Wellington Beekeepers Association
Support and encouragment of beekeeping and beekeepers
July 2021 Newsletter

Next meeting | Wednesday 7th July 2021
Where | Main Hall, Johnsonville Community Centre, Moorefield Rd
Editor| Eva Durrant edurrant@xtra.co.nz

WBA Annual General Meeting

Starts at 7pm

Please note that there will be NO Beginners' session

Following the AGM there will be a presentation

on *Cooking with Honey* by Kelda from

Rita Cafe in Aro Street

Show off your own honey baking and bring a plate for supper after the meeting

Contents

Wellington Beekeepers Association's 81st Annual Meeting, and my President's third AGM Report

James Withington

The club continues to see and feel the impacts of the global COVID pandemic, the first real disruption to human society in 100 years, however it has given us a better understanding of how pathogens work. We can duly apply this to our beehives and how Nosema, AFB and deformed wing virus affects our hives.

It is pleasing to report that the club's membership remains high with 323 standard members (which includes 36 new members who paid after 1 Jan 2020, plus 15 non-paying members who are partners in the same household, two junior members, eight honorary members (ApiNZ, schools etc) and four life members.

Overall membership is up on the previous year, despite the disruption that COVID had on the club's ability to host monthly gatherings and other events. Although we have not conducted analysis as to the longevity of memberships, the increase in membership indicates that there is still a high level of interest and engagement with beekeepers in the Wellington catchment area. Subgroups that have formed from the Wellington Beekeepers Association, appear strong and active such as the Upper Hutt Group and it is pleasing to see the continued strong allegiance with the Wellington Beekeepers Association.

Financially the club remains in a strong position which has enabled us to make a number of purchases and improvements during the past 12 months.

The club's new website which cost the club $3013 to establish and launch and member management system will simplify the payment of members' annual subscriptions. We have also absorbed the costs associated to hosting speakers from out of town for the club nights ($1,283) and recently purchased a new larger data projector screen for the club meetings ($3,000).

The club has purchased varroa resistant queens from Gary Jeffrey from the West Coast ($400) as well as being able to increase expenditure to resource the club library. In the upcoming 12 months the club intends to make donations to research work being proposed by Dr Phil Lester and his team at Victoria University and also Randy Oliver's work into varroa eradication with oxalic acid which will benefit beekeepers globally.

I would like to acknowledge all of the committee members who volunteered to be elected over the past 12 months. This club would not be in such a strong position without their input, support and commitment. Committee members work tirelessly behind the scenes to ensure that the club keeps on chugging forward. This includes members such as James Scott who not only looks after and sets up the club's audio equipment but also maintains the club's online presence. Over the past 18 months James and others have been instrumental in establishing the club's new website; John Burnett, for ensuring that the IRD are not looking into the state of our accounts and finances, Jane Harding and Eva Durrant for producing and publishing the newsletter and of course Barbara, who does a wonderful job in the kitchen each month with her amazing baking selection. She is one of the unsung heroes who keeps the social atmosphere going, and lastly Judith who maintains and is always on the lookout for new books to boost the club libraries stock.

As always, a note of thanks to Wayne Wild for allowing us to hold construction sessions at his home in Wainuiomata and for all the hours he puts in dipping new woodware.

The committee continues to be committed to ensuring that members are getting value for money and a lot of time and consideration is given into planning the monthly meetings. Despite our best laid plans COVID restrictions have meant we have had to cancel several meetings in the past 12 months, however the resilience of the committee has enabled us to simply re-schedule our events, whilst giving the appearance that everything is under control.

One of the positives out of the pandemic this year has been the commitment to find innovative ways of hosting meetings, and I am directly talking about last month's meeting with our first 'zoomed' presenter. I know this has been discussed for some time, but now we are making it happen, and it is exciting to know we have opened Pandora's box to a whole new world of presenters who don't have to experience the bumpy flight into Wellington midweek.

The club is now lucky enough to have two apiary sites, one in Chartwell and the second newly established one in Wingate. These provide the club with about 20 full working hives, plus a number of nucs that are being carried through the winter months for members in the new season.

