate for a 3-frame dink to be given multiple treatments.

[5] http://www.ars.usda.gov/research/projects/projects.htm?ACCN_NO=420102

[6] Aikin, RC (1897) Bees evaporated: a new malady. Glean. Bee Cult. 25(13):479-480.

[7] http://www.latimes.com/business/la-fi-california-bees-20120304,0,2026018,full.story

[8] **The Holst Milk Test**
Holst, EC (1946). A simple field test for American foulbrood. *Am. Bee J.,* 86: 14–34.

The enzyme is produced by the bacteria only when the larvae reach the "ropy" stage or later, and persists in the dried "scale"—it won't work with larvae at an earlier stage of disease. It is often easiest to simply rip out the entire bottom of the cell with forceps and drop it all into the tube. You can also drop in the twig that you use to test for ropiness. The more diseased larval remains you add, the quicker the reaction; however, if you use only a partial scale, or a twig, then either use less solution, or dilute the milk even further.

The reaction can also be speeded up by warming the water to up to 165°F (as hot as you can hold your fingers in). I could get tubes of ½ tsp of weak milk solution inoculated with a single scale to clear in less than 5 minutes by incubating them in a cup of hot water.

It is easy to make up a field AFB test kit consisting of a pair of tweezers, a vial of milk powder, and some clear glass vials for running the tests. At home, you can use liquid milk (skim preferred) diluted 1:4, again at the ratio of 1 scale per ½ tsp of diluted milk. When first trying this test, I suggest that you run an uninoculated vial of milk solution side by side for comparison.

Note that the test is retarded if the combs have been stored with paradichlorobenzene for wax moth control.

These articles were originally published in the American Bee Journal. All of Randy's bee articles may be found at: www.Scientificbeekeeping.com. If you find these articles of use. Randy appreciates donations to fund his efforts.

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WORLD BEEKEEPING AWARDS 2013

Commercial Honey Classes
Apimondia Contests - XXXXIII International Apicultural Congress

By Virginia Webb - USA, Peter Badan - Slovakia, Bruce White - Australia

Firstly, we must say many Thanks to the Judges' Referee, Apimondia and Ukrainian organizers for our appointment as judges for the World Beekeeping Awards for commercial honey classes. Thank you for your trust. It was our honour and pleasure to participate in the WBA 2013.

Apimondia contests are the most prestigious apicultural competitions worldwide, This year, was Apimondia contests - World Beekeeping Awards 2013 (WBA) in Kiev during 43rd International Apicultural Congress 29 of September - 04 of October 2013.

WBA had 3 classes: Individual classes (extracted honey, comb honey, beeswax, and display), Commercial classes (extracted honey, comb honey, mead, honey beer, beeswax, and display), Apimondia Contests classes (photography, multimedia, printed materials, collections, innovations, under 18, ApiExpo-2013 Stands). In Individual classes were 116 exhibits from 25 countries, in Commercial classes were 112 exhibits from 25 countries and in Apimondia Contests classes were 196 exhibits from 38 countries.

Judging team
There were judges from 25 countries from every continent.

World Beekeeping Awards 2013 Judges' Referee was Margaret Davies – UK
Margaret first kept bees in 1947, shortly after the end of the Second World War and remained a hobbyist beekeeper until 1980. She then decided to 'go commercial' and increased rapidly to over 100 colonies as a part-time occupation, and at this stage became interested in exhibiting and after some success was persuaded to take up judging.

In 1988 she took the associate show judge examination of the BBKA examination and a year later qualified to become a senior show judge. In 1995 she was appointed the judges' referee at the National Honey Show, a post held until recently.

Honey judging has taken her to all parts of the United Kingdom on a regular basis, including several trips to Jersey and Guernsey and also to Denmark.

Commercial Honey Classes Judges

Virginia Webb – American, USA
Virginia is the President of her local beekeeping club. She became the first Certified International Honey Judge in the USA. She has judged and stewarded honey shows throughout the USA and UK.

