December 2012, Volume 20 No. 11

The NEW ZEALAND BeeKeeper

Increasing threats to bees

- AFB control by numbers • Varroa and screen bottom board survey
- GIA Secretariat manager appointed •Looking after your new hive

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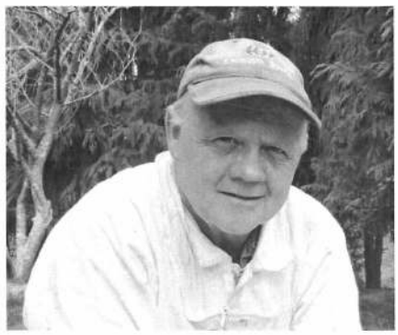
Front cover: Queen cells on the first honey super frames. Photo: Frank Lindsay.

Increasing threats to our bees



By Barry Foster, NBA President

Everyone is flat out during December. Hives have to be moved, boxes must go on to collect a honey crop and a myriad other tasks have to be completed by Christmas, which by the way, is 'just around the corner.'

So to make it easier to grasp the theme of this month's report, I have developed a couple of tables to describe the increasing threats that I see to our honeybees.

I have been beekeeping for some 40 years. In that time, I have spent nine and a half years on the National Beekeepers' Association executive and have served as President over the past 18 months. I feel this gives me reasonable qualification to make judgments about what I see as increasing threats to our honeybees. These issues are my concerns and also held by others.

I see an increasing number of combined threats affecting our bee health that have not been fully addressed. The combination of these threats and their impacts are not being considered on a regular basis because no one is looking at the overall effects. Yes, people are doing good things for bee health like VSH queen rearing, Trees for Bees, and submissions for various pesticide regulations. However, the net overall trend is an increase in the number of these threats; furthermore, the impacts are also increasing in concert. No one to my knowledge is tabulating these trends that when combined could, at some point, cause some very large hive losses that will hit the economy hard.

The National Beekeepers' Association made oral and written submissions to the Local Government and Environment select committee on the issue of pollination security last year, but this issue before the select committee remains in recess following the last general election. The NBA is lobbying to get the issue of pollination security reinstated to this select committee in order that a report to Parliament and action may result.

One of the answers in improving our bee health lies with more international co-operation around research. Recently through Dr John McLean, the National Beekeepers' Association joined the international science and research network called COLOSS (Prevention of COlony LOSSes). COLOSS aims to *"coordinate efforts towards improving the health of the western honeybee"* (Williams, Dietemann, Ellis & Neumann, 2012). See COLOSS at http://coloss.org for more information.

How serious are the threats to bees?

Beekeepers are reluctant to talk about any large-scale losses that they may have suffered, partly because they may think it is a reflection on their ability (and it sometimes is), but also because of commercial sensitivity and potential loss of pollination business. For this reason, reports of large-scale losses have remained anecdotal and scattered.

> "... threats are increasing in severity and number and ... have [an adverse cumulative] impact..."

What does a beekeeper do if they experience an unprecedented large-scale loss of their hives? MPI Biosecurity New Zealand has established the toll-free phone number 0800 809 966 to report possible exotic incursions, but there is no government authority with a free phone service to collect and collate data on unusual large-scale losses or the increasing threats to our honeybees. If it can be measured, then it can be managed but in order to do so, first we have to first get some quantification of these trends in order to better manage them.

No current updated risk analyses are available on the likelihood of unprecedented widespread large-scale losses in New Zealand, as has occurred overseas. The risk analyses on the biosecurity issues of importing honey are quite dated: the last full one was in 2004. These are snapshots in an ever-evolving situation of trends and have not taken into account the regular changing circumstances around our bee health and across the board from pests, pesticides and nutrition.

Charting recent trends

As part of my report, I am presenting here two tables illustrating recent trends in a number of risk factors that could potentially lead to large-scale losses of bees in future. I have limited these tables to biological and ecological threats only and have not included anything from the human perspective, such as lack of research or impacts on the economics of beekeeping. The bottom line is that the threats are increasing in severity and number and that in concert they have a stronger impact than looking at a single factor. The bee situation has changed rapidly overseas and we need to be sure that we are not on the same trajectory in New Zealand.

This is not a risk analysis as such, but I hope that it may raise awareness and action about the increasing threats to our bees. I believe that to allow the importation of foreign honey into New Zealand would put our honey bees into a situation of unacceptable risk of large-scale hive losses through the greater likelihood of importing various exotic microbes in honey, as well as small hive beetle (SHB) in the associated packaging.

Talking with various beekeepers, I've learned that it is becoming more challenging to maintain our bees in a healthy state, particularly over the winter and early spring. Good autumn pollen sources are becoming even more vital than previously in order to provide bees with sufficient reserves to get

Continued on page 6

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through the winter. My own hives are fine, but like many others I suffer greater winter losses than, say, seven or eight years ago, and I am producing more splits to make up for these losses. Perhaps the viral load in our hives is changing the longer they are exposed to varroa, hence greater losses? We don't know this for sure and no one is looking.

The health of our bees can be an emotive issue and everyone has differing points of view. Some say they are doing OK, so why cry wolf? Part of my reason for including these two tables as a working document in my President's report is to invite comment and suggestions as to how best to address these trends—if indeed you see them as such—and if so, how to tabulate and track what is changing in the overall circumstances for keeping our bees alive.

How might this be best portrayed in the future? How can we track credible bee losses and their causes so that we can be sure that we are not heading toward the types of losses occurring regularly overseas? We have the capacity to avert a pollinator crisis, depending on how aware we are of the overall trends at a national level. But right now we are unaware because we are not looking at these developing trends.

Realistically, MPI or its contractors should be resourced to do this work but they are not because our pollination security barely touches the political radar. A lack of any up-to-date data on the economic value of honeybee pollination to the economy is probably one reason for this situation. If you have any comments, ideas or suggestions on developing this working document, please contact the National Beekeepers' Association through your branch, bee club, ward member, our head office, or contact me directly. I welcome your ideas and thoughts.

I wish you all a Merry Christmas and full boxes of honey.

Reference

Williams, G. R., Dietemann, V., Ellis, J. D., & Neumann, P. (2012). An update on the COLOSS network and the "BEEBOOK: Standard methodologies for *Apis mellifera* research". *Journal of Apicultural Research, 51*(2): 151–153. DOI 10.3896/IBRA.1.51.2.01.

Table 1. Increasing threats to bees in New Zealand.