For the past few months, I have been pondering my position to stand for re-election to be club President. I am fully mindful that not only do my bad dad jokes become thin, more importantly early 2022 I am scheduled for a six month work related overseas deployment and certainly don't want to stand in the way of anyone aspiring for this position.

Looking forward to seeing you on Wednesday.

James

Note: The WBA Financial Accounts are set out on the last three pages of the newsletter. ED

Cooking with honey – a Presentation by

Kelda from Rita's Café in Aro Street

Kelda will talk about how she uses honey in her cuisine at *Rita* and share her philosophy about good food.

Note from the President – James Withington

Although we are officially in the winter months you do have to wonder what is going on with the weather. As I sit here typing away, I am bathed in the warmth of the winter sun, which I am not complaining about just surprised at the warmth it is carrying. This has a direct impact on our hives and members are reporting high bee activity within their hives with both pollen and fresh winter nectar being brought in. Hives I have inspected still have three full boxes of bees residing in there with no sign of a slow down at the moment. This in turn is not helping the reduction of varroa mites in the hive with queens still laying.

Talking of varroa there has been great discussion about the varroa mite levels still being seen inside hives. There are reports of a large number of hives collapsing as a direct result of high varroa. I suspect this might transpire into large winter losses not only in Wellington but throughout the country.

Last month's meeting was a time to discuss varroa and learn of the various methods for treating. Thanks to Janine for organizing the practical demonstrations during the club night.

Last month saw us trialing a zoom dial in speaker for the first time, your patience was appreciated as those with less technical skills set it up. I am hoping this will also become streamlined and open up a wider variety of speakers who won't have to physically travel to the hall on club nights.

As you know next month is the club's AGM which will commence at 6.45pm. Over the years we have streamlined this to about an half hour exercise. I invite members to stand for the various office positions within the club, from President to committee member. The club relies on volunteers and those with vision and ideals to keep the club going forward.

Hopefully by the time you are reading this we will have purchased and installed a new projector screen in the hall, so expect some changes when you arrive, like facing the other way.

I look forward to seeing you all tomorrow.

James

Apiary reports

Wingate apiary – Richard Braczek

A couple of queenless hives have been combined with nearby hives. Honey stores are good so no need for feeding. Dark combs have been removed and are waiting for a clean-up opportunity. Pre-winter varroa checks indicated low varroa counts but will give a few oxalic vaporiser treatments over winter to keep them low as they have continued to produce brood during the mild weather.

Chartwell apiary - John Burnet

Frank and I visited our Chartwell apiary on 8 May primarily to check on food stores. Several nucs and single box hives were on the verge of starvation and urgently needed feeding (we used surplus honey frames from the main hives after checking brood for AFB). On the main hives some honey frames were moved down closer to the brood and empty boxes and frames were removed for storage and sorting over the winter. A couple of boxes were beyond repair (large holes in the corners) and these will be replaced. Black, damaged frames and those with excessive drone comb will be culled, rewired where necessary and new foundation added before spring. Hefting indicated two hives in particular were a bit light on stores and will need feeding within the next month or honey redistributed from hives that have a surplus.

Colony Management Winter Reminders

By John Burnet

- Varroa mite treatment applied in autumn should be removed from hives.
- Treat immediately if there is any continuing evidence of varroa such as Deformed Wing Virus.
- If hives have less than ten frames of honey feed sugar syrup using a top feeder directly over the cluster or a frame feeder at the edge of the brood.
- Remove empty boxes and frames and sort before spring. Old black comb and broken frames make excellent fire starters!
- White or yellow comb or scrapings can be melted down and used for smearing on plastic frames or beeswax wrapping.
- Make up new equipment in readiness for the new season. Don't embed new foundation on frame wires until just before the honey flow in December.
- Club will be providing a hot paraffin wax dipping service for members' new boxes in the spring.

photo: James Scott

Apiculture NZ Conference and Trade Show 2021 Competitions

APICULTURE NEW ZEALAND

24 - 26 June 2021
Rotorua Energy Events Centre

ApiNZ Peter Molan Award

Winner: Dr Phil Lester

Dr Phil Lester is the Professor of Ecology and Entomology at the School of Biological

