

THE IPSWICH & EAST SUFFOLK BEEKEEPERS' ASSOCIATION

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Newsletter for January - April 2018

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Opinions expressed in this Newsletter are not necessarily either those of the Editor nor of the Association.

The colour for this year's queens is red.

The Suffolk Beekeepers' Association is an Area Association of The British Beekeepers' Association. <http://www.bbka.org.uk/>

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Beekeepers will be taking part in 2018 Suffolk Show!

Good news! Joy Allen is our new Show Secretary. In consultation with the Show Committee, much work has been delegated to volunteers. There have been two meetings and it's all beginning to take shape.

Please volunteer to be a steward. If you would like to help but forgot to tick the box on your membership renewal form, please contact our [Secretary](mailto:secretary@iesbka.co.uk).

Please also resolve to enter some of the Show classes.

Now is the time to think about which classes and what preparations are needed.

2017-18 Membership renewals

Membership renewal became due on 1 December 2017, so, if you have not yet renewed, please do so now – the rate is the same as last year; the easiest way [is via the website](http://www.iesbka.co.uk). Please don't forget to pay your fee separately - either by bank transfer or cheque.

If you don't think you have had a renewal request email, please check your spam folders. If it's not there, or in error you have perhaps deleted the request, please email the Treasurer, [Jackie McQueen](mailto:jackie.mcqueen@ntlworld.com).

If you believe you have renewed, there's no need to double check as specific reminders will be sent to individuals who have not renewed by the time of the AGM.

Wherstead Teaching Apiary

Our Sunday afternoon apiary meetings start on 29th April at 2:00 pm. The programme and how to get there will appear on the website nearer the day.

We owe Roy & Terry a very big "thank you" to for all their work at Humber Doucy Lane.



Change of meeting day

From now on, our monthly 'close season' meetings in the Kesgrave Scout Hall will be on the **first Wednesday of the month** (no longer on the 3rd). Eventually, this should be easier to remember.

World Bee Day

At a plenary session of the United Nations General Assembly on 20th December, it resolved that 20th May 2018 would be World Bee Day.

New Member

We welcome a new member, Kevin Rout

Survey of Beekeeping in Ipswich & East Suffolk in 2017

First, thanks to the 62 people that responded. That's a great turnout for the survey and I hope you'll see that with these numbers we can see some interesting trends. Before we get into the results, it can be easy to look at the numbers/averages, etc. and come to conclusions that may not hold out. As I have my own biases in what I might like to see, I have tried to present the results neutrally, and suitably summarised so you may see correlations in the data, and can come to your own conclusions. But, be careful; think twice if you start to draw conclusions like: 'Ah, this **causes** that!' That's all I'll say on the matter. On to the results.

What type of hive do you have? See Figure 1 below. A clear winner here is the National hive with 42% of respondents. National brood and a half follows with 19%, then Commercial (16%). Joint 4th with 9% are WBC and Deep National; Top Bar at 4%, and finally 1% Warré (not show in the figure). 25% of the respondents use open mesh floors.

