Brighton & Lewes Beekeepers

A DIVISION OF THE SUSSEX BEEKEEPERS' ASSOCIATION

EDITORIAL

Will someone please teach my bees to read?

February has always been a weird month. For me anyway. Some of it is because that's my birthday month—although these days, who's counting?

But mainly it's because February is a sort of bridge between winter and spring, yet a month in which we often experience the worst weather of the year. Cold, windy, and wet—and that's just the good bits. Snow, hail and severe frost in a bad year.

Since I took up beekeeping, this month has acquired a new resonance. With winter almost over and spring on the horizon, the bridge actually means something practical.

Yes, I still head out for walks and enjoy the sound of birds early to the mating game, and the sight of flowers just starting to make their presence felt—not too early one hopes or there'll be a frost along to dampen their presumption.

But as a beekeeper, it means the anxious period starts. When November, December and January were seriously cold months, the bees would tuck themselves up and keep warm by shivering their thoracic muscles. As long as they're fed, there's little to do. But in these days of climate change, they're out and about.

Then the cold snap—if we get one—strikes and they're back in the hive. As I write in late February, the cold snap seems to have passed, and the temperature in our relatively balmy location is rising toward the low teens Celsius. And so I worry whether they will have consumed all their fondant, and whether I will lose another colony (fingers crossed, all good so far) to starvation.

I check regularly, a process made easier and less disruptive by my installation of glass quilts rather than wooden cover boards under the 50mm-thick insulation.

Keeping all my bees alive can't be that hard: I managed it last year, yet I still hear of and read a worryingly large number of accounts by beekeepers far more experienced than I of colonies lost over winter and early spring.

So will my three colonies survive this winter and early spring? I left them plenty of honey—the last extraction was in July, made sure they have enough fondant—and practised integrated pest management by dosing them with MAQS strips in August and oxalic acid vaporisation in December around Christmas. The varroa count is well down.

In theory then, they should be OK. But as I'm learning, bees don't read the books.

So there's a project for someone. Researchers continue to report that bees are pretty smart—they can count. Now teach them to read...

Can you contribute?

Do you have interesting photos or video links you'd like to share? Or an insight from your beekeeping that would could enhance the hobby for others? Do you have skills that could be useful to other members? Anything else you'd like to see in this newsletter? Ideas and contributions welcome: contact details on the back page.

Manek Dubash
Newsletter Editor

NEWSLETTER
MARCH 2021

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ONLINE

brightonlewesbeekeepers.co.uk

QR link to our website

March

Well done, you've got your bees this far, So what comes next?

Feeding

As the days lengthen and the temperature rises, the queen will start to increase her laying rate, building a new foraging force for the approaching spring. The fondant you have been using, a source of carbohydrate that the bees have been using to maintain the hive temperature, will need to be supplemented with protein to help the development of new brood.

In the absence of stored pollen in the hive you can use pollen patties, either home made or shop bought. They can be either substitutes (without pollen) or supplements (with pollen)

Here's a pollen substitute recipe I found on the internet.

Ingredients
225g (8oz.) soy flour
340g (12oz.) granulated sugar
28g (1oz.) Brewer's yeast
340g (12oz.) sugar syrup (2:1) or your honey
Method: Add water as needed.

There's a similar recipe available on the Beebase website. Or you can use a fondant mixed with pollen, such as Candipolline Gold.

When the temperature is getting towards about 12°C, you can do a limited examination of the hive to see how things are going. Does the queen have enough space to lay new brood? If not, move a frame of empty drawn comb nearer the centre of the brood.

Check if they need feeding. If the cluster is low down on the comb and there is plenty of sealed stores – good. If they are clustered on the top of the frames and there is little sign of stores, then feed. Use a contact feeder filled with thick syrup. Sugar and water mixed in the ratio of 2:1 or commercial syrup. Caution: do not feed too much as the bees will store it and reduce the space available for the queen to lay.

Bees with deformed wing virus, transmitted by varroa

Varroa

Check the varroa drop rate. If you're not sure what it should be, go to the Beebase website to check their calculator or leaflet. When treating your bees, it's necessary to keep a record of any approved medicines that you've given or are going to give to your bees. Approved means those approved by the Veterinary Medicines Directorate (VMD). Current legislation, requires that you keep a record of the purchase, use and disposal of these medicines. Records should be kept for a minimum of five years. Again a helpful leaflet is available from BeeBase.

Cleaning up

Now is also the opportunity to change the floor and get rid of debris that has accumulated over the winter. It's best not to drop litter in the apiary; dispose of it in the dustbin at home or in your garden burner. If the weather is warm enough later in the month, I will change all the hive components, from floor to roof, except for brood frames.

Later in the month when there is little fear of freezing, you may think about stimulation feeding. This where you use a thin syrup (1:1) to simulate a nectar flow. However, if you start feeding you will need to continue until natural sources of pollen and nectar become available. A strong colony can use up to 2Kg of stores during this period. In my apiary, there is a large willow tree and that comes into flower in late April/early May. It takes six weeks from egg to flying forager; so, if the cluster is small when you start feeding, they may not be able to maintain the correct temperature for rearing the new brood if you stop.