Sciences at Victoria University of Wellington. Phil's work has focused on the population dynamics and ecology of social insects – including bees. He has published widely on bees and released the well-received book 'Healthy Bee, Sick Bee' last year. He has been instrumental in organising two Honey Bee Research Symposiums. *Sponsored by Oha Honey Ltd*

Dr Phil Lester is a member of the Wellington Beekeepers Association

This link takes you to the other winners
https://mailchi.mp/c26533cb8848/competition-winners?e=ee3045f0c2

Conference Notes by Judith de Wilde

I attended both the NZ Honey Bee Research Symposium and the APINZ Conference in Rotorua and thought I'd share some of my experiences from attending these. What a great way to spend those cold winter days - breathing in sulphur, soaking in thermal pools, pretending I'm still 20 and challenging myself on some those famous mountain bike trails (took a couple bruises home as souvenirs) and of course submersing in my favourite subject – "Honey Bees".

Kicked off with the **Scientific Symposium** on the Wednesday. What a fantastic event with scientist speaking to their research in fifteen-minute slots. Incredible amount of research and simply too much to cover in one small piece but here are some of the bits that I went away with.

MPI statistics show that hive colony numbers are on a steady increase (middle of the north Island beginning 2020 had 6.2 colonies for every km^2) but honey yield per 100 colonies is declining. Statistics did not account for the movement of hives. No surprises here but NZ honey yields are still greater than our European counter parts.

The issue of high levels of hive deaths, largely attributable to varroa mite, in some parts of the country was highlighted. Interestingly this was a theme at conference with both the American and Canadian speakers. This followed with Rae Butler detailing the varroa monitoring work of the Mite

Monitor programme team in Canterbury and the progress of an online monitoring tool being developed for collaborative approach to varroa monitoring between beekeepers.

Effects of pesticides came in the spotlight with a presentation from Felicia Keuh Tai, of Plant and food Research (University of Auckland). There is no data on native bee numbers in NZ. Ground nesting solitary native bees (*leioproctus paahaumaa*) where shown to be 129 times more sensitive to pesticides than the honey bee *Apis Mellifera.* More study required to assess the risks for cavity dwelling solitary native bees to ensure that regularity pesticide risk assessment frameworks are protective of all pollinating bees and not just *Apis Mellifera*.

Megan Grainger, from the university of Waikato introduced a study about to commence that will look into the effects of metals from the environment and their effect on bee brains. Initial soil sampling has shown that NZ has very low levels of metal contaminants in its soil. Waikato does have raised but not dangerous levels of Cadmium (from phosphate-based fertilizer application). Interestingly soil samples showed consistent results for metals but honey samples varied.

The first round of results of a study looking into a spectroscopy (wave lengths of light) tools for simpler, cost effective, rapid alternative tool(s) for classifying NZ mono-floral was presents by Katherine Holt. Fourier-transform infrared spectroscopy (FTIR) showed the least promise. Nuclear magnetic resonance (NMR) gave some very positive results but her team still have a way to go to meet the accuracy of current pollen profile testing.

There were three different presenters to the ABAtE project from Massey University on different aspects of the project to create a “Bee vaccine” against AFB, using bacteriophages for eradicating AFB in NZ. A very promising area of the development. While 33 bacteriophages have been discovered, they still have not found the diversity needed to fight all strains

of the AFB pathogen *Paenibacillus larvae* (notably 2 isolates from the South Island). We were taken through a method the team is using, to evolve the phages that they do have, to improve the performance of these phages and fast track the project.

John Mackay from dnature presented on research undertaken developing a simple hive entrance swab sample, taken by the beekeeper and sent to the lab for testing, to diagnose the presence of AFB spores (The Foster Method). The process is simpler and quicker for beekeepers. An exciting development that will add another tool in the detection/defence of AFB.