Chronology	Varroa	Other diseases	Pesticides	Bee Nutrition
1990s	Pre-varroa	American foulbrood disease	Use of Carbonates and Organophosphates mainly	Generally good
2000	Varroa found in North Island		Change from surface to systemic pesticides. Increasing toxicity	Weed-free farming increasingly adopted.
2001	Some beekeepers leaving strips in too long and not alternating treatments		Poor pesticide control and regulations. No regulation on surfactants.	Dairy farm intensification. Bee forage eliminated
2006	Varroa found in South Island	Greater impact from bee viruses vectored by varroa	Regulations not keeping up with evolution of new pesticides	Large areas of gorse, broom and thistle control from the air.
2008	Varroa spreads through the South Island	Spikes in reports of AFB as varroa moves through both Islands.	New pesticide approvals tested on adult bees only & not other stages of a bee life cycle.	Lack of replacement of lost bee forage plants.
2010	Beginning of varroa resistance in North Island	*Nosema ceranae* found in New Zealand.	No systematic testing of the levels of systemic insecticides in pollen collected during pollination.	Willow removal from river banks in some regions.
2012	Anecdotal reports of some large North Island hive losses to varroa.	"No attention being paid to *Nosema apis* and *N. ceranae*. Infected bees could be using up in the order of 25% of the honey coming into a hive." Mark Goodwin, August 2012.	Increasing toxicity of new-generation pesticides to bees.	

Combined, these established threats will lead to greater hive losses with the potential for there being insufficient bees for pollination services.

Table 2. Major threats that could result in no bees in the future.

European foulbrood	Small hive beetle	Asian honey bee	
More virulent viruses	Israel acute paralysis virus	*Tropilaelaps clareae*	
The future with no bees?			
Efforts being made to prevent this happening			
Work by Biosecurity New Zealand and beekeepers aimed at preventing incursions of exotic pests			
The development of VSH queens & stronger bee genetics. Better international collaboration on this with the science network through COLOSS.	Development of molecular methods of pathogen detection involving molecular genetics and proteomics.	Better assessment of the impact of surfactants and fungicides on bee health.	2010 research on protein content of pollen-bearing plants started by the Trees for Bees project. By 2012, 70 species measured for the protein content in their pollen, with another 50 to be measured from work done at Eastwoodhill Arboretum.

All of the programmes above need better funding and support. The problems are not in any way solved and the serious threats to our bees remain.

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AFB control by numbers

By Dr Mark Goodwin, Team Leader Pollination and Agriculture, Plant and Food Research, Ruakura Research Centre
Email: mark.goodwin@plantandfood.co.nz

Epidemiology is the study of epidemics and the way they spread.

To the dismay of those of us with an aversion to maths, epidemiology is in part a study of numbers.

Aspects of the epidemiology of American foulbrood disease (AFB) can also usefully be described by numbers, which provide some useful insights into the spread of the disease.

The first issue is the spread between colonies. Any swapping of equipment between colonies carries a risk with it. However, the way the equipment is exchanged affects the size of the risk.

In the first example, three frames of bees and brood are removed from one hive and papered on to a second *[i.e., uniting hives using the newspaper method]* to increase its strength. At worst, taking it from an unrecognised AFB hive will create one more AFB hive. Fortunately, most beekeeping activities fit this model where the activity doubles the number of AFB hives.

The second group is where an activity more than doubles the number of AFB hives. A good example of this is extracted honey supers. The infectivity of these has not been properly determined, but it is safe to assume that it is less than exchanging frames of brood. For the sake of discussion, we will assume that an extracted honey super from an undiagnosed AFB hive infects 75% of the hives they are placed on. The bigger the honey crop, the greater the risk from the AFB hive. Two extracted honey supers from an AFB hive will infect 1.5 other colonies, and four supers will infect three other hives if the supers are placed on different hives.

The situation gets worse when the components of an AFB hive are spread further. For example, we saved a few supers of honey to feed nucleus hives we are overwintering. We went to great lengths to ensure the hives we took the honey from did not have AFB. This consisted of taking it from an apiary that hadn't had an AFB hive for a long time, giving the hives three AFB inspections and testing the honey for AFB spores. This is because we are taking about 18 frames from each hive and putting one frame in each nucleus colony. If we took them from an AFB hive, assuming a 75% chance of a frame infecting a colony, then an AFB hive has the potential to create 13.5 new AFB hives.

Feeding extracted honey or pollen can be even more disastrous. There are a number of cases where beekeepers have fed extracted honey or pollen to a large number of other colonies. One of the hives supplying the honey or pollen had AFB, with the result that one hive was turned into 20 or 30 AFB hives.

> "...assess the risk of removing something from a hive to place it into another."

Another example of this problem is one we are sometimes contacted about. This is where a beekeeper has been producing queens and has found out the starter being used has AFB. Several hundred queen cells may have been started and placed in several hundred hives.

A good principle, therefore, is to assess the risk of removing something from a hive to place it into another. If it is only being placed in a single hive, be careful—at least carry out a complete brood check. However, if what you remove is going to be placed in more colonies, you need to be very sure that the source of the material doesn't have AFB. If what you remove is going to be placed on or in 20 or more colonies, then don't do it, or at least understand the risks being taken and decide whether you really want to face the potential consequences if things go wrong. Looking at the disease levels in a whole beekeeping outfit rather than in individual hives, the numbers again provide some interesting lessons. Unchecked, the AFB incidence in an outfit probably increases exponentially. Assuming each AFB hive creates a new AFB hive each year and none are found, the incidence will double each year (Fig. 1). A doubling of AFB hives each year will increase AFB incidence from 1% to >60% in 6 years. If each AFB hive produces two AFB hives each year, then the incidence will increase from 1% to >60% in four years.

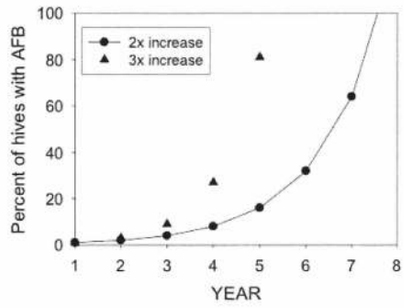

Fig. 1. Increase in the percentage of AFB hives when the number doubles and trebles each year.

These rapid increases are the reason beekeepers are sometimes caught unaware with a major problem. If you have only a 0.5% incidence, the worst that you can expect next year is 1% or 2% if things go wrong, as there are not that many AFB hives available to infect other colonies. However, if you have a 5% AFB incidence, you are sitting on a potential time bomb. Get it wrong and you may have 20% next year.

[Editor's note: This is the tenth article of a series that has been written for the Management Agency for the American Foulbrood National Pest Management Strategy. These articles were first published beginning in 2003, and have been reviewed and updated where necessary. The original title was 'American foulbrood control by numbers'.