Planning ahead

It's also time to think about what you want to do with your bees this year.

Beekeeper's records. From Heather Bell Honey Bees.

Replacing or rebuilding your stock of bees and how you'll go about it. You could pick the biggest and best hive that you have identified from your hive records (ha, ha, ha).

Keeping records, no matter the size of your operation, will make your life easier. I still struggle to write everything down, even now after all the years I been keeping bees. When I first started with just one hive, it was easy to remember everything I saw and did. However, as the number of hives grew, and the manipulations got more involved it all became a little confusing.

Several types of record cards are available, including paper-based or computer-based ones, and cards can be designed by yourself; as long as they meet your needs, they will be fine.

(Continued on page 3)

AGM Report

The 2021 AGM was held on Wednesday 17 February, using the Zoom video-conferencing system. Conducted by Chairman Norman Dickinson, it was fairly short (just 90 minutes), with no officer or committee posts contested.

Most of the meeting was occupied by the reading out of reports, all of were sent out before the meeting, from apiary managers and from the Division's officers. Norman read out the voting results (first table), and the meeting accepted the year-end accounts and agreed the constitutional amendments proposed by the Committee (second table).

Two more notes: the first was sadness as our excellent Librarian Dominic Zambito resigned his post for personal reasons. The second involved our previous Chairman, Heather McNiven. After the formal part of the AGM, Secretary Hilary Osman read a poignant letter from Heather, in which she expressed her sadness at not being able to attend—for procedural not health reasons, it is important to clarify. She concluded by saying that she wanted to say goodbye to the friends she had made during her 20 years of service with B&L Beekeepers. We thank you both.

Voting results, acceptance of accounts, and constitutional amendments

Position	Name	Proposed	Seconded	For	Against	Abstain
Chair	Norman Dickinson	Tim Akehurst	David Boys	17		2
Secretary	Hilary Osman	Jade Talbot	Bob Curtis	18		1
Treasurer & Membership Secretary	Norman Dickinson	Tony Birkbeck	Andrew Martin	18		1
Newsletter Editor	Manek Dubash	Chris Briggs	Richard Markwick	18		1
Committee Member	Bob Curtis	Tony Birkbeck	Gerald Legg	19		
Committee Member	Dominic Zambito	Zoe James	Pam Hunter	18		1
Committee Member	Gerald Legg	Peter Tyrrell	Simeon Elliot	19		
Committee Member	Ian White	Kyran Hill	Peter Dollimore	19		
Committee Member	Graham Bubloz	Joel Tomlinson	David Guy	18		1

2020 Year End Accounts		Proposed	Seconded	For	Against	Abstain
To adopt the year end accounts for 2020		Francine Smith	Tracy Llewellyn	15	1	4
Constitutional amendments		**Proposed**	**Seconded**	**For**	**Against**	**Abstain**
Clause 5	Removed Vice-Chair role	Douglas Jackson	Dominic Zambito	15	1	2
Clause 14	Added 1st and 31st	Henry Foster	Tim Moulds	16		2
Clause 16b	Capitalised the word "Officers"	Tim Moulds	Jane Stimpson	17		1
Clause 23	Abbreviated to BBKA	John Claydon	David Droscher	16		2
Clause 26	Word change to "any member"	Peter Harland	Rachel Coombs	16		2
Clause 31	New clause for on-line meetings	Rachel Coombs	Nick Lear	17		1
Clause 32	New clause for email voting	Luke Murray	Michael James	17		1

Hints and tips (continued)

(Continued from page 2)

But back to that nice healthy colony, are you going to split it into three or four new nuclei, letting the bees develop new queens in the process?

Getting new bees

You could wait until swarms become available and go and collect them. This has some element of risk as they may be carrying disease, and unless you have somewhere to quarantine them, you don't want them mixing freely with your bees (does this sound familiar?). Whatever you're planning to do with them also think whether you have enough equipment to carry out this adventurous programme of bee husbandry.

Or you could think about buying them. If you do buy them, make sure it's from a known dealer or that they have an inspection certificate from the Bee Inspector. You'll find a guide on the BBKA website. The nuc/hive should have a combination of adult and flying bees, brood in all stages of development over 3-8 frames and this year's or last year's marked queen. The colony needs to able to start expanding immediately. The frames should be constructed properly and be new or last season's at the least.

There should be enough stores in the nuc/hive to last about two weeks, as the bees may not be able to fly due to bad weather. If at all possible, buy bees that have been bred locally; they are used to the climate.

Remember to secure the nuc/hive for the journey home. You don't want to stop suddenly and then have a car full of bees. Make sure the nuc/hive is out of the sun and there's enough ventilation, so they don't overheat.