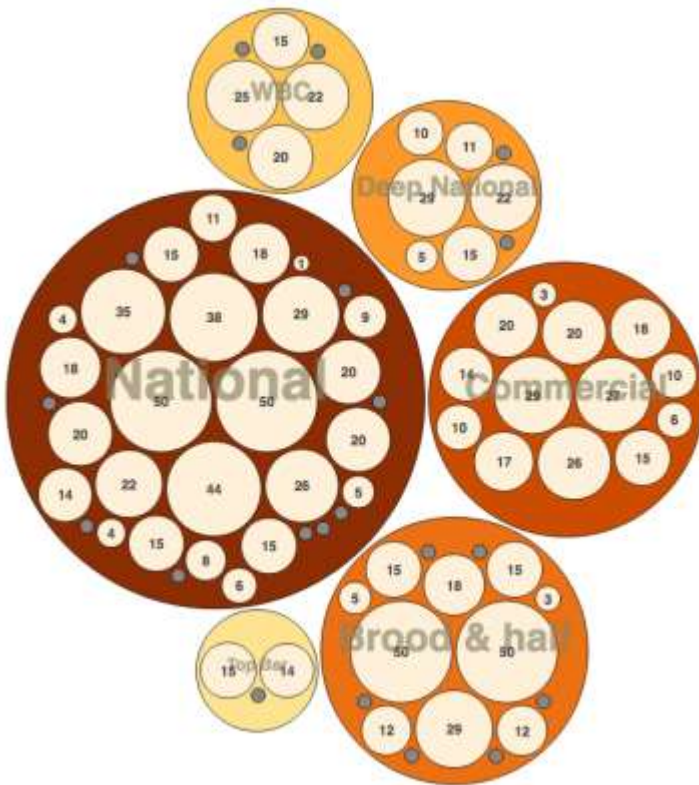


Figure 1 Honey yield grouped by hive type

Honey

We could go through the questions in turn, but what you really want to know is, where did you come in the honey stakes? What I want to know (and be introduced to) are the people whose hives produced on average 50kg of honey per hive! Can I get you a drink?

Figure 1 shows the responses to the average amount of honey per working hive. The tiny grey circles indicate where no honey was taken by the beekeeper. The other circles are proportional to the amount of honey (per kg) with the number in the centre, grouped by beehive type.

Care to draw any conclusions from this? I'll make some observations. As you can see, all the beekeepers with Commercial hives reported a honey yield (between 3 & 29kg). Some beekeepers

with other hives did not take off any honey. Beekeepers with National and Brood and a half produced the greatest yield. No matter what hive type, the average yield is between 10-20kg. Is it fair to conclude that as far as honey production is concerned, the hive type is a personal preference?

So when was the honey taken off? Below shows the earliest/latest honey removal. Each linked pair of circles in the diagram below represents a beekeeper and the dates they gave for their early-late honey removal.

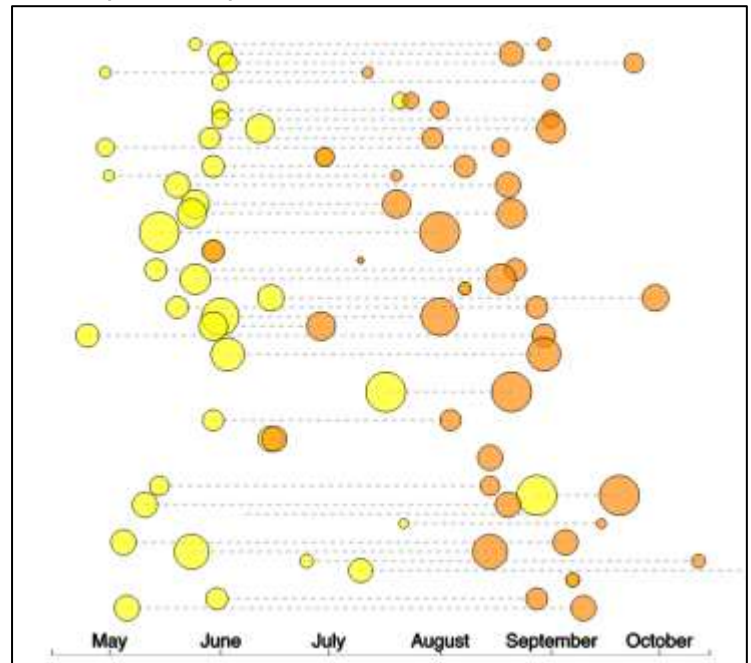


Figure 2 Early/late honey removal

If there was early honey to be taken, there were a few beekeepers quick off the mark with (rape?) honey taken off at the beginning of May. The majority of beekeepers took their early honey off from mid May to early June. The main flow collection was a more leisurely affair, being taken off from the end of July, through August and up to mid September.

Open mesh floors

25% of the beekeepers use open mesh floors. Does it improve their honey yield? Let's take a look at below.

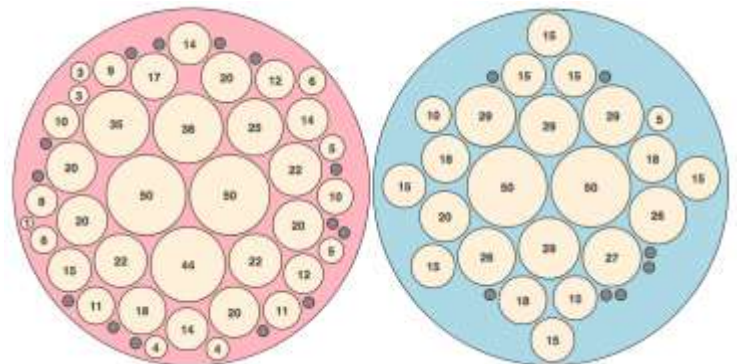


Figure 3 Closed floor vs Open mesh floor (open on the right)

First, there looks to be more than 25% that have open mesh floors. It's not a mistake, 25% do have open mesh floors, but some beekeepers have more than one hive type, so the circles are replicated for each hive type reported for that beekeeper. What can we observe from this diagram? I'm saying nothing, because I can't see any obvious trend.