The 2020/2021 observation/results on the effect of honey bee *Apis Mellifera* abundance on the foraging behaviour of the native bee *Leiproctus* on Manuka flowers was presented by Grant Fale. He expected to observe competition but instead observed *Leiproctus* bees foraging early in the flowering period with little to no *Apis Mellifera* present. This switches mid flowering, with *Apis Mellifera* being the main forager. This matches with what I have observed on my apiary site. This is likely to correlate with the life cycle of the *Leiproctus* bee and the usual abundance of other flowering plants early in the Manuka flowering period.

Scion scientist, Stephanie Sopow spoke on the successful release to the imported parasitoid, *Pauesia Nigrovaria* as a biocontrol of the giant willow aphid. Population is growing and spreading from their release points in 2020 and 2021. However, the discovery of a previously unidentified hyperparasitoid which uses the introduced parasitoid as its host, is potentially worrying. The team are seeking to learn more about origins and characters of this hyperparasitoids to better understand the potential implications.

This was followed by 3 informative days at the **APINZ conference**. Attended by over 900 delegates. It was wonderful to mix with a variety of people associated with apiculture industry. The food was superb and the

stands worth a visit. International speakers presented pre-recorded talks over the large screen and then went onto live question sessions via zoom. This worked surprisingly well.

Here are some of the highlights for me from these presentations:

Varroa was a topic that was covered a number of times by different speakers. It is definitely an increasing issue in Canada, the USA and here too. It is certainly an experientially growing issue for me. 5 years ago, two varroa treatments a year was sufficient to keep my hives healthy. Last session I did five, some 6 and still I have a number of hives presenting above the threshold of 3 varroa to 100 bees. Dr Dennis van Engelsdorp from the USA found that only 30% of hives in his study had a varroa loading decrease one month post varroa treatment. Ouch. One theory is hive abundance with high bee drift/robbing from neighbouring varroa hitch hiking bees. Denise has shown in a study that permanent robbing screens on hives slowed varroa growth substantially. Later in the conference Denise spoke on management practices that work and don't. The one surprise was the practice of reusing dark brood comb. His studies have found that bees do better and have higher survival rates if old dark brood frames are used for making splits. He is unsure why but suspects it may have something to do with good pathogens being in higher numbers than the bad ones.

Varroa are evolving. They have decreased in size since 2012 and scientist have observed the development of a new moustache like staining in the body of varroa, which is believed to potentially be newly evolving viruses. This theory is still to be tested. Is this evolution the result of varroa treatments or a response to bee resistance?

Varroa as we all know carry various viruses with the most prevalent being Deformed Wing Virus. DWV has evolved to survive without varroa and this new strain called DWV-b can cause hive deaths without varroa present.

DWV is on the decline and DWV-b is on the increase. Patricia Wolf-Veiga of Canada found DFW viruses in 50% Queen bee spermica studied (the only virus) which also included NZ queens. Her advice was to not over winter weak hives, as diseases will only increase.

Randy Oliver discussed his findings with different application of both formic pro pads and oxalic/glycerine, for control of varroa. Formic pro applied as per manufacturer's instructions of two pads per two brood box hive had the best instant varroa kill rate but killed 11% of queens. Formic pro applied as one pad applied for seven day and then repeated, didn't kill queens and was an effective varroa treatment. Oxalic acid and Glycerine applications were tested in strips, sponge and paper towel applications from 18 to 50% oxalic concentrations. Results showed a 98% efficacy and excellent treatment to keep varroa numbers in control. Randy recommended sponge application between boxes in a two-brood box configuration and strips in a single brood box configuration at a ratio of 1:1. You can find more about Randy's research at ScientificBeekeeping.com

Phil Lester gave a fascinating talk on RNA, dsRNA and gene drive as potential new treatments against varroa. Double stranded RNA applications are currently being studied in Israel and NZ laboratories, and field trials are underway in the USA. Cas9 protein complex is programmed to recognize dsRNA at sequence-specific target sites and cut varroa DNA strands. Application is via chemical strips in the hive. It will be exciting to see where this will lead. USA scientists have added dsRNA to bee gut bacteria, adding this to a sugar syrup which is feed back to the bees. This dsRNA altered gut bacteria lives within the bee and is transferred to the varroa when it feeds of the bee. This approach has been proven in the laboratory but due to ethical issues, no field trials have been carried out.