Writing this has whetted my appetite and I can't wait to go and see my bees. *(you and me both! Ed.).*

Another veiled beekeeper

Norman Dickinson
Chairman

Words from the Chair

We held our first ever Zoom AGM on Wednesday 17 February and were reasonably satisfied with the turnout. Voting for Officer roles and Committee Members was carried out using email, as was the adoption of the 2020 Accounts and approval for the amendments to the Constitution.

All nominations and approvals were carried. There was however one exception: Dominic Zambito has decided for personal reasons to stand down both as Librarian and from the Committee, and I am sure that you will join with me to wish him well for the future and thank him for the hard work that he has put in over the past few years. Thank you, Dominic.

I did receive a couple of emails from members after the AGM apologising for absence and requesting information on what occurred. I will email out the minutes, voting results and reports once finalised.

In January, the Sussex Beekeepers Association (SBKA), of which B&L is a member division, held its first Executive Committee Meeting since the start of the pandemic. One news item to come out of it was that the BBKA will be increasing its capitation by £2 per member annually, starting 1 October 2021. B&L will absorb this increase for October to December 2021 but we may need to increase the membership fee for 2022.

Note that that the SBKA AGM is on Friday 5 March 2021 at 19:30. To attend, please use this link; access details: meeting ID 999 4253 9684, passcode 1889.

With the Government publishing its roadmap out of Covid-19 restrictions, a return to some form of normality and, hopefully, out-apiary meetings later this year look possible. We will be discussing this at our next Committee Meeting in March and I will broadcast details to all members once known.

Please stay safe and well, and please do keep checking that your bees have sufficient stores to see them through the remaining winter months.

Hilary Osman
Secretary

Your Committee at work

Another month and we will all be looking at our hives hoping that our bees have come through this cold and damp winter, I know that I have lost a couple from what I do not know, but there were plenty of stores and fondant still present.

If you haven't paid up to be a member of Brighton and Lewes Beekeepers this will probably be your last newsletter. That means no insurance if your bees get a foulbrood disease, no swarms for you, or help from the committee and other members. So sign up, please.

We have been chasing up the Bee Disease Day which was due to be held last year but for obvious reasons it didn't happen. We'd like to hold this year but have had no response from the Bee Inspectors, who will be conducting the day, probably because they have as much knowledge as we do as to what can and cannot go ahead, so this will be on hold until next year.

I wrote last month about a sticker for children. 'I saw the Queen' Work has been completed , and I hope you like the artwork.

You can see also that we are publishing a honey recipe starting this month in the newsletter (see page 5). Do you have a recipe that you are prepared to share? We would like to make a booklet of recipes using honey and/or wax. The plan is to sell the booklet to members and the public, and raise some funds for B+L Beekeepers. If you can share a recipe, please send it to me at the usual address (see back page).

We want to find out how we can better support you and provide better service. So we recently sent you a questionnaire, so please fill it in and return it to me. Everyone who returns it filled in be entered into a draw for a £10 voucher to spend at Payne's. None of the questions are taxing, and it won't take long to complete.

BIBBA is providing some excellent webinars for all levels of beekeepers, from complete newbies to the more advanced — link here. On 13th March, BIBBA is running an all day 'Introduction to Beekeeping' for brand-new, wannabe beekeepers for £15 from 9.30-5.00, obviously with breaks throughout the day. You will need to book through Eventbrite. Looks good to me.

Finally, let's hope this cold, damp weather improves very soon.

From our apiaries: Barcombe, Hove & Piddinghoe (but just Hove this month)

Hove

Spring is coming, lighting up time is 17.19 at the time of writing. Like football, beekeeping is 'a game of two halves: the first is expansion and the second contraction. Whether you live in the northern hemisphere or the southern, the solstices mark the boundaries, the points at which things begin to change'.

The hives have regularly been hefted during January to make sure all is well. It is not a very scientific method, but a guide is if the hive is too heavy to lift off the ground then there are enough stores inside. Just looking at the fondant on the frames or on the crown board is not sufficient.

This year, the fondant has been put on the frames in plastic bags so the bees can get in to feed, and the bags prevent the fondant hardening. Marin Anastasov said that if the fondant goes hard, the bees will still use it, but they must moisten it first, so it makes it harder for them to get the energy they need to go out on cleansing flights. It also helps to see if the bees are clustering under or near the fondant. If they have become isolated this can easily be rectified.

Fondant on frames for the winter

Hove Apiary

Hive records have been started for this beekeeping year, but there is nothing much to report. The bees are starting to fly on sunny days and in between they are getting on with the fondant so thoughtfully left for them.

In January, I watched a BBKA webinar by Marin Anastasov entitled 'Nutritional requirements and supplemental feeding'. He gave a remarkably interesting talk with opportunities for many questions. I took lots of notes and plan to use this information to inform this year's feeding regime. His slide presentation is available, and I have a copy to pass on if you are interested.

The NBU has issued two warnings about starving bees to my recollection and both times I have responded by checking and feeding them. So far, the visits have just been to ensure that the hives have living, breathing bees inside and that enough food to help them through the winter.