Virginia has competed in honey shows throughout the USA and Europe and has won Best in Show in over 25 different competitions. Her Sourwood Honey entry won the top honour of *Best Honey in the World* during the first ever World Honey Show at the 2005 Apimondia Congress in Dublin, Ireland.

Peter Badan – Europe, Slovakia
Peter Badan works in the State Veterinary and Food Institute Dolny, Kubin and he is head of the Reference Laboratory (RL) for the safety and quality of honey and other bee products since 2005. He holds a Certificate of eligibility for sensory assessment of food. Peter has authored and co-authored several articles on honey, actively participated in beekeeping conferences worldwide and worked as a judge in commission of sensory assessment of honey since 2006.

Bruce White – Australia OAM
Bruce retired as Principal Apiary Officer in 2005 after 44 years in the Department of Agriculture Apiary branch. He is Chairman of the Australian Queen Bee Breeding Group and involved in research, administrative and extensive representational and advisory roles in Australia and Internationally

Bruce has been a Honey Judge at the Sydney Royal Agricultural Society since 1974 and in 2013 was presented with the highest award for participation by the Sydney Royal Agricultural Society. He has also been a judge of the Australian National Honey Show since its conception 2010. Bruce conducted a workshop on judging apiary products in 2012 for the Sydney Royal Agricultural Society. He has also written articles on judging Honey and preparing honey for shows.

Bruce received the Order of Australia Medal in the Queen's Birthday Honours Awards 2011 for services to the Australian beekeeping industry.

Commercial Honey Classes
Our judging commission evaluated 5 categories of extracted honey: C1 - light honey, C2 - medium honey, C3 - dark honey, C4 - granulated honey, C5 - chunk honey, and 1 category of comb honey: C6 - section honey.

Judging criteria:
Appearance (0-5 points), Flavour / aroma (0-5 points), Taste (0-5 points), Labelling & packaging (0-5 points), total score 0-20 points

Appearance – correct weight and filling level, uniformity of the two jars, cleanliness of jars and lids, cleanliness and clarity of the honey, homogeneity, colour match for monofloral honeys, transparency for liquid honeys, and absence of foreign bodies, absence of visual defects, no dust on the surface of the honey.

Flavour / aroma – intensity, richness or specificity of the olfactory spectrum, balance, originality.

Taste - richness or specificity, balance, originality of taste, consistency, crystallization, viscosity for liquid honeys.

Labelling and packaging – quality of labels, correspondence to the labelling regulations? Quality of package materials, design, originality and novelty.

Every extracted honey was in 2 same jars. In rules of competition was: "All extracted honey must be exhibited in standard colourless glass jars of any shape and size or clear transparent plastic containers, each containing between 350 and 500 grams of honey"." Honey should have correct weight and filling level." Some of entries were overweight. In this case we are not so strict and we evaluated these honeys, but in judging criteria appearance, entries obtained low points.

Sadly some exhibits were not judged because they were in the wrong colour class. When showing honey it is very important to read the rules. For us to see that an entry was not in compliance with the rules of the show, and should be disqualified, we consulted with Margaret Davies. She agreed with all our decisions and signed for the disqualifications.

Flavours and tastes of the honey ranged from floral, fruity to bitter sweet. Types of containers were very good – the variety of labels was very nice and many were works of art. Some entries had very small letters in labels, so points in these criteria were lower.

The entries were of a very high standard, with judges exposed to honey, honeydew or mixes from 25 countries. It was very interesting, the judges from Europe, America and Oceania who carefully appraised and allocated points based on the judging criteria that was not necessarily the criteria they used in their home country. It was amazing how so often the same points were allocated to the entries when the judge individually judged the entries across Liquid, Granulated, Chunk and Comb honey classes.

Decisions – In most entries we were of a unanimous decision. I only remember a few entries that there was a split in the decision of awards. Certainly the Best in the World was a honey that truly stood out as the top entry and was deserving of this prize.