We will run these articles on a regular basis until the series is complete. The articles cover a range of aspects of American foulbrood control, including how to inspect for and identify diseased colonies, the management of colonies to prevent American foulbrood and a beekeeper's legal obligation with regard to American foulbrood.]

Varroa and screen bottom board survey

By Doug Somerville, Technical Specialist (Honey Bees), New South Wales Department of Primary Industries

This report presents the results of a survey conducted at the NBA Conference, Napier, June 2012.

Summary

New Zealand beekeepers were surveyed for their use of screen bottom boards. A total of 46 responses were received, with a high number (65%) indicating that they use screen bottom boards on at least some, if not all, of their beehives.

This is possibly a biased survey. Surveys by their very nature are voluntary, so beekeepers who do not use screen bottom boards might not have felt inclined to participate.

Advantages of using screen bottom boards include eliminating natural varroa mite drop throughout the year, providing ventilation, reducing humidity and moulds in the hive and assisting with the movement of beehives during daylight hours.

Varroa mite management was reasonably stable, with many beekeepers using more than one treatment class (different chemical families) though the year. This practice is likely to slow down mite resistance to one or more chemicals, even though mite resistance to the synthetic chemicals has been confirmed in New Zealand.

The use of screen bottom boards is not seen as a major management tool in varroa mite control, but rather as a useful addition to an integrated pest management strategy.

Aim

To determine the extent of the use of screen bottom boards within New Zealand.

Objective

To survey beekeepers attending the National Beekeepers' Association of New Zealand annual conference, 2012.

Materials/method

Two hundred copies of a survey form were distributed at the annual National Beekeepers' Association of New Zealand conference, held at Napier on the North Island in June 2012.

Incentive to complete the survey was a randomly drawn prize of a few publications and a sugar shake kit for varroa, all of which were produced by New South Wales Department of Primary Industries (NSW DPI) bee team members.

Results

Forty-six responses were received from the attendees, with 42 responses indicating they would like a copy of the final results of the survey. Most of the surveys were collected during the conference, which was attended by approximately 300 people. Many of the returned surveys represented beekeeping operations with more than one person attending the conference; thus the sample size is greater than the number of surveys returned.

Screen bottom boards: reasons why not used

- not practical on 4-way pallets
- undecided, not enough time to monitor other uses of screen bottom boards
- cool the bottom brood chamber too much in spring, autumn and winter; removing them all from my hives (Waikato)
- we have both and get the same control of mite and healthier hives on solid bottoms
- no noticeable difference (have both bottoms).

Six beekeepers insert plastic Corflute blocking off the screens in the bottom boards during the cooler winter period.

Comments on screen bottom boards

- bees seem to be happier, bee hive drier and cleaner inside all year round
- evidence of amount of hive debris being cleaned out and varroa natural drop
- mites supposedly fall through mesh and are unable to re-enter hive when miticide is used
- unsure of benefit
- mites are falling all the time, the mites fall out through the mesh boards onto the ground; hives stay clean and dry all year
- less condensation in our climate (North Island)
- useful due to natural drop of mites (four)
- when strips lose efficiency varroa may still drop off and fall through screens
- good ventilation in hive
- better ventilation, healthier bees, can be a problem in winter after heavy snow
- stops mites getting back up on the bees again; natural organic treatments tend to knock down mites rather then kill them
- not a significant advantage regarding varroa, but neither are they a disadvantage
- monitoring mite drops
- provided the hive is at least 10cm off the ground, live mites can not climb back into the hive
- if long grass is under the bottom the mites may climb back up into the hive
- any natural mite fall is removed, ease of monitoring NMF
- very handy to use for shifting beehives during the day; must help, certain amount of mite drops
- the main benefit is ventilation for shifting. The disadvantage is hive too cold during winter, causing loss of queens because queens trapped by excluder. Hive stays drier with less build-up of moisture during winter—possible nosema advantage. I would feel varroa screens may assist SHB in Australia
- hives shut down earlier and quicker with mesh bottom boards, a little slower to start up in spring, but once away go like rockets. I use breeding cords and fogging most of the year. Autumn I treat with Apivar or Bayvarol with good results. All the rubbish from

the hive falls out through the mesh and onto the ground.

- I do find bees get cold and build up slower during winter
- have tried screen bottom boards; don't see advantage with varroa treatments. Can cause a draft autumn/winter. Gives more honey in supers but then hard to get honey into hive in autumn for winter
- screen bottom boards need protection from wind
- don't get moulds growing in hives, as hives are much drier
- get wax moth under mesh with slides in place, need to be cleaned regularly
- improved shifting, ventilation. Beneficial for health and hygiene. Very significant reduction in dampness inside the hive
- good for moving hives. Good for summer ventilation. Block for winter
- don't use screens on four frame nucs. Like screen bottoms which allows us to move bees during the day onto and off kiwifruit pollination
- we like mesh boards for ventilation of our hives. We have had solid bottoms underneath, but are now moving to open as the crud just sits there. Will block off in winter for warmth.

Table 1. Do you use screen bottom boards?

No	16
Yes	20
Some hives	10

Table 2. Seasonal use of varroa mite treatments

Spring		Winter		Autumn	
Bayvarol	5	Oxalic acid	3	Apivar	8
Apistan	4			Apiguard	2
Apivar	5			Bayvarol	6
Formic acid	1				

Table 3. Number of treatments per annum for varroa

Nil	2
One	4
Two	27
Three	7
Four	3
Five	2

Table 4. Preference for varroa mite treatments

Treatment	
Screen bottoms	1
Apistan	11
Apivar	20
Bayvarol	19
Apilife Var	3
Oxalic acid	3
Food grade mineral oil	2
Resistant bees	1
Thymovar	2
Drone removal	3
Thymol	1
Fluvic Acid	1
Icing sugar shake	1
Apiguard	1
Formic Acid	1

Table 5. New Zealand beekeepers believe their treatments for varroa mites are:

Very effective	16
Effective	22
OK	9
Reduced effectiveness	5
Looking for other treatments	5