Finally, a sign of spring: as I left the apiary, I found this poking through the grass. I think it is a violet which, along with the snowdrops, is a sign that the new beekeeping year is underway; the queens will start laying, the queen excluder and first super will be going on and gradually the bees will be out and about foraging yet again.

Jude New, Apiary manager

Violet: an early sign of spring

Recipe: Honey fruit cake

Ingredients

170g / 6oz butter
115g / 4oz brown sugar
3 eggs (beaten)
115g / 4oz honey
145g / 5oz self-raising flour
85g /3 oz plain flour
30g / 1 oz ground almonds
225g / 8oz dried mixed fruit
Scattering of demerara sugar for the top.

Method

Grease a 7"/ 18cm tin.
Cream together butter and sugar.
Gradually add the eggs, then the honey.
Fold in the flours, ground almonds and mixed fruit
Put into the tin and sprinkle with a scattering of demerara sugar.
Bake No 4/350F/177C for 1¼ hours, well risen and an even colouring.
Test to ensure that it is cooked.
Leave in tin until cool on a wired tray and then remove when cool.

Can you help?

B&L is here to help, but we can't do it without you.

1. We need people to mentor new beekeepers.

2. We need a swarm co-ordinator to ensure that those who need bees get them. It won't be long before the swarms start. Please contact Chairman Norman Dickinson (see back page).

Pale wax wanted

Our Hove Apiary Manager, Jude New, reports that a candle maker in Petersfield is looking to buy fresh, pale wax, and is willing to collect from either the South of England Show, or National Honey Show if Covid allows, this year *[I suspect it won't. Ed]*.

Please contact Jude for details.

BeeCraft contact update

BeeCraft, to which many members subscribe, has changed its contact email address to associations@bee-craft.com.

BeeCraft said it has a more dedicated responsibility to work with, and support, associations/branches that are learning to approach training and events in a totally different way.

Discounted supplies still available

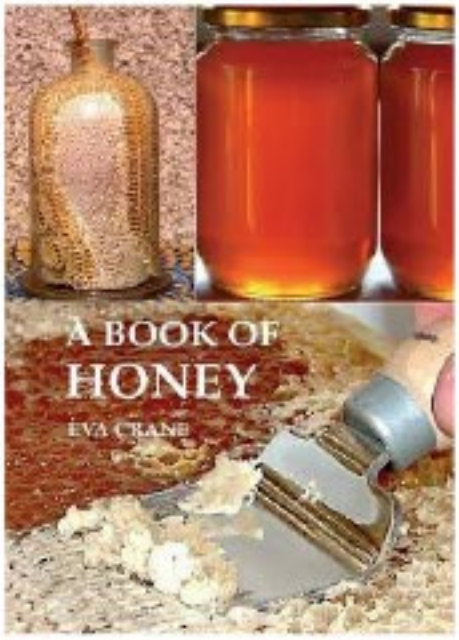
We have sourced more fondant (just a few left now) and some Candipollen packs too to give your bees a good start for the early spring.

We are also looking into bulk purchases of frames, wax and glass jars.

Look out for the email with details, and please don't delay ordering. Contact Norman for details.

Apiary site available

We have been offered a site for hives between Scaynes Hill and Chailey. For further information please contact Hilary Osman on 07713532285.



A Book of Honey, by Eva Crane.

Book of the month

The New York Times said Eva Crane wrote some of the most important books on bees and apiculture. *A Book of Honey* describes how and why bees make honey, the detail of its constituents and characteristics, its uses in the kitchen, as well as mead-making, medical remedies and cosmetics.

Crane covers the history of honey, starting from the evolution of plants and bees, then on to the harvesting of honey by humans over the past 10,000 years and its religious significance and beliefs.

If you'd like to borrow this or any other book in our extensive library, please contact Norman, contact details on the back page.

B&L Facebook group

Plenty of new members joined the B&L Facebook Group this month, please join us if you haven't already.

Over the last month, topics have included (but are not limited to):

- Apiary visit videos
- How to make a bee vacuum
- Have woodpeckers been at my nuc?
- Polish beekeeping
- Hexagon video
- Requests for secondhand kit
- Worldwalking challenge
- Possible meeting about equipment
- Funny cartoons
- BBWear discount (see story, right)
- Webinar links

... the list is long and growing.

I don't doubt that as the beekeeping season kicks in, we'll also see a lot more posts relating to help and advice—there's usually someone there who can offer a friendly word.

So if you'd you'd like to help and to offer advice or you need advice, join the group—and over a third of our membership have already done so—please jump in!

The water's warm and the atmosphere friendly.

To join, log into Facebook and search for B&L Beekeeping Division. Please note that we won't be admitting anyone whose name has not first been checked against the membership list.

BBWear discount

Beekeeping Supplies UK has announced it is extending its 10% discount offer on BBWear clothing, and made it easier to order the suit, jacket or gloves in the size and colour you need.

You can now use the discount code below to get a 10% discount on any item of BBwear clothing.