A number of speakers touched on the subject of breeding for hygienic behaviour but non presented any game changing developments here

Manuka Charitable Trust Chair, Pita Tipene spoke. Formed in 2020 to work collaboratively, to protect the term Manuka. I came away with the feeling that the 12 Maori Iwi representatives had more work ahead of them to align their values. This is potentially a stumbling block in the legal challenges later this year.

Karin Kos, CEO Apiculture NZ pitched strongly throughout the conference of the need for a commodity levy.

The big players pitched in terms of the Fonterra model and every second sentence contained the word manuka. Shame really, Fonterra trades in a globally staple commodity, "milk" and NZ honey has so much more to offer than just Manuka. It was however fascinating to learn about the huge cost and lengthy process involved in pushing into new markets. Honey Surpluses still exceed sales. New markets need to be tapped into before sustainability in the market is achieved.

I liked the NZ Honey Story developed by APINZ and encourage you to have a look. Go to;

toolkit.nzstory.govt.nz Search **Honey, then** search**, made with care**

MPI scientist, Richard Hall and Hayley Pradgert present the result from the 3-year Bee Pathogen Programme. DFW is more common in autumn, coinciding with high levels of varroa. Nosema Apis is found in almost every apiary cross all of NZ. Nosema Ceranae was found in 2/3rd of North Island apiaries but is also present in the South Island. I expected to find a large portion of apiaries to have AFB spores in the composite sampling, given the knowledge that AFB can be broken into 2 main strains. ERIC 1 (kills larvae after its capped) and ERIC 2 (kills eggs/larvae before capping). One showing visual symptom more rapidly. However, this is not what was found. Sample testing was inline with visual disease at 0.47%

Lastly the **AFB management plan** is up for review. This is going to be a 3 staged approach. Stage one is currently open for you to submit your ideas on what would make a good AFB PMP. As registered beekeepers you should all have received a notification and link via your email. Give it a thought, submission close 16th July. The next two rounds will ask for feedback on draft and amended draft plans.

Take home practices for me the hobbyist, that I picked up from this conference

- Ideally Alcohol test monthly for varroa levels. Treat if threshold above 3varroa to 100 bees
- Use Oxalic acid and glycerine strips year-round to keep varroa numbers in control
- Have a solution of 10Tbsp baking soda to 4.5 litres water at hand for neutralizing Oxalic Acid if spilled
- Use permanent robbing screens. (I will test this with a few hives)
- Don't nurse weak hives through the winter, join with a stronger hive if possible (not weak to weak)
- Given that DFW virus has evolved to survive without varroa, I will no longer mix with other hives until all visible symptoms are gone.
- Given that viruses are evolving, will I nurse a PMS hive to health (sadly I have had a couple), probably not.
- Freeze surplus used brood frames for one week (kills nosemia apis, wax month and potentially other harmful pathogens) before dry storing. Think I'll stick with the ones I can still see light through.

pī·ā·ora
BEES GIVING LIFE

APICULTURE
NEW ZEALAND

from the CE, Karin Kos

The Conference committee was thrilled to host more than 1000 delegates across the three days of Conference and from the noise levels in the trade exhibition and during the social events, it was clear that everyone was very happy to be there and to catch up with beekeepers from around the country. I really appreciated the opportunity to talk face to face with so many of you, to hear from our exceptional speakers and taste some of the wonderful honeys entered in the National Honey Competition.

This competition really was the highlight of Conference for many attendees and once again I was impressed by the extremely high quality and quantity of entries. I know our judging team faced a difficult task, sampling 155 entries to find our top producers. This was a third more entries than we received in 2019. The supreme winner of this event was Jarved Allan of 100% Pure New Zealand Honey who won an impressive four gold medals and four silver medals across a range of honey categories. The full list of winners can be found here.