Varroa treatment

Figure 4 show the split between treating and not treating. A clear majority treat for varroa (71%). The observation I will make is that the majority of those tiny grey circles (indicating that there was no honey taken by the beekeeper) have migrated to the 'did not treat' side.

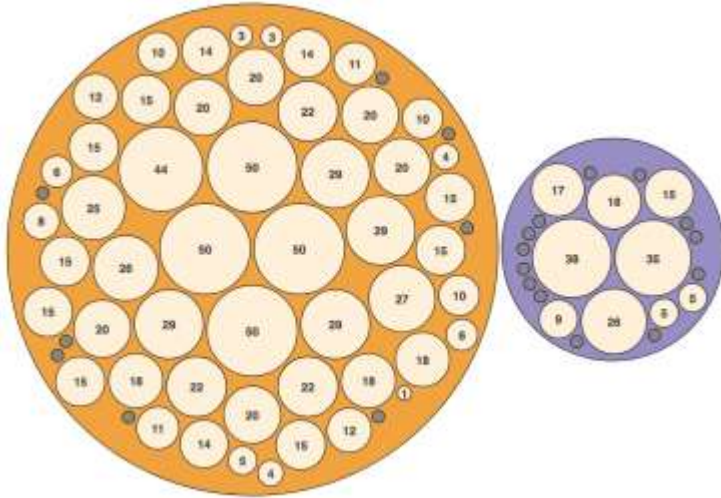


Figure 4. Honey yield per beekeeper grouped by varroa treatment. Treated hives on left, untreated on the right. Colony growth

Questions 2, 3 & 4 asked about the number of colonies going into winter last year, surviving the winter, and going into this winter. In the last newsletter there was a survey on swarming this summer. It was a good season for swarms, particularly early in the season where it caught some beekeepers out (those who can read between the lines will know I'm including myself here!). Maybe a coincidence, but the number of colonies going into this winter is dramatically up. 345 started last winter, dropping to 311 in the spring, and we now have 435 going into this winter, an additional 90 colonies a 25% increase. There were a few losses over the winter, averaging less than one hive per beekeeper. The *median* beekeeper would have gone into last winter with 3 hives, all would have survived, and they will be going into this winter with 4 hives!

Summer problems

Quite a number of beekeepers reported losing colonies over the summer, 33% in fact. That's more than I expected. The main reason given was losing the queen and the colony subsequently dying off.

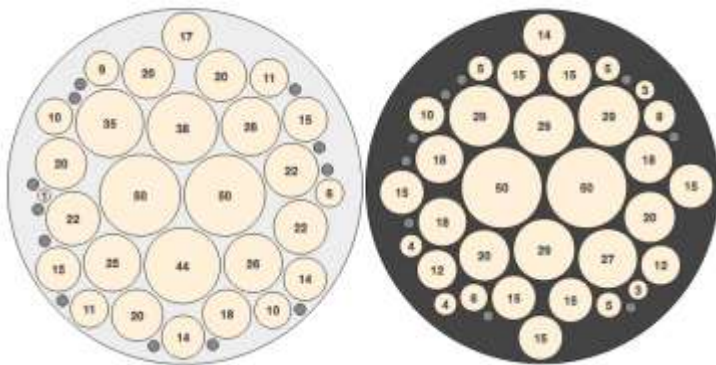


Figure 5 No Insulation vs insulation (insulation on the right)

Winter preparations

The vast majority of beekeepers feed sugar syrup (over 80%). I guess that comes as no surprise with the honey yields taken. Similarly, over 80% reduce the hive entrance. As mentioned, just

over 70% treat for varroa mites. Only half of the beekeepers add insulation. Figure 5 shows the impact. Can you see any?

A few provide windbreaks and woodpecker protection.