General comments on varroa treatments

- Apistan proving less effective over time; organics are high labour inputs and variable results; Apivar slightly better than organics
- screen bottom boards are good for improved hive ventilation and to keep the bottom board clean from debris. In terms of varroa control, type of bottom board does not make a difference unless you are using essential oils or formic acid. If varroa treatments release vapour, mesh bottom boards reduce their effectiveness
- problem—treatments come in from Europe with instructions that work in that region. The efficacy of treatments varies: if done according to the label, they don't work
- research into more organic treatments would be great
- the organic treatment in the winter is for control of mite resistance to the strips (Apistan)
- we have trialled a range of organic treatments and some have poor to moderate effectiveness, most are straight snake oil. Resistant bees are our only hope for a decent future in keeping bees
- do some alcohol wash to measure mite populations
- Apivar is a slow-acting treatment, needs to be put in before mite numbers get too high. If mite numbers are high when putting strips in, use a thymol treatment at the start to reduce mite numbers. Organic treatments need a minimum of two treatments in spring and three treatments in autumn. Also need to do much more monitoring of mite numbers. Organic treatments do not cope well with high mite levels
- waiting
- looking for improved treatments to meet resistance issues
- find that Apistan still effective. Apiguard is very variable. Apivar needs at least 10 weeks in hive, good for autumn but not spring (Auckland)
- very effective—Bayvarol. Effective—Apivar. Reduced effectiveness—Oxalic. I do not have a broodless period
- last year was the first time we have treated the hives three times, twice with Bayvarol and lastly with Apiguard/Thymovar.

Discussion

Reports of failing varroa mite treatments were not evident in the responses. It has been confirmed by Dr Mark Goodwin (Plant and Food Research Limited) that resistance to Bayvarol and Apistan has now occurred within the northern areas of the North Island of New Zealand. This is not unexpected as varroa mites were first discovered in 2000 in Auckland and 2006 in Nelson (South Island), so bee colonies have had sufficient exposure to chemical treatments for over a decade in some parts of the country.

The initial thought process was that the use of screen bottom boards would assist in an integrated management system to suppress varroa mite populations. Neither in this survey, nor in other studies/reports published, is it suggested that the use of screen bottom boards is a standalone method for controlling varroa mite populations. *Continued on page 13*

Continued from page 11

Quite a high proportion of the responses to the survey indicated that they use screen bottom boards on all or some of their hives (65%). However, given the title of the survey, some participants at the New Zealand conference may have thought that if they do not use screen bottom boards, the survey was not applicable to them. Thus the use of screen bottom boards in New Zealand is likely to be less than 65%.

One encouraging result for the New Zealand beekeeping industry is the high percentage of beekeepers who use more than one treatment type in any one year (87%). There appears to be a pattern of rotating the synthetic chemical treatments (Bayvarol and Apistan) with the organic chemical treatments (primarily the thymol-based products), although the effectiveness of the organic chemicals was questioned by a number of beekeepers. The variability of the effectiveness of the organic treatments was suggested to be due to the sensitivity of organic treatments to changes in climate.

Apistan, Bayvarol and Apivar were the most popular treatments of choice.

Responses such as Apistan becoming less effective over time, and that organic treatments have high labour inputs, suggest a movement in treatment choices (albeit reluctant ones) by beekeepers. The thought process seems to be that the days of relatively easy management of varroa mites are coming to an end and a more detailed strategy will be required.

Although the question about monitoring mite populations was not specifically asked in the survey, some of the responses indicate that this may be happening. However, I get the impression that monitoring is still at a low level. There was particular interest in the sugar shake kit I took to the conference as a mite-monitoring tool. Natural mite fall on screen bottom boards could also be a means of monitoring varroa mite populations.

Many users believed that the use of screen bottom boards reduced rubbish build-up on the bottom boards, and as such effect a healthier environment for the colony. The hive seems to have less moisture build-up and less mould. A few beekeepers expressed the positive feature of being able to move beehives during the day if a screen bottom board was fitted. This was particularly apparent during kiwifruit pollination when workloads were high. Beehives presumably were closed up very early in the morning before bees fly and then loaded on trucks to move into and out of orchards during daylight. Kiwifruit flowers in October and November, so the potential for warmer weather conditions is present. With a solid bottom in place and a colony closed up, there is a risk of the colony overheating and dying or becoming heat stressed with the result of some of the brood dying.

Some beekeepers stated that they inactivate the screen by sliding a sheet of Corflute across the screen during winter; whilst others did not indicate they did anything. It appears from the responses that screen bottom board use in New Zealand is well established, but there is not a strong belief that they play a major role in varroa mite control. Rather, the impression is that they help with varroa mite control.

Some beekeepers have clearly identified other benefits for the incorporation of screen bottom boards into their beekeeping operation, such as the reduction of rubbish and humidity within the hive and the advantage of being able to close beehives up for transporting during daylight hours.

MPI

GIA Secretariat manager appointed

By the Ministry for Primary Industries

The Government Industry Agreement (GIA) Joint Working Group has appointed Lois Ransom as the manager to lead the GIA Secretariat.

Lois played a significant part in implementing a scheme similar to GIA in Australia. As the Chair of the Consultative Committee on Emergency Plant Pests, Lois played a major lead and focal point for biosecurity preparedness and response policies and actions.

Joint Working Group Chair, Peter Silcock, and MPI's Director of Preparedness and Partnerships, David Hayes, says Lois will bring a wealth of relevant and useful experience to the new role.

Under GIA, government and industry will jointly establish biosecurity priorities and work together to implement agreed readiness programmes in an environment of joint decision-making and cost sharing.

In her new role, Lois will lead the GIA Secretariat, which will support the operation of the GIA and be responsible to the signatories (industry and government). "She will focus on building and sustaining sound working relationships with key industry partners and MPI groups and developing healthy relationships between the various signatories," David Hayes says.

"She will facilitate the negotiation of robust agreements and accords and resolve any disputes that may arise."

Lois is due to start in the role in October.

Source

Adapted from 'Skilled GIA Secretariat Manager appointed', media release from the Ministry for Primary Industries, 4 October 2012.

Summer shutterbugs

Summer is now upon us, so it's time to start taking some photos to enter in the fifth annual Ecroyd/NBA photography competition, to be held as part of the NBA Conference, Ashburton, 16–20 June 2013.

Entries will be accepted in the following categories:

Class A. Close-up print. Subject must relate to beekeeping.
Class B. Scenic print. Apiary subject such as flowers, hives etc.
Class C. Portrait print. Person, beekeeping procedure, honey, hive by-product processing in appropriate setting, commercial frontage or beekeeping base.
Class D. Essay prints. A set of from 4 to 7 pictures depicting a beekeeping story.

The photo contest is open to all registered NBA members.

As an added inducement, winning photographs will be published in *The New Zealand BeeKeeper*, perhaps even on the front cover if taken in portrait format.