What to do: go to the Beekeeping Supplies website (**not** the BBWear site) and enter this code at the checkout to activate the 10% discount: **BBKAbbwear10**.

All sizes are available, and the normal five-year warranty and 28-day money-back guarantee apply.

BBKA lambasts Government pesticide decision as beekeepers pile on pressure to reconsider

The BBKA has lambasted the Government's decision to allow the use of neonicitinoid pesticides—poison for bees—and called on beekeepers to express their concern at the decision. See last month's lead story for details.

The BBKA's Annual Delegate Meeting overwhelmingly adopted an emergency resolution opposing the use of the pesticide thiomethoxicam, which was banned EU-wide in 2018.

BBKA President Margaret Wilson has sent a letter to the Secretary of State for the Environment Food and Rural Affairs expressing concern and asking the Government to reconsider because of the poison's effects on bees and other pollinators. She said seed dressings are toxic to pollinators, the substance leaches into the environment with both wide-ranging and long-lasting effects, and some of the figures used to justify the decision are questionable.

The letter points out that the BBKA participated in a Future of Farming consultation process, which gave hope that other solutions would be sought, and expressed concern that Government policy around this issue may be changing, despite the UK being a party to and voting for the EU-wide ban on such pesticides. to and voting for the EU-wide ban on such pesticides.

The BBKA's fact sheet details why it is highly concerned about the issue.

We have heard that a judicial review may already be underway following pressure from beekeepers.

What to do about it

The BBKA has called on British beekeepers to do persuade the Government to change its decision to lift the ban on the neonicitinoid pesticide thiomethoxicam.

The BBKA is asking members to support the proposition and help to pressure the Government to withdraw this derogation by:

1. Writing to your MP. You can find the contact details for your MP by using the link and entering your post code. Who is my MP? (include your address to show you're a constituent)

2. Supporting the four current active petitions opposing the use of this chemical. The BBKA has decided not to start its own petition as there are others, which already have substantive support, against the use of neonicotinoids in the UK. The petitions to sign are:

Greenpeace petition; The Wildlife Trusts petition and two Parliamentary petitions.

The BBKA advises that, when writing to your MP, not to simply copy a form letter as they tend to be less well-received, but suggests you raise the following points with your MP:

1. There is no publicly available data on the application for the derogation.

2. What information exists does not seem to consider weather effects on the yield of the crop, which is the main reason for the derogation request.

3. The so-called precautions to prevent bees from being affected by the neonicotinoids is to treat the fields and surrounds with herbicide to prevent flowering of wildflowers, which would take up residual neonicotinoid from the ground. So the precaution when using poison is to use more poisons. Yet to kill flowers in order to protect pollinators reduces environmental biodiversity and denies forage not only to bee species but other insects. This is likely to affect other species, such as birds, which feed on insects. The move would appear to be directly in opposition to the stated aims of the new agricultural policy in development.

4. There appears to be no sampling of the soil prior to sowing the treated seed nor any in the 'precautionary' period following the sugar beet harvest. So residual neonicotinoids may still be in the soil after the precautionary period after crop harvest, but no-one would know.

5. Neonicotinoids will not be used in future and investment will be made in resistant crops rather than the use of destructive chemicals.

Please help the BBKA to help you protect your bees from the re-introduction of these poisons.

The BBKA's website details these steps and more, and questions whether the Government should be supporting a crop that harms health, given that it has just brought in a sugar tax to counter the growing and costly problem of obesity.

Note, as we reported in last month's newsletter, that the Government recently published its Healthy Bee Plan, supported by the BBKA, and which this move would seem to be in direct contravention.

‘Baby bees’ get stuck at the border

So-called baby bees and Brexit created a mini-storm in the media towards the start of February.

The essence of it was that Patrick Murfet, MD of the Bee Equipment business, wanted to import 15 million bees (are larvae baby bees?) from Italy, as he has for the last 20 years.

“I am a passionate beekeeper, I’ve been doing it for nearly 20 years,” Murfet said.

According to most media outlets, new, post-Brexit laws ban the bringing of bees into the country. Instead, only queen bees can be imported, rather than colonies and packages of bees.

However, the confusion over whether bees can be brought in via Northern Ireland, which operates under EU customs rules, has generated a legal headache.

DEFRA said it was aware of the issue and is working with the devolved administrations to find a solution.

In an bid to avoid the import ban and abide by the new laws, Murfet arranged for his usual importation of 15 million bees to arrive via Northern Ireland in April, but said he had been told they may be destroyed if he tries.

Murfet said: “I don’t care what they think it should say. At present the rules are clear that bees from Northern Ireland can enter the UK legally. If the law intended something else, they have not written it into legislation.”

He says his inquiries into the reasoning behind the ban have been met with a wall of silence, except an email reading: “Illegal imports will be sent back or destroyed, and enforcement action (criminal charges) will be brought against the importer.”