It was also extremely rewarding to honour those who are making significant contributions to our industry. A big congratulations to Dr Phil Lester who took home the Peter Molan trophy for contributions to apiculture science, John Berry who was our 'Unsung Hero' for his exceptional service to beekeeping and Hantz Honey who were recognised for their ongoing efforts in building a sustainable business. Ecrotek took home the Roy Paterson Trophy for their carbon-neutral bee frames, while Hazel Moran was the supreme winner in the National Photography Competition.

At our AGM, I took the opportunity to share with members some new work that ApiNZ is undertaking and I look forward to sharing more about these initiatives with you over the next few weeks.

How bees keep warm in winter

WINTER CLUSTER

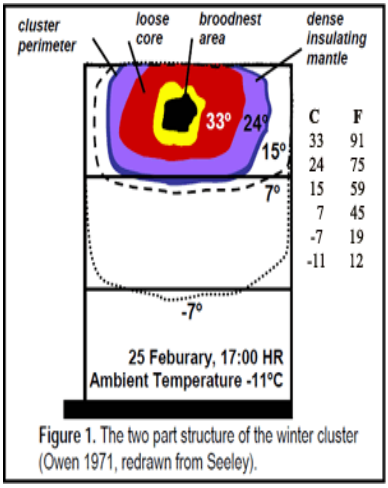

Figure 1. The two part structure of the winter cluster (Owen 1971, redrawn from Seeley).

In beekeeping, a winter cluster is a well-defined cluster of honeybees that forms inside a beehive when the air temperature dips below 10 to 14 °C In the colder months of winter. Worker bees form a cluster around the queen and brood to keep them warm. Larger clusters (rugby ball size) have a better chance for survival than smaller clusters (softball size) The bees keep their heads pointed inward, and cling tightly together on the combs in the hive. Bees on the inside of the cluster can feed on the stored honey. The outer layer of workers insulates their sisters inside this warmed sphere. The winter cluster within the hive must move throughout the winter to reach the available honey stored in the combs.

As the ambient temperature drops, the worker bees actively generate heat within the hive. First, they feed on honey for energy. Then, the honeybees shiver. They vibrate their flight muscles but keep their wings still, raising their body temperatures. With thousands of bees shivering constantly, the temperature at the centre of the cluster will warm up considerably, to about 33° C!

As ambient temperatures rise, the bees on the outside of the group separate a bit, to allow more air flow. As temperatures fall, the cluster tightens, and the outer workers pull together. When the workers on the outer edge of the cluster get cold, they push to the centre of the group, and other bees take a turn shielding the group from the winter weather.

Storing honeycomb frames

Store the frames with drawn honeycomb over winter away from pests such as mice and wax moth. Take the honey clears from your hives after the honey harvest and tuck them into plastic bags and into the freezer for two or three nights to destroy wax moth eggs and larvae. Then the frames can be stored in large sna**p**-lock **plastic** bins. The 14 kg bins take a dozen frames. The bins can then be stacked and stored in the shed or garage **-** safe and sound until springtime.

Wax moth damage

"Greater wax moth larvae (grubs) clump together covering an area in silk. They are able to produce their own heat so once they get established, they will continue to destroy comb right through the cold of winter." *Frank Lindsay, NZ Beekeeper 2015*.

Images taken from on-line photos

Interesting websites

www.theguardian.com/environment/2021/jun/20/bee-friendly-urban-wildflower-meadows-prove-a-hit-with-german-city-dwellers

Bee-friendly urban wildflower meadows prove a hit with German city dwellers

Countrywide scheme is flourishing after being set up to reverse a 75% decline in insect populations

(Thanks to Tami Louisson)

Single bee is making an immortal clone army thanks to a genetic fluke | Live Science

Single bee is making an immortal clone army thanks to a genetic fluke

One bee has cloned itself millions of times over the past three decades.

(Thanks to Ian Goodwin)

Who can I speak to?