For more information, contact Mary-Ann Lindsay, lindsays.apiaries@clear.net.nz

Field Day

NBA Auckland/Waikato Branches
Keynote Speaker: Randy Oliver – USA
(Back by popular demand)
Additional speakers: John McLean, Karyne Rogers, Mark Goodwin, Russell Berry

23 February 2013

At Elim Church Hall
by the wharf, Thames
On-site food available for purchase – cash only
9am start for a cuppa, speakers starting at 9.30am

Cost: $60 Per person
50% discount on proof of NBA membership

Topics covered will be:
Resistant mites, Pheromones, C4 sugars, CFUs in honey, plus practical demonstration of applying organic treatments.

Limited space in Hall for Industry Suppliers – book your space now!
Contact: Jane Lorimer Tel: 07 8569625
hunnybee_wave@ihug.co.nz

NOT TO BE MISSED!!

NATIONAL OFFICE UPDATE

By the NBA Secretariat

Revised subscription rates for 2013

The Executive Council has recognised that some members have been concerned that the subscription fees for larger hive-holding groups were too high. Therefore the Executive has decided to revise some of the subscription rates for 2013. *Please refer to the form inserted into this journal.*

The categories are the same as those notified in the October and November journals. **However, if you are in levels 2, 3, 4, 5, or the Mega Commercial category, you will notice a 'REVISED FEE STRUCTURE'** on these subscriptions. The revised fees offered for this coming year, as well as a proposed refinement of the 2014 subscription (to be presented at the 2013 AGM), will hopefully address some of the concerns that have been raised.

We note that there are some commercial members who have joined at a minimum level. Although we appreciate your membership, we do ask that in light of the revised fees offered, you consider choosing a level more appropriate to your commercial holding.

If you have already paid your 2013 subscription and would like to amend your category, please forward a revised form with your changes to the NBA Secretary.

The revision of some subscription fee categories is all part of the Executive Council's work to attract new members and retain current ones. As part of this, the NBA will allocate **20% of subscriptions towards beekeeping-related research.** This way everyone will be contributing and we will continue to ask for your ideas on how best to utilise these funds for research purposes. As an NBA member, you will reap the rewards.

The Executive Council has prioritised reviewing membership categories and fees because we need your continued funding to ensure that we can effectively represent you, our members. The Executive is always grateful for feedback as it continues to work its hardest to provide value to members.

2013 Work Plan

In 2013, the NBA will be working to a stringent work plan that will guide our work priorities. A lot of time and effort has gone into this work plan, as the Executive Council strives to ensure members are getting the most out of their membership dollar. Our main priorities for 2013 are outlined below.

We'll focus on four areas:

- protecting the health of our bees
- leading the industry and speaking strongly on behalf of members when required
- actively promoting bees and beekeeping in New Zealand
- building a stronger NBA, and particularly NBA branches

And these key projects:

- **promoting policies to keep new bee diseases out of New Zealand**
- creating proper biosecurity response plans in case of emergencies
- combatting varroa resistance to miticides
- raising our profile with government and the industries that rely on us
- turning Bee Week into a major national 'Save our Bees' campaign
- continuing to grow the membership
- reviewing the NBA membership subscription structure with a view to lowering commercial beekeepers' subscriptions
- making the NBA an organisation that creates profit and harmony for its members.

To build in the next three years:

- an industry that is well prepared for any incursions or biosecurity issues
- a powerful Association that represents the majority of beekeepers in New Zealand
- a government attitude that prioritises bee health as part of agriculture and trade policy
- **a business environment in which commercial beekeepers prosper** and, last but not least, that
- **hobbyists are given the correct environment in which to enjoy their beekeeping.**

A full version of the NBA's 2013 work plan can be found on our website, www.nba.org.nz

Office closure

Well it's that time of year again—Christmas time!

We wish you all a great break and a happy new year. Our office will be closed from Friday 21 December, reopening Monday 14 January.

We know most of you are flat out and we hope the season is an especially good one for beekeepers.

We hope the New Year is equally rewarding for you all—and that you get a well-deserved break some time soon.

De Winkel 'Help the Bees' campaign

De Winkel yoghurt and the NBA are developing a partnership to support New Zealand bees. De Winkel is donating a portion of their sales to bringing bee-friendly plants to local gardens. A big thank you to De Winkel for their support!

Go to https://www.facebook.com/DeWinkelYoghurt/app_208195102528120 to read more about it and to 'like' their page.

For Sale

800 Hives

On very good sites in Northern Southland producing very light clover honey. Reliable crop every year. Downsizing due to arrival of varroa. Possession available in Autumn after crop harvest. For sale as one package or several smaller ones.

Phone Shaun Lawlor (03) 208 8210
027 432 1857

NUCLEUS HIVES FOR SALE

4 Frame Nucs in varying numbers available.
New season's queens from selected Carniolan stock.
Supplied in cardboard Nuc boxes and located in North King Country region.
Phone Alice on 022 160 3090

APIMONDIA

2013

Kyiv, Ukraine

Every two years bee-keepers of the world gather at the World Apicultural Congress: You can be there too!

In September 2013, travel to Kyiv, Ukraine with Farm To Farm Tours Ltd.

Gather some friends and colleagues to travel to this rapidly developing part of the world. Pre-Congress sight-seeing tour option to Moscow and St Petersburg, and post-Congress technical tour to Crimea.

Congress dates are 29 September to 04 October, 2013.

It will be a great opportunity to gather information, to network with colleagues from around the globe, and to see a vibrant part of the world with its own unique culture.

For an indication of interest, email James or complete and return the coupon below.

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FROM THE COLONIES

Auckland Branch

The winds have eased since Labour Weekend, and beekeepers in our region feel that the season has really begun now that the weather is more settled and getting warmer.

There has been little sign of flowering on the rewarewa, so it looks as if there won't be much in the way of a flow from that source this year.

We have also had a disturbing report of hives being deliberately poisoned in the Hokianga area. Let us hope that this is a one-off, and that the perpetrators are called to account.

Plans are firming up for the proposed combined field day with Waikato Branch in February next year. It is shaping up to be a very worthwhile day. Concern continues to be expressed about varroa resistance and how best to deal with it, and this event will be a good opportunity to learn from the experience of others. Randy Oliver, whose knowledge of dealing with varroa resistance was so much appreciated at the NBA Conference in Auckland (2011), will be speaking at this field day.

As 2012 gallops towards its close, we wish you all a happy Christmas and a prosperous New Year.

- Helen Sinnock

Waikato Branch

After some very hot summer days it is raining again. I'm sounding like a farmer! Oh well, kei te pai. In spite of this, spring splits have mated well and although some hives are still hungry, the willow, barberry and buttercups are out and most hives are starting to podge up.