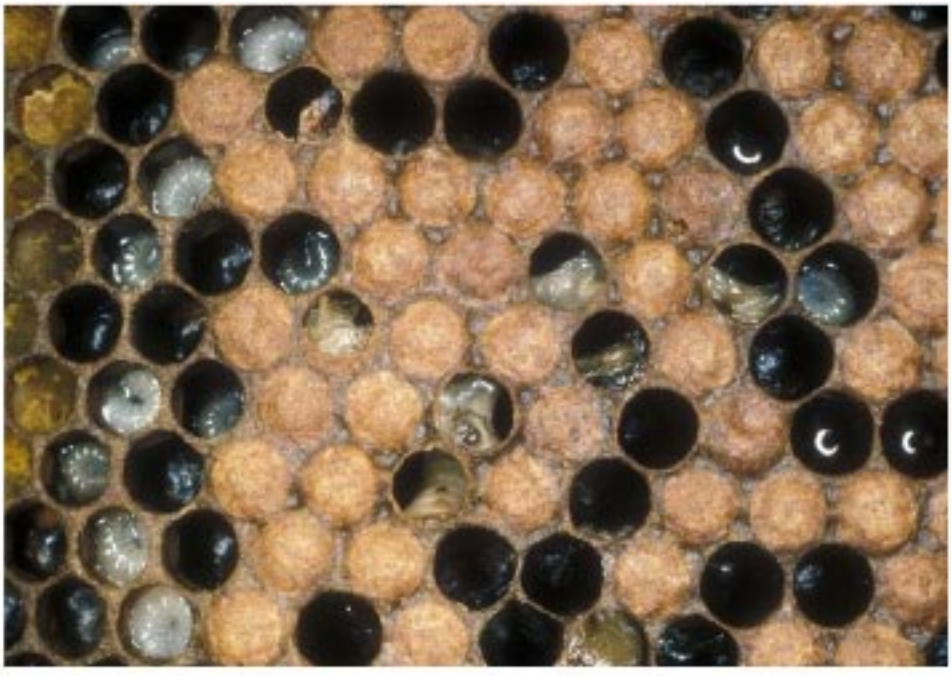
Murfet said he had already paid a deposit of about £20,000 for the bees and stood to lose nearly £100,000 in direct costs if he cannot bring them into the country.

He added: “So far the department has overseen a policy whereby the UK is only one of three countries in Europe to see a decline in bee colonies. Fewer honey bees means less pollination, fewer fruit crops and more imports.”

DEFRA said bee health was a devolved matter and it was working to find a solution.

A departmental spokesperson said it would provide guidance to bee importers and beekeepers as soon as possible. It is the responsibility of the importer to ensure goods dispatched from Northern Ireland meet the definition of NI qualifying goods or meet import requirements, they said.

No further news has emerged around this story but we will keep you updated.



Sloppier bees result in happier plants

Bees and pollen-producing plants are in conflict as to what should happen to pollen: bees pack the pollen away as fodder while plants take advantage of sloppy bees, according to a report in Scientific American.

Bees’ role as pollinators seems to be a happy evolutionary accident that plants have taken advantage of. Bees do visit flowers primarily to get pollen as fodder, the major source of protein for larvae, while plants use them as pollinators.

The conflict seems to be resolved by unkempt bees.

Bees collect pollen by gathering it from anthers with their forelegs or mouthparts. However, they also groom themselves to remove any pollen on their body. This pollen is locked away and not released until they get back to the hive.

This is problematic for plants whose pollination is helped by having bees transfer pollen between flowers. Pollen is expensive to produce, and flowering plants have developed several mechanisms to reduce pollen loss, including a toxic pollen that cannot be digested, pollen that is “hidden” in poricidal anthers, and mechanisms to guide bees strategically so that pollen is deposited in places on the bees’ bodies that they cannot reach.

Bees can’t reach behind their heads and some places along their back that correspond to their chest and abdomen segments. Even after grooming, in the hive or in transit, patches of pollen can be found in a dorsal line in these spots.

So most bee-pollinated plants place pollen on the dorsal side of the bee because it is harder to remove for transport. Flowering plants have a vested interest in making this difficult for bees because the efficient distribution of pollen means less pollen production and fewer anthers are required, both of which carry a heavy energy cost. So the evidence suggests that, for bees, creatures evoking a sense of order and precision, a little sloppiness may go a long way.

Colony collapse conundrum

Researchers may have uncovered a pointer to a potential cause of colony collapse—especially in the USA.

As we know, a honey bee queen mates once, storing sperm inside her body for later use. But if she fails to keep that sperm viable, her colony may collapse. This queen failure is a main factor in the drop-off in bee numbers in the USA.

We don't yet know to what extent this is a problem in the UK but a number of stories have suggested that honey bees in the USA are more stressed, as the practice of transporting hundreds of hives across the continent is commonplace.

Identifying reasons for queen failure has proven difficult; queens show no clear symptoms when it happens. But a new study offers a way to zero in on causes, which could lead to a valuable diagnostic tool for beekeepers.