All three judges appreciated learning off each other and would encourage commercial honey producers from throughout the world to enter this prestigious award in Daejeon in Korea in 2015.

With special thanks from the judges to Yurij Riphyak Communication and contest program Coordinator and the volunteer stewards who provided valuable support to the judges.

COMMERCIAL HONEY CLASSES WINNERS

C1. Light honey
- Gold - Mr Dimitris PAPAKOSTAS (Cyprus)
- Silver - Mr Celal CAY (Turkey)
- Bronze - Ms Elena GABIDULLINA (Russia)

C2. Medium honey
- Gold - Mr Dimitris PAPAKOSTAS (Cyprus)
- Silver - Mr Antonio Miguel ARESTE BAS (Spain)
- Bronze - Mr Constantin POPA (Romania)

C3. Dark honey
- Gold - Ms Felicia Natalia IONESCU (Romania)
- Silver - Ms Aida ISKENOVA (Kyrgyzstan)
- Bronze - Mr Vyacheslav TSUPRYKOV (Ukraine)

C4. Granulated honey
Gold - Ms Aida ISKENOVA (Kyrgyzstan)

C5. Chunk honey
Gold - Ms Elena GABIDULLINA (Russia)

C6. Section honey
- Gold - Mr Anatoliy SALTAN (Ukraine)
- Silver - Ms Elena GABIDULLINA (Russia)
- Bronze - Mr Celal CAY (Turkey)

The Honey Grand Prix – Carl & Virginia Webb Silver Bowl and "Best Honey in the World" title is awarded to: Tziverti Company, Cyprus (presented by Mr Dimitris PAPAKOSTAS)

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FOR THE LATEST NEWS GO TO THE AHBIC WEBSITE: www.honeybee.org.au

EXCERPTS FROM FEBRUARY & MARCH

LATEST ON HONEY LEVY REFORM AND INCREASE
On Thursday 27 February a meeting of representatives from the Plant Health Committee met in Melbourne to discuss the reforms. The next day beekeeping industry leaders met to also be briefed and to discuss the proposed reforms.

These were two very positive meetings and the Industry Working Group is pleased with the progress made. All is still in draft form and will be amended in line with the suggestions from the two meetings and again circulated to those delegates for further consideration.

Beekeepers are reminded that details can be found on the AHBIC website at: http://honeybee.org.au/programs/honey-levy-reform-and-increase/ please take the time to read this.

AHBIC AGM
Information has been given in previous Newsletters about the AHBIC AGM being held in Melbourne on 9 July, 2014 at the Mantra Hotel, Tullamarine, Melbourne. The accommodation details are also in previous newsletters. The later you leave to book, the more expensive it gets. Registration forms will be available soon. Observers are most welcome at the AHBIC AGM but you will need to fill out a form once it comes out. Catering numbers need to be with the hotel well in advance.

This year we will need to have elections for:
Chairman – Ian Zadow was elected last year to fill the one year left in Lindsay Bourke's term. Nominations need to be with the Executive Director 28 days before the meeting. Ian Zadow is eligible for re-election. See the part in the AHBIC constitution at http://honeybee.org.au/pdf/Constitution%202012.pdf

Two Executive members need to be elected – Trevor Morgan's two year term expires and Ken Gell was elected last AGM to fill the remainder of the term of Trevor Weatherhead who had resigned. Both Trevor and Ken are eligible for re-election.

LEVY COLLECTION COSTS
In an effort to see how we can reduce the collection costs for the honey levy, examination of the legislation shows that if you believe you will pay less than $2,000 in levies in the year, you may apply to do an annual return instead of a quarterly return. So if you are currently submitting quarterly returns and you believe that you will be paying less than $2,000 for the year, please apply to the Department of Agriculture Levies Collection Unit for an exemption from paying quarterly returns and ask to pay the levy annually. This way there will be fewer returns to process and thus savings can be made on the collection costs which will then be able to be allocated to research.