Kiwifruit pollination is just around the corner for some of us. With Psa now in Kerikeri for how long, who knows?

Our branch is combining with the Auckland Branch to hold the field day in Thames on 23 February. Randy Oliver has accepted an invitation to speak. Randy, if you don't already know, is an American biologist and a beekeeper who promotes natural beekeeping. He is a great speaker and not to be missed, so circle 23 February in your diaries! Have a squiz at his website: www.beenaturalguy.com and look out for the ad on page 14 of this journal, as well as the February one for more information on the other activities and speakers at the field day.

Have fun over the Christmas break. I hope you all have a happy New Year and a really, really good honey harvest!!

- Barb Cahalane

Bay of Plenty Branch

Psa is now widespread in the region, affecting the majority of orchards with gold and green kiwifruit varieties showing symptoms to varying degrees. Male vines are prone to earlier infection, which is having an impact on viable pollination. Demand for pollination hives remains high, but is predicted to reduce as the disease takes hold.

Pollination started early this year. My pollination records show that Hort16A kiwifruit orchards were 10 days earlier than last year. The Hayward variety is, however, much the same, or maybe a few days later than in previous years.

Pollen and nectar are in short supply this spring. The extended cold period in early spring has reduced the normal pollen and nectar sources in some areas with hives building more slowly than normal. For example, the barberry hedges flowered but produced little nectar and subsequently, little swarming. Rewarewa is also having an off year. Down Opotiki way, the hives are holding their own but have no surplus. Plants are flowering well but currently it is still too cold at night and too many southerlies. Hopefully the summer will be warm and the nectar flow profuse.

Pilfering: Richard Klaus has had seven hives stolen from a Kaituna (Rotorua) area apiary in October. In most cases stolen hives go unreported; however, I believe it is important that thefts are reported so any trends and evidence is noted. Richard has a tyre print of the offender's utility vehicle if you are interested.

It's bad reporting (in my opinion) when Radio New Zealand rural news reports that manuka honey is selling for upward of $400/kg, and TVNZ Close Up states the same two days later. It would take less than a minute for the journalists concerned to identify the fiction. Maybe they were sampling the other crop growing up north.

- Greg Wagstaff

Poverty Bay Branch

After a wet winter and early spring, September brought warm weather and a good willow flow. Hives that were in reasonable condition have boomed. Spring splits have mated well.

When it stopped raining in September, conditions went from wet to dry, then very dry. A little rain in November has eased things a little. The normally good honey flow from citrus did not occur with most of the trees having their year off.

Manuka and kanuka are just starting to flower as I write this, so here's hoping for a good crop.

Trees for Bees project

This project is aimed at improving the bee forage for bees on a demonstration farm. Plantings are off to a good start, although a few have been lost to late frosts. The dry conditions have been putting stress on as well, but in this location they need to be able to handle these conditions.

I hope all have a good, well-deserved break over the summer.

- Paul Badger, Branch President

Hawke's Bay Branch

We had our annual diseaseathon today with 14 people taking part. Unfortunately more foulbrood was found than people involved. One apiary in particular will involve some major follow-up work, as many of the hives were dead and robbed out. It really beggars belief how some people can let things go so far, and once again highlights the need to prosecute people for gross negligence. To make matters worse, the apiary was in the middle of a large orcharding area and there is the potential for at least 1000 hives to be affected (infected).

There has been lot of talk about much higher than normal hive losses over the winter. →

Although some of the losses have been put down to very bad autumn and early spring weather (along with wasps), people are beginning to wonder whether *Nosema ceranae* is to blame for some of them. Many hives are also not developing as quickly as they should, and hives are still dying for no apparent reason.

The question has also been asked: did *Nosema ceranae* come into New Zealand with infected Psa kiwifruit pollen from China? Apparently genetic fingerprinting points to this being the most likely scenario. I hope that MAF will try to answer this question but expect the normal deafening silence.

Psa has also been recently found in two Hawke's Bay orchards—devastating news for our local growers. It has led to much tighter quarantine and more hassles in regard to hive placement and sugar feeding, along with having to not reuse hives between gold and green kiwifruit. However, any inconvenience to the beekeeper pales into insignificance compared to what the growers are facing.

PS: Sunny Hawke's Bay could use a bit of spare rain if anyone has any.

- John Berry, Branch President

Southern North Island Branch

Spring has turned out to be a difficult time. The rapid changes of weather have made queen rearing and mating difficult. In spite of that many hives are showing good growth. Hopefully with the finer, drier weather forecast for December we will get a good crop.

Hobby beekeeping clubs continue to grow in membership numbers. I am receiving reports of new members for each meeting of the clubs—some of these will be commercial beekeepers of the future.

Frances Beech has been guiding a lot of small hobby beekeepers around the Otaki area. An amazing number of people have been attending her monthly information sessions. On 18 November there was a meeting at her place with a large number attending to formalise a group and start coordinating for bulk buys, etc.

The 18 November gathering was also a fun auction of bee gear followed by a talk on varroa control and looking towards the honey harvest (what not to do, etc.). Most of these folk have been under the radar in the past but now they are learning and registering sites, which is good for the whole beekeeping industry.

- Neil Farrer, Life Member

Canterbury Branch

It has been a particularly long spring in Canterbury. We've had plenty of moisture on a constant basis, but the days in between have been quite overcast. Although colonies have gathered good surplus dandelion and willow, it has translated into slow and/or poor matings. Hopefully we will get some hot warm weather to improve the situation.

While the wet weather has been a pain to colony build-up, if the wet weather pattern continues we could be looking at another successful season.

This being the last colonies for the season, here's wishing everyone a season they deserve, a merry Christmas and a happy New Year.

PS: Remember to book early for the 100-year NBA Conference in Ashburton.

- Brian Lancaster, Branch President

Otago Branch

The Otago spring has been mixed weather-wise with a very changeable September and October, and the willow flow was short-lived due to gales at the time. Early queen mating was very poor, but November has seen some better results despite a couple of good snowfalls. We have had reasonable rains across the province, so at least we are starting off nice and green. The thyme crop is looking promising in Central, and hawthorn and other early bush sources have hives in some areas with some weight in them already. It would be nice to have a repeat of last year's near-record crops—the average for Otago hives was around 45 kilograms—but that is pretty unlikely two years in a row.

Those with clover still for sale are getting a bit lower returns now than the $6.50 to $7 plus per kilogram last summer, but these are still good prices historically. The big crop last year seems to have been largely absorbed by the empty stores at the time and the continued strong demand from Asia.