The year as a whole

It's been on the whole reported as GOOD! There were a couple of 'terribles' due to colony losses, and five 'excellents', no doubt pleased with their fabulous honey yields.

The main issues this year stemmed around not being able to get into the hives early enough in the year and consequent swarming....

If you want to explore to see if you can find any other relationships, see [Details](#)

I hope this has given food for thought and hopefully enough feedback to make you want to respond to future surveys!

Barry Crabtree

The Powell Hive!

If you like to build your own hives, this might be the one for you. Barrie Powell came up with this design when he first started beekeeping and needed to build 300 hives. Building a hive takes time, especially when you are making it from scratch, so anything you can do to simplify it is helpful. This hive is a modified National with a top bee space, and takes standard national frames.



The important, and simplifying parts of the design, are:

- The joints for the two end pieces each side are simple notches cut out of the sides of the piece. No fiddly tenon-type joints to cut.
- The four end pieces (two top, two bottom) are all identical pieces of wood without any joints on them.

Here's a cutting list for a brood box (sizes for the super in brackets):

2 x 225 (150) x 19 x 460mm [9" (6") x 18¹/₈" x 3³/₄" in old money] – the side pieces

2 x 190 (115) x 19 x 430mm [7¹/₂" (4¹/₂") x 17" x 3³/₄"] – the end pieces

4 x 43 x 13 x 460mm [18¹/₈" x 17¹/₁₀" x 1¹/₂"] – the end supports

2 x 20 x 12 x 420mm [16¹/₂" x 3³/₄" x 1¹/₂"] – fillers for the top end pieces

Cut the notches in the side pieces, and make a 5mm deep 19mm wide groove 24mm in from each end and you're ready to assemble it.

After a Swarm, the Orphans Rebel

After their queen has left with a swarm, the orphaned honey bee larvae complete their gestation but later exhibit rebel traits. As adults, these orphans have reduced food glands to feed the colony's larvae and more developed ovaries, selfishly to reproduce their own offspring.. [See:](#)

Australian Beekeeper visits England

Hi, my name is Miskell and I'm a beekeeper and beekeeping trainer in New South Wales. Earlier this year, I was fortunate enough to have two months in England, spending time with some incredibly generous beekeepers.

I had three reasons for the contacts that I made prior to my trip. First, I wanted to find out about Varroa management as we don't as yet have it in Australia. Secondly, I wanted to find out how Varroa had affected commercial beekeepers and how the initial outbreak had affected pollination. Thirdly, I wanted to find out how to improve the Australian beekeeping education system.

- I found that most beekeepers were saying the same things:
- Numbers of bees are down.
- Wild colonies are not surviving.
- Varroa treatment is expensive.
- Queens not very fertile (poor fertility of drones due to chemicals?)
- Climate change affecting brood free periods.
- Increased use of pesticides in rural areas.
- Lack of protective legislation.
- Worries about uneducated beekeepers spreading pests and disease.
- Very low levels of AFB and EFB.
- Many find EFB is short lived; there are many reports of no disease being found when inspectors visit, even though signs had been obvious in previous weeks.

Similarities between Aus and UK

- 3 beekeepers in a room, with at least 5 opinions
- Friendly and willing to share knowledge
- Lots of Langstroth hive users
- Most keen to learn more in a formal setting
- Cost of equipment
- Notifiable pest and diseases
- Good information about bees available on govt websites

Differences between Aus

- In Australia there are more areas without brood-free periods and that have all year round honey flow.
- Aussies are definitely more laid back in their handling of bees.
- UK beekeepers are generally more aware and practice good hygiene between hives.
- In Aus beekeeping education is a part of the national curriculum; modules can be used towards other qualifications.
- Australia has legislation for biosecurity and all beekeepers must be registered - which has a cost. There are also many local regulations above and beyond the general legislation around beekeeping.

- Bee Inspectors – we don't have them. It would be rather difficult due to the size of the country.
- Most Australian honey is from the different types of Eucalypt.
- Flowering is not regular in Australia. Some trees may have buds for several years before flowering; others may flower twice in a year, or only once every few years.
- In Aus, EFB is treated as a short term disease, may use OCT, most don't, they just give the bees a boost with sugar syrup.
- In Aus, AFB affected hives can be burnt or irradiated.
- In Aus, irradiation is becoming very popular as a regular maintenance practice. Cost is around \$10 per hive.