To examine queen failure, Alison McAfee, study author and bee researcher at North Carolina State University and her colleagues performed a molecular autopsy. This involved analysing the fluid inside sperm-storing sacs after exposing queens to extreme heat, extreme cold or pesticides. They found that each stressor was associated with elevated levels of different proteins in the fluid.

The researchers identified the two most elevated proteins as indicators for each stressor. When they looked for these in failed queens donated by beekeepers in British Columbia, they found proteins indicating exposure to pesticides and extreme heat but not extreme cold. The results were published in BMC Genomics.

McAfee and her colleagues are using these results to develop a diagnostic test that distinguishes between different causes of queen failure.

Talking about the importance of honey bees to the US economy, McAfee said that, as pollinators of crops such as blueberries and apples, "honeybees are responsible for around between $16 billion and $20 billion worth of economic contributions to agriculture."

Bees find a home but fail to mention the war

Bees will find a home wherever they can. Inside this disused bore hole pump near Brighton is a colony of *Apis mellifera*. Photos: Gerald Legg

Not long ago a colony of bees was reported to me on Castle Hill National Nature Reserve, Brighton. A swarm had taken up residence in a disused bore-hole pump tucked away in a valley covered in nettles, brambles and other vegetation. I was intrigued.

On thrashing through the undergrowth, I found the remains of the pump and some resident bees. The steel tube made an ideal safe home, albeit somewhat on the narrow side, and was well stocked with comb and bees. It appeared to have been used by bees for years judging by the age of the comb I could make out through their various entrance holes.

This trip became a one with a dual interest as I have an interest in firearms and shoot large-calibre rifles in competition. I found that the entrance holes were a little unorthodox: 0.5 heavy machine-gun bullet holes probably made by a Browning M2, standard issue for WW2 and would have no difficulty in penetrating the pump. The holes show typical high velocity projectile impact marks.

Gerald Legg

What do Asian hornets eat? BBKA funds research

The BBKA is helping to fund research into the diet and habits of Asian hornet. This turn could help us find ways of stemming the spread of this non-native invader.

Prof. J L Osborne, and others at the University of Exeter, said the funding enables them to augment a BBSRC-funded project on measuring and modelling the threat the hornets pose. In particular, they will be able to extend the number of samples collected from Asian hornet nests for analysis, using molecular techniques, to find out what they eat.

Such techniques have enhanced understanding enormously in recent years. They allow the sequencing of prey DNA from live individuals in either regurgitates, gut contents or faeces of predators. The samples provide a snapshot of recently-consumed prey, based on DNA still present in the samples.

The icing sugar debate rumbles on. To dust or not?

In January the readership was asked their thoughts on sugar dusting. Here are the results of my researches and my subsequent conclusions.

I have always been wary of it. I was taught that varroa can be treated, but that some chemicals listed in the National Bee Unit (NBU) pamphlets should be avoided because varroa had become resistant to them, and that a variety of methods should be used to discourage varroa resistance.

The first time I used sugar dusting, I thought I would get quick feedback about the varroa infestation in the hive, I did get that. I saw a demonstration and thought that the resulting count was the one to use but when I put the count into the NBU calculator not long enough to calculate, or words to that effect flashed on my screen. NBU recommends at least five days but I usually count after seven days because that suits my beekeeping habits.

The second thing I noticed was that ants began to climb into the hive. The bees seemed indifferent to them but perhaps the spiders which sometimes live on the crown board had a feast.

I didn't want ants in the hive, so began working out how to prevent that. Putting each leg of the hive stand in water or oil seemed the most frequent answer after a couple of hours internet searching. That was another palaver!

I heard that to prevent icing sugar forming clumps, other ingredients are added, some are harmful to bees, so then I started reading the ingredients on the packaging, after all icing sugar should just contain sugar, right?

No, sometimes it also includes cornflour. Randy Oliver (Scientificbeekeeping.com) thinks that in the quantities used it probably doesn't harm the bees, but what if it's not cornflour, what if after 10 months of treatments the bees suffer?

I wasn't about to find out by practising on the two colonies I had. That is an investment in bees which could have ended badly.

Online researches

I have read a couple of articles one published in 2012 by IBRA 'Revisiting powdered sugar for varroa control on honey bees'. It concluded that powdered sugar treatment resulted in lower colony varroa levels, is most effective when applied early in the season, and that blowing the sugar into the hive at the entrance is preferable and at best is a weak Integrated Pest Management (IPM) method contributing toward varroa management.

I looked at an article on HoneyBeesOnline which I think is an American website. I'm aware that different countries have different methods which suit their bees and not necessarily our bees or climate.

The article started with another method of varroa control. Varroa mites prefer drone brood, so when the drone brood is capped, remove it, freeze then return the frames to the hive. The bees will then clean it up and varroa will have been destroyed by freezing.

Sugar dusting will only reduce mites that are out on the bees or comb, so the dusting has to be repeated weekly on the same day to combat the mite. HBO suggests treating after the supers have been removed, so extracted honey wouldn't be tainted.