ADVERSE EXPERIENCE REPORTS
With the recent reports of losses of bee hives due to pesticide poisoning, beekeepers are reminded that they should report these events to the Australian Pesticides and Veterinary Medicines Authority (APVMA) as an "adverse experience report". The APVMA keeps a log of these reports and then looks to see if labels need to be altered or some other action is warranted. It is important that you do make the effort to put in the report. Remember IF YOU DO NOT REPORT IT, IT DID NOT HAPPEN.

LIVE BEE EXPORTS TO CANADA
The new certification for the export of live bees to Canada has been received. It would seem that there are no obstacles to exporting queen bees from the eastern States or packages from Western Australia and Tasmania.

B-QUAL
B-Qual Chairman, Barry Pobke, is pleased to advise that Wayne Fuller has been appointed as a Director of B-Qual. Wayne is welcomed to the Board. Barry also wishes to remind beekeepers that B-Qual is an industry owned QA program and you are encouraged to look at adopting B-Qual if you have not already. Some packers do pay a bonus for being B-Qual certified so the costs involved will be more than recouped by this bonus.

FREE TRADE AGREEMENT WITH SOUTH KOREA
The recently announced Free Trade Agreement (FTA) with South Korea did not include honey in it. This was very disappointing from an industry point of view. AHBIC has been advised that "Australia was able to secure outcomes on honey bees and some honey and royal jelly related products. Korea will phase out its tariffs on our high trade value tariff line HS2106909099 (essentially a variety of health supplements and some skin care products – which includes some honey and royal jelly related products), and also for HS3003909 (medicaments – preparations containing royal jelly) and for HS0106902010 (honey bees)." The inclusion of the royal jelly will not be of much help to Australian beekeepers as royal jelly is not produced in Australia due to the cheap imports of royal jelly from China. Live bees may be a possibility but it will all depend on what is required in the certification. AHBIC is hoping to meet with Department of Trade Minister Andrew Robb or his staff in Canberra in April to discuss the inclusion of honey on the FTA's with China and Japan.

IMPORTS OF QUEEN BEES
The Department of Agriculture is reviewing their charges for the quarantine station at Eastern Creek. In formulating these charges, they wish to know how many importations of queen bees there may be. If you are intending to import some queen bees through Eastern Creek, could you please let me know. The new import facility in Victoria is due to come on line in 2015.

ASIAN BEE INTERCEPTION IN TOWNSVILLE
Asian bees were found in a crane on a ship, which docked in Townsville on 23 March, 2014, from Port Moresby. They were killed with a knockdown spray. They have been identified as *Apis cerana* Java genotype. *Varroa jacobsoni* mites were found on the bees. No tracheal mites were detected in the sample of bees examined. Checking of the cargo found no other Asian bees and checking of floral sources near the port have not shown any live Asian bees. A good find.

SENATE INQUIRY
Thank you to those who took the time to put in a submission to the Senate Inquiry.
Submission can be viewed at http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport/Beekeeping Keep in mind that a lot of submissions were received in the last few days before the closing date so these will take some time to be processed and put up on the website. Talking with the staff they also inform me that some people have been granted an extension so these will take longer to appear. Also please note there are two public hearings listed. The one in Queensland may have a change of venue. If this does occur it will be on the website. So please keep checking there.

VARROA JACOBSONI
The summer 2014 edition of Rural Diversity has an article about *Varroa jacobsoni* in Papua New Guinea. An interesting finding is: "The RIRDC funded project has found that the strain of *Varroa jacobsoni* reproducing on European honeybees is widespread in PNG but not yet in neighbouring Papua or the Solomon Islands. It also appears that the mites that jumped host to the European honeybee in PNG can now no longer use the Asian bee as a host. This has important implications for Australian quarantine. They also found that the mite did not carry any known honeybee viruses but was carrying three new viruses. The researchers recommend that more work is needed to determine whether these affect honey bees. The researchers recommended that more work still needs to be done to better understand the reproductive biology and virulence of *Varroa jacobsoni* on European and Asian honeybees."