September 2017

The Suffolk Show, Our Shop Window

This letter should give us all much encouragement:

My wife and I visited the Suffolk Show and the SBKA stand. We met Paul White and a colleague whose name I can't remember. On the stand I talked about becoming a beekeeper and received great advice but most of all I left full of enthusiasm.

We live in Holland-on-Sea so I contacted Colchester BKA and am one evening away from finishing an Introduction to Beekeeping course. After Christmas I will set up two hives and get ready for bees!

It was the SBKA that empowered me to "get going" and to the SBKA I am very grateful. I was hoping that I could say thank you in person at the Autumn Gathering but this email will have to do.

Please let all involved in the show know that their efforts are appreciated and the influence of SBKA is wider than just Suffolk.

Hopefully another event will take place and I can meet the people who got me going.

Charles Anderson

Plant microRNAs help determine caste

Bee larvae develop into workers, in part, because their diet of pollen and honey, called bee bread, is rich in plant regulatory molecules called microRNAs. These delay development and keep their ovaries inactive. Xi Chen of Nanjing University in China and colleagues, report these August 31, 2017 in PLOS Genetics.

Bee researchers have long known that diet plays an important role in the complex process that determines whether a honey bee larva will become a worker or a queen. Initially, both are fed royal jelly, secreted from the glands of nurse bees, but after three days, the workers' diet is changed to bee bread (mostly pollens preserved in honey). This contains much higher levels of plant microRNAs than royal jelly. It has now been found that these molecules, which regulate gene expression in plants, also affect honey bee caste development. Surprisingly, they have a similar effect on fruit fly larvae, though fruit flies are not social insects. Further work showed that one of the most common plant microRNAs in bee bread affect honey bees' TOR genes, which help determine caste.

The study has shown the effects of cross-kingdom microRNAs and how these interactions can affect a species' development and evolution.

Free Analysis of Pollens in Honey: If you send a 30 ml honey sample, the National Botanic Garden of Wales offers free [analysis](#) of the pollens it includes.

Initiation of Comb Construction

This is another extract from an article in *Bee World* (Volume 94 Number 1 of 2017) by Keith S. Delaplane, Department of Entomology, University of Georgia - republished with his permission.

Other fascinating insights into the honey bee colony will appear in the next two issues.

The material entity of the comb is so integral to colony life that it acts almost as a colony member itself. The comb is the substrate upon which everything happens: brood rearing, food storage, pheromone deposition, dance recruitment, transmission of vibration signals. It is the skeleton of the superorganism, metaphorically speaking. Nothing can happen without it, and building it is priority No. 1 for a swarm occupying a new cavity. It is also metabolically costly to produce. Weiss (1965) calculated that it costs a colony 6.3 kg (13.8 lb) of honey to produce a typical 1 kg's-worth (2.2 lb) of comb. Given its importance and its costliness, we can understand the importance of comb construction strategies that are energetically optimal. We will see that this happens through an interaction of emergent properties and natural selection.

There appear to be certain preconditions necessary for the initiation of comb construction;

- (1) Bees prefer to initiate comb construction in the dark (Morse, 1965),
- (2) Building ceases in the absence of a queen (Ledoux et al., 2001), and
- (3) Workers must have adequate protein nutrients early in adult life if they are to activate their wax glands and serve as comb builders (Goetze & Bessling, 1959).

These three conditions are static and act rather like on/off switches. There are other important regulators, however, that act dynamically, changing constantly:

- (1) The rate of nectar intake from the field,
- (2) The amount of filled comb in the colony, and
- (3) The amount of empty comb in the colony.

Managing these dynamics requires of individual bees the ability to gather information, appraise it, and respond appropriately.

Field experiments and mathematical simulations have shed light on how colonies respond to these dynamics, at least in temperate zones (Pratt, 2004). Two conditions must be obtained before a colony initiates comb construction - there must be nectar coming in from the field, and there must be a certain threshold of comb fullness. Put another way; food coming in and no place to put it. If a colony has plenty of empty comb, bees won't spend stored honey building more until a certain fullness threshold is reached. But once that fullness threshold is reached and comb construction begins, only the nectar flow is necessary thereafter to keep it going.