Another article published here suggest that sugar dusting:

- Is inexpensive
- Is organic
- Knocks down the mites over 24-48 hours
- Does not annoy the bees or leave residue
- Can be used when formic acid and oxalic acid can't because of high temperatures

Drawbacks include:

- it may draw ants and initiate robbing during dearth
- The method of application (frequent applications, eg blowing in, dusting on the top bars)
- The sugar doesn't kill mites: they just fall to the bottom of the hive.

Randy Oliver wrote in "Powdered sugar dusting short and sweet but does it really work" (2007) used this method to determine the mite load, and weekly dusting did not result in a plummeting mite count. He argued that it was because the remaining mites had less competition and therefore bred more successfully!

He updated this in 2017 and suggests that, in certain circumstances, sugar dusting has a place, such as after an induced brood break on new swarms being brought into the apiary etc.

Maybe as a hobbyist with bees in my garden, I would be prepared to use this method occasionally. However, I can also use Bailey exchange, shook swarm, brood breaks, remove and freeze drone brood, and sublimation, all the while monitoring drop during the year to determine what and when varroa treatment should be used to get the best long-term results.

I have met others in our association who have a lot more beekeeping experience so I am happy to add to my IPM methods by reading what works for them.

Jude New

Got ants in your hives?

The challenges of beekeeping

Wednesday 17 March 2021, 19:15
Hosted by Brighton & Lewes Beekeepers, this talk by veteran beekeeper Celia Davis will discuss the challenges that all beekeepers face—and give us some pointers on how best to defeat those challenges.

A link to join the meeting will be sent 24 hours beforehand.

Celia Davis

Genetics for all beekeepers**

Tuesday 16 March 2021, 19:00
Margaret Murdin, Past President of the BBKA, will be delivering a talk on Genetics for all beekeeper levels.

It will start with human genetics and move on to honey bees. We will look at why the queen needs to mate many times, diploid drones, patrilines and worker policing.

Margaret is a Master Beekeeper and holds the National Diploma in Beekeeping but describes herself as an ordinary, practical beekeeper, currently with twenty colonies across three apiaries. Margaret began as a member of Ormskirk and Croston Branch in Lancashire where she learnt her beekeeping over the years before moving to north Oxfordshire.

Registration link is here.

Margaret Murdin, past-BBKA President

BIBBA webinars

The Bee Improvement and Bee Breeders' Association conducts a rolling series of webinars—a list of which is too long to reproduce here, but it conducts four every week.

The events the BIBBA is hosting in March 2021 cover a wide range of topics suited to absolute beginners as well as the more experienced.

Speakers include a list of names well-known to most active beekeepers, including Sussex's Roger Patterson.

You'll find the full event list here.

BBKA Research Projects 2021**

Saturday 27 February 2021, 10:30
BBKA Research project presentations, hosted by B&L Member Pam Hunter, BBKA Chair of Research, Technical and Environmental Matters.
This webinar is an opportunity to hear from three of the BBKA's funded research groups how they have progressed.

Agenda

- 10.30 am. Brief introduction – Pam Hunter
- 10.40-11.10 Hannah Samson, Leicester University. Looking at the effect of air pollution on pollinators using bumble bees as a model. The microbial communities of gut samples have been analysed using DNA
- 11.20 – 11.40 Philip Donkersley, Lancaster University. Looking for the presence of insecticides, fungicides and herbicides in bee samples from municipal sites.
- 12.00 – 12.30 pm. Nick Balfour, Sussex University. Setting up a database of plants and insect interactions (DOPI).

There will be an opportunity to put questions to each researcher.

Registration link is here.

Timings are approximate.

Pam Hunter

Philip Donkersley

Nick Balfour

BBKA Asian Hornet Conference

Saturday 6 March 2021, 10:00
An all-day conference with presentations on the latest research into the Asian hornet, together with practical advice, reports on experience in France and Spain, and activity into preventing the spread of the insect.

Last year's inaugural conference was a fascinating event, so this follow-up event will be just as interesting.

Registration link is here.

*** BBKA-hosted events: please see BBKA calendar for details*

Bees at the entrance and a nosema spore

The top photo is a nice early spring (if you can call this early spring) image, with bees at the entrance, mouse guard in place, pollen coming in.

The lower one is appropriate for this time of year: a photo of a nosema spore I took from a smear of a larva's gut last year.

At this time of year the effects of *Nosema apis* can be devastating, leading to the death of a colony especially it is weak or starving. This microsporidian fungus has spores that are eaten and when ingested, release microsporida that enter the mid-gut cells destroying them in 48-60 hours.

Infection of adult bees at a young age can cause the bee to have difficulty digesting food for the rest of its life. Infected bees often have a shortened lifespan; when a queen bee becomes infected she also ceases to lay eggs. So nosema causes reduced colony health, population and performance, which can ultimately result in the colony dying.

If you want any help, I am happy to take a look at any bees, adults or larvae.

Words and photos by Gerald Legg