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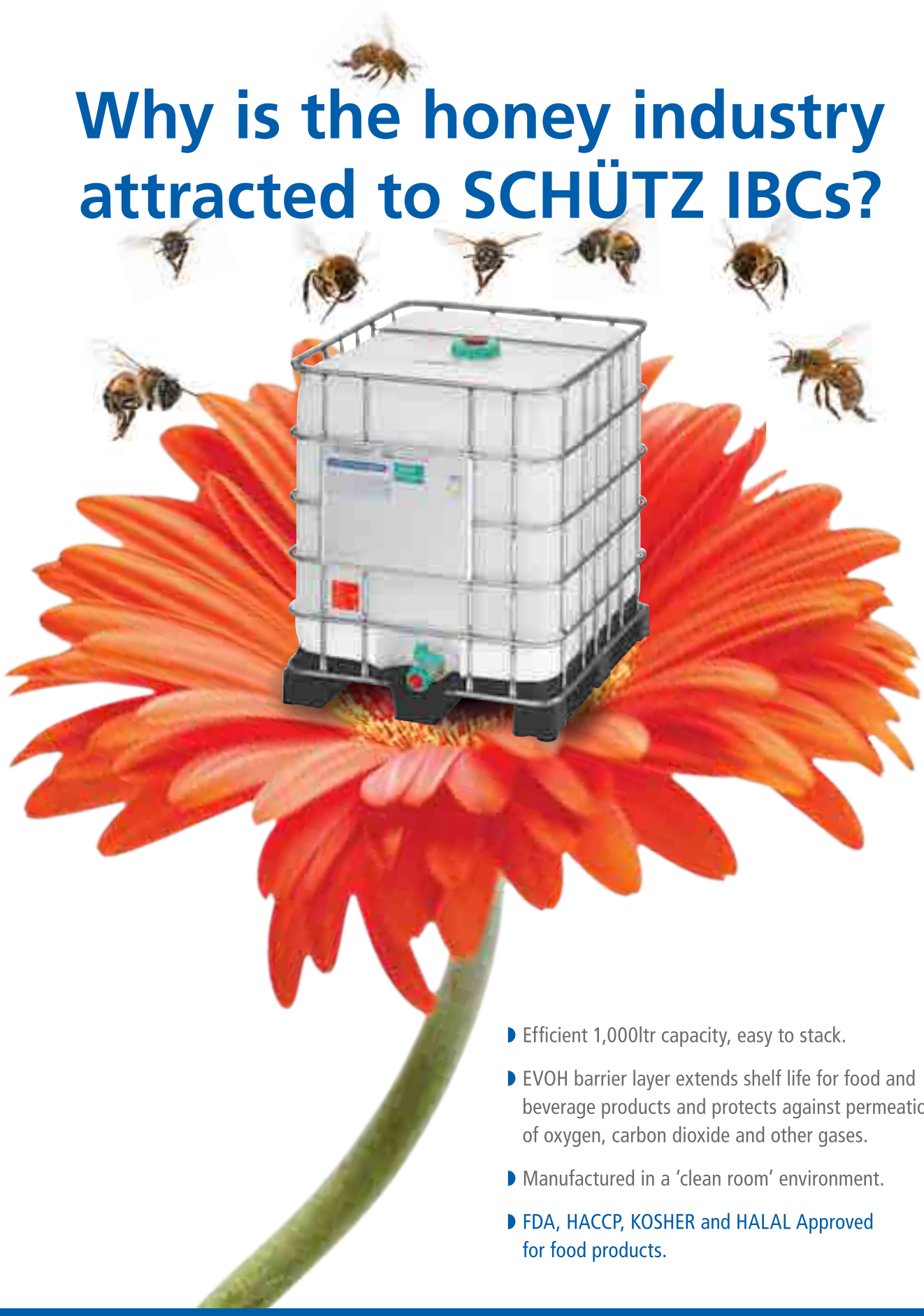

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