But once the nectar flow ceases, so does comb construction - even if combs are past the former fullness threshold. Thus, it appears that the nectar flow is more influential than comb fullness in regulating comb construction.

Now let's go back to that "fullness threshold." It too is a dynamic that changes relative to the quality of nectar flow, and for our human purposes we can call it "percentage of available comb filled." Simulation models (Pratt, 2004) predict that bees should have a very low fullness threshold when nectar flows are strong and a very high threshold when flows are weak. In other words, they should think twice before initiating comb construction when nectar flows are weak. But what really happens is bees stop building altogether when nectar flows are weak. This is an example where reality does not match up to a computed optimum.

Evolution, in this case, has erred on a slightly sub-optimal outcome - the only loss being wasted effort by bees which spend time appraising comb and field conditions then never put that knowledge to use.

And that point about "wasted effort" leads us to the next deeper level of activity that makes all this possible - and that is the decisions made by individual bees that culminate in the colony's near-optimal exploitation of field nectar and nest storage space. As early as 1953 a hypothesis was put forward that individual bees, most likely nest bees which receive fresh nectar loads from foragers, are stimulated to secrete wax and build comb by the physical sensation of a distended crop or honey stomach (Ribbands, 1953). As attractive as this hypothesis is, it has not withstood experimental challenge. Our latest knowledge now suggests that it is not necessarily nectar receivers who build comb, but instead a separate behavioural caste of workers drawn from labour reserves otherwise unoccupied with other duties (Pratt, 2004). These "resting" bees are numerous in a colony especially at night (Kaiser, 1988), and it appears to be from their ranks that comb builders are drawn. Given the two dynamics that regulate comb construction - comb fullness and richness of the nectar flow - these comb builders must be in a position to appraise each, presumably by directly inspecting combs and appraising the rate at which they are offered nectar. Experimental evidence suggests that comb builders do in fact engage in both these behaviours at higher than average rates (Pratt, 2004).

Thus, we see that initiation of comb construction, arguably one of the most necessary and foundational acts of a nascent superorganism, is not top-down driven, but rather an emergent property of a complex field. In this case, the actors are individual bees, each responding to her physiological/behavioural state, ambient conditions of nectar availability, and physical constraints of nest. Each is an independent decision-maker, each responding to her immediate local conditions (Camazine, 2001). However, comb construction also bears the marks of social selection - one of those examples of self-synergizing complexity: the abilities of comb builders to monitor comb fullness and appraise incoming nectar can best be understood as social derivations.

Keith S. Delaplane

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Oxalic Acid

If you use thymol based varroacides, you almost certainly need to apply oxalic acid between Christmas & the New Year. *Api-Bioxal* is the only registered product available. As the smallest 35 g sachet is enough for 10 colonies, in the past we have as a service to members offered it as a ready mixed liquid in smaller quantities but take-up has been declining - so this year we will not be repeating the offer. The best deal I can find is Wynne Jones who offers a sachet for £10.45 including postage.

For sale

6 National hives complete with crown boards, frames & screens but no wax. Price on application.
9 frame manual plastic extractor with tangential cage £100.00.
Mr B Barnes, 135 Kirton Road, Trimley St Martin IP11 0QL;
01394 448247

Bees give the disabled an income

[Making a buzz](#). This is about Rodrigues, an Indian Ocean island. Although a 2006 video, the same work continues today.

West Suffolk Bee Improvement & Queen Rearing Course 20 & 21 July 2017

We hosted this event in conjunction with the Bee Improvement and Bee Breeding Association which, for those who don't know, is a honey bee charity focussed on improving bees suited to our climate. We were fortunate to have Roger Patterson as our course tutor.

Roger has been keeping bees for 54 years and has been a BBKA trustee, is Vice Chair of BIBBA and Vice President of Bee Diseases Insurance. He is also the author of "Beekeeping a practical guide" and he manages Dave Cushman's website www.dave-cushman.net. Roger teaches all over the UK and internationally.

The course was fully subscribed with 12 people, mainly from West Suffolk but with some from Colchester, Cambridge, Leiston and Ipswich. Mike Graystone and I also attended and I am very grateful to Mike for allowing us to use the club apiary for this event.



Although the course is predominately apiary based, we started at Hawstead Village Hall to cover the theory before heading to Nowton in the afternoon. We covered assessing your bees and setting selection criteria