President - James Withington 0272 851206 jwithington2016@gmail.com

Vice-President – John Randall (04) 4769959 john@gingerwillow.com

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Secretary - Jane Harding 0274212417 janeh@xtra.co.nz

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Meeting location

Johnsonville Community Centre, Moorefield Rd, Johnsonville

Wellington Beekeepers Association Inc
Balance Sheet as at 31 May 2021

2020			2021
	Liabilities & Members Funds		
	Accumulated Funds		
19166	General Fund as at 1 June 2020	20072	
906	plus Income/Expenditure surplus for 2020		
	minus Income/Expenditure deficit for 2021	-1509	
20072	Balance of General Fund as at 31 May 2021		**18563**
6793	AFB Fund as at 1 June 2020	8810	
2137	Plus members' AFB contributions for year	2182	
-120	Less AFB Reimbursement expenses	-360	
8810	Balance of AFB Fund as at 31 May 2021 (refer Note 2)		**10632**
28882	**Balances of all funds as at 31 May 2021**		**29195**
	Assets		
2854	Westpac Cheque Account	2977	
16408	Westpac On-Call Savings Account	16416	
9620	Westpac Term Deposit Account	9802	
28882	Total all Bank Accounts		**29195**
28882	**Balances as at 31 May 2021**		**29195**

Statements of Account prepared by:

John Burnet (Hon. Treasurer)

Statements of Account verified by:

Eva Durrant (Reviewer)

Wellington Beekeepers Association Inc
Income & Expenditure Statement for year ended 31 May 2021
(inclusive of GST)

2020		2021		
	Income			
7140	Members subscriptions 2019/20	7275		Note 1
-2137	less AFB Fund contributions	-2182		Note 2
5003	**Total Subscription Income**		5093	
270	Donations & Sundry Income	0		
880	Extractor Hire	930		
800	Wax Dipping Receipts (less energy costs)	340		
308	Bank Interest	192		
3800	Training Course Receipts	3400		Note 4
6795	Queen & Nuc Colony Receipts	400		
426	Calendar Sales	460		
13279			5722	
18282	**Total Income**		10815	
	Expenses			
1145	Meeting room hire	1043		
173	Printing & Stationery expenses	609		Note 5
946	General expenses	394		Note 6
144	Meeting supper expenses	56		
0	Guest speaker expenses	1283		
621	Xero Consulting & Accounting	416		Note 3
0	Hello Club member mgmt system annual sub	908		
289	Apiculture NZ subscription	285		
673	Internet subscription & website development	3387		
74	Cup & Trophy Engraving	52		
349	Club Hive expenses (non-equipment purchases)	700		Note 7
2007	Training Course expenses	1909		Note 4
5244	Queen & Nuc Colony expenses	0		
-483	Tutin Testing expenses (less receipts)	-6		Note 8
0	Equipment Repairs (extractors)	32		
366	Wax Dipping Expenses (paraffin wax)	0		
300	Calendar Expenses	450		
11848			11518	
	Assets Purchased & Depreciated :			Note 9
5180	Club Apiary (additional and replacement hiveware and equipment purchased)	746		
348	Books purchased for Library	60		
5528			806	
17376	**Total Expenditure**		12324	
906	**Surplus / Deficit**		-1509	

Wellington Beekeepers Association Inc.
Notes to Accounts for Year ending 31 May 2021

Note 1	Membership - 323 financial members as at 31 May 2021 (incl 36 who paid before 31 May 2020, 15 non-paying (partners of paid members), and 4 life members
Note 2	$7.50 is deducted from each subscription and retained for reimbursment to any Club member who has to destroy an AFB infected hive (refer Balance Sheet) 2 claims from 2 members totalling $360 ($120 per hive) rec'd for year to 31 May 2021
Note 3	Consulting & Accounting - reduction in monthly rate negotiated with Xero (approx 50% of previous rate)
Note 4	Basic Beekeeping Training course held Spring 2020 (Profit $1491)
Note 5	Printing & Stationery - mostly 'Starting with Bees' book given free to all new members
Note 6	General Expenses - Various incl. gifts for guest speakers, prizes for members e.g. wildflower seeds, etc.
Note 7	Club Hive Expenses - Includes apiary levy, varroa treatment (Chartwell $511, Wingate $189)
Note 8	Tutin Testing - 98 members paid $15 each for lab testing and courier costs (total collected $1470).
Note 9	Depreciation - all new assets depreciated in full in year of purchase in terms of Club policy.