Varroa is now scattered all about but is quite localised still. While hives have died in Dunedin already, in some areas just 10 kilometres away it still can't be found. I am guessing that the few flying days since last season and hilly topography may have slowed its spread. A good summer should fix that.

September's Otago Branch field day in Lawrence was again very well attended. Our new Ward rep Russell Berry introduced himself to members and his contribution to the discussion on varroa was eagerly listened to. He was able to answer many questions from hard experience.

Some evidence is emerging of good control here in Central Otago including with organic controls. Just maybe the colder winters with longer broodless periods give them an edge. I spent a day with a commercial beekeeper who uses drone trapping, which was somewhat easier to do on a large scale than I had imagined. The repeated use of drone trapping on a strict spring and early summer schedule, combined with additional thymol-based products and a winter oxalic treatment, has kept his varroa very well controlled throughout the invasion period. Not for the faint hearted and a heap of work, but I was impressed with the success so far. The repeated drone frame removal every 24 days would seem a drain on hive resources but they still made a big crop last year. One real advantage is the resulting virtually drone-free worker brood combs. If this regime is sustainable, at least one beekeeper won't be troubled by chemical-resistant mites.

Good luck with your season, especially those of you who had a bad one last year.

- Peter Sales, Branch Secretary

Export facilitating legislation reviewed

MPI is seeking public views on possible changes to the Horticulture Export Authority (HEA) Act. Submissions close 5pm on Friday 15 February 2013.

For further information, see http://www.mpi.govt.nz/news-resources/consultations/review-of-the-nz-horticulture-export-authority-act

Looking after your new hive

By Frank Lindsay, NBA Life Member

November's weather so far has been a lot better than October's, where we had only three days in which queens could mate.

It's mid-November and most of my hives have bees in three supers. Those hives with honey stores are making queen cells in preparation for swarming. These hives, unfortunately, will have to be split in half, but will be united again once the honey flow starts and the bees have switched to storage mode. In the meantime, I'm hoping they will raise a queen, allow her to mate and start laying before I reunite these hives.

Hives do better when headed by a young queen so just before uniting, I'll find the old queen. Next, I'll take her and the brood frame she is on and put them into a nuc box, along with a frame of honey and pollen. I will allow her to build up through December before putting in a new queen cell just after Christmas, when you get better matings.

Caring for a nucleus colony

A lot of new beekeepers have just received their first hive. Generally it's best to start off with a nuc as your confidence builds as the bee numbers increase.

On receipt of the nuc, put it into the middle of a super. Feed the hive continuously for a month with a bottle or a type of top feeder on top of the frames, where the bees don't have to move very far to get at the syrup. Don't disturb or look through the hives for 10 days. Let the queen get established as the head of the colony. This is most important as a new queen can get balled if the hive is disturbed too early.

Checking the hive for the first time

Simply look for eggs to establish that the new queen is laying and then close the hive—it's not necessary to see her. If for any reason she flies off, leave the hive open for half an hour and she will return. Continue to check the hive every 10 days, and continue to feed the hive for a month.

As the bees start to draw out the foundation frames on either side of the brood nest, move the original honey or pollen frame on each side out by one frame. Place a new foundation frame in this space, thus expanding the size of the brood nest. The queen will lay in this frame when there are enough bees to draw out the foundation and cover the frame. Repeat the process until all frames in the super are drawn out. Failure to continually expand the brood nest could result in the hive swarming. Even a nuc will swarm if it becomes crowded. Add the next super when all frames are drawn out and are covered with bees.

Take a frame of emerging brood and place it in the centre of the second super to encourage the bees up into the super. Bees are often reluctant to go up into a super of foundation.

> "Even a nuc will swarm if it becomes crowded."

If you are using a mix of different-sized supers (i.e., full-depth supers for the brood nest and three-quarter-depth for honey supers), and you want the bees to move up into the new three-quarter-depth super, move one of the full-depth frames into the middle of the three-quarter-depth super. Leave space in the super below so the frame sits normally in the three-quarter-depth super. The bees will build drone comb under the frames but this can be removed when it's capped as a means of removing varroa mites.

In the meantime, the bees will have started drawing out the middle frames in the top three-quarter-depth super. When two frames are more than half drawn out, the full-depth bait frames can be repositioned into the middle of the full-depth super below.

Don't *let the bees put a seam of honey across the top of the brood frames as this will induce swarming; i.e., the colony can't expand the brood nest upwards.*

To overcome this problem, give the bees more comb space by interspacing a drawn comb in between the frames of brood (i.e., checkerboarding) into the middle of the second super. Use foundation frames if drawn frames are not available.

In cooler areas, instead of spacing one brood frame with one new frame, keep two frames of brood together. This doesn't stress the bees too much as it is easier for them to keep a pair of frames warm. Place the frames of brood removed from the super into the centre of the next super above.

If you are going from two supers to three high with only foundation frames available, again interspace the foundation frames in the second and third super to provide room. The bees will then be fully occupied in drawing out the foundation frames.

If you use queen excluders, continually make room in the brood chamber so the queen has somewhere to lay by moving outside honey frames and the odd frame of emerging brood up into the second or third super. Shake all the bees off first so the queen isn't moved up above the queen excluder.

New plastic frames

Allow new plastic frames to air for a month or two and then coat them with wax. Bees are loath to move onto this type of frame when new, so order them well ahead of when they are to be used.

Don't mix natural waxed frames with new plastic frames, as the bees will tend to draw out the natural wax ones rather than the wax-coated plastic frames. It's best to put in all plastic frames so the bees don't have a choice. When fully drawn, the bees readily use them.

Supering

A strong colony of bees can fill a super in a week, so give the bees room to store this

Continued on page 21

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nectar. An experienced beekeeper generally can look at the brood nest and estimate how many supers to add at once. Four or five frames of capped brood mean another super is needed a week later just to give the new bees some room. Add to the mix an incoming nectar flow and the hive may require two supers. As stated previously, bees are sometimes reluctant to move upwards unless baited up into the new super with a frame of nectar on which the bees are already working.

A week or two later (with the help of another person), tilt the second or third super back slightly so you can look for queen cell development along the bottom bars. The bees generally start queen cell development in the top brood super and then work downwards and they will build them out to fit the space. This means that a cell developing along the bottom of the frame will be built along the level rather than downwards, so watch for these.

If you don't find any eggs in the queen cell buds along the bottom bars, it generally means the hive is safe from swarming for another 10 days. If you are unsure, put the honey supers on the upturned roof in front of the hive. Starting from the side, remove a couple of frames until you reach frames with brood and then inspect for queen cell development.

Sometimes the bees draw a few cells along the edges where there's no comb. Move any frames that are not fully drawn out to the outer edges of the brood nest so that you only have fully drawn frames in the middle. This restricts the space where the bees can draw out queen cells, making them easier to see during a quick inspection.

To enable bees to fully draw new foundation (top to bottom and side to side), put these frames into the second or third super when a honey flow is on. If you give the bees an empty frame (i.e., no wax, positioned third frame in from the side and with a bit of paint dabbed on the top bar for easy identification), they will draw it down as drone comb. Therefore all your foundation sheets will be drawn out as worker comb. Bees need drones and if they feel they are short of drone comb, they will make drone cells along the bottom of your new foundation frames.

Mark the frame so that you cut out the comb every 18–20 days, trapping a good percentage of mites in the drone cells. Once the honey flow is well under way (end of December), remove this drone comb frame altogether. This lets the bees concentrate on honey production rather than waste energy on drone cells that don't add to the honey collection.

We were told at the NBA Conference in Nelson in 2010 that the manner in which the bees draw down this drone comb is an indication of swarming. Straight, fully drawn comb is OK; one that is wavy (up and down in a couple of places) indicates the hive is likely to swarm.

Next, check the top honey supers. Are the bees working the middle frames only? Then move them out slightly, putting drawn or foundation frames between. Again, interspace drawn and undrawn combs to get them all drawn out.

Bees require a lot of energy to draw out combs, and also need honey to make wax. Once they get into wax making, they can draw out frames fairly rapidly.

If you don't have at least three honey supers to put on each strong hive, you will have to remove and extract the frames of fully sealed honey early, or as the bees complete each super. Otherwise, they will store it in the brood supers. Once the bees have filled the brood supers, they turn off nectar collecting and are very hard to turn on again. Give the bees room to expand and store honey.

If you run out of supers and frames and can't extract the frames that are already filled, go to the supermarket and get a cardboard box the same size as a super. Cut out the bottom to make a 100mm by 100mm hole and move a honey frame into the box. The bees will come up into the box and start building natural comb when they run out of space. Bees don't discriminate as to what sort of storage container they use. In an intense flow (a one-in-five-year flow), beekeepers will put on all the spares they can find, often robbing the burn pile just to keep the bees working.

Top-bar hives

Quite a few beekeepers in New Zealand have long hives or top-bar hives. These are good to play with but require a whole lot more work initially. With Langstroth hives, the bees will move up but some are reluctant to go sideways past the pollen frames. To keep the brood nest building, keep giving them space by moving the pollen and honey frames out one as they become covered with bees. Move the brood nest away from the entrance by a couple of frames as the bees tend to build towards the entrance first. Like all hives, top-bar hives require at least a super or the equivalent of honey to winter over successfully. Too often these hives do not gather this amount unless they get strong enough without swarming.

Wyatt A Mangum, PhD has just published a book on top-bar hive beekeeping. *Top-Bar Hive Beekeeping: Wisdom & Pleasure Combined,* is available exclusively from www.tbhsbywam.com. It's a heavy book: 411 pages, full of photos and easy to read. It's perhaps the bible for top-bar enthusiasts. His website is also good for information.

Things to do this month

Check feed. Check for failing queens. Introduce nuclei. Super hives—get them on before the bees need them.

Control swarming. Make nucs out of any hives that swarm, or combine weak hives to make full-strength units for honey production. This is the best time to get queens mated for those making their own replacements or ordering queen cells.

Prepare the honey house equipment. First honey extraction in some areas. Full brood frame check for AFB before removing any honey or combining hives. Get the honey off before 1 January to meet all the testing requirements for those in the tutin/*Scolypopa* areas. If it's a dry, warm summer there could be problems for some.

Fit foundation into comb honey supers. Put on when the first three-quarter-depth super is being used for honey storage. (This is left on to prevent the bees storing pollen in the comb super frames if there's a break in the good weather.)

Check hives for mites. Randy Oliver recommended we do a quick knock down in the middle of the year rather than wait until the end of the season. Keep those mite numbers low.

All the best for Christmas and I hope the New Year goes well.

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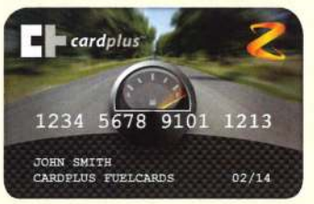

Buzzy Bee supports Bee Week. The NBA logo has been placed onto Buzzy Bee and a percentage of the profit on the products sold is contributed to the NBA.

Apimondia 2013: Kyiv, Ukraine

Gain fresh ideas for your beekeeping business whilst seeing a rapidly changing part of the world. Join your global colleagues at the biennial Apimondia Congress in Kyiv, Ukraine, 29 September–4 October 2013.

Kyiv (often formerly known as Kiev) is the capital and largest city (2.5M inhabitants) of the now-independent Ukraine. The city has 1500 years of history, some glorious Slavic architecture, and is now an important centre of commerce, education and culture.

September/October (their autumn) is a very pleasant time of year to be there, with average temperature highs around 16–19°C.

Ukraine has a long history of beekeeping, having started exporting mead, honey and beeswax hundreds of years ago. A Ukrainian even invented the frame system for beehives revolutionising beekeeping, so that's another good reason for the Congress to be held in the region.

Farm to Farm Tours Ltd is planning three tour sections, including group flights, for visiting the Congress and the regions next year:

- a pre-Congress guided sightseeing tour of St Petersburg and Moscow in Russia
- the Congress itself, including accommodation and registration
- a post-Congress guided technical and sightseeing tour to the beautiful Crimean region in southern Ukraine: an area with a stunning coastline, mountains and plains.

So you could choose one, two or three of the above depending on your preferences. If you are planning other northern hemisphere travel, we can integrate the Congress into your travel plans.

For more details on our Apimondia options for 2013, please get in touch using the contact details in the advertisement on page 16.

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Thanks, and see you in February!

The Publications Committee (Frank and Mary-Ann Lindsay, Serena Richards, Tom Baty and Trevor Cullen) and journal editor Nancy Fithian wish you all a happy Christmas and New Year, and a bumper honey season.

We hope you will be able to take some time to be with your families before resuming work.

Thanks very much to our advertisers, without whom the journal would not be published—please support them! We are also grateful to everyone who has contributed articles and photos over the past year.

Many thanks to the members of the Executive Council for their unflagging efforts on behalf of all NBA members, and to South City Print for a job well done again this year.

NB: The deadline for the February journal is 7 January, with a cutoff date of 15 January for articles and advertising. Please mark the date in your 2013 diaries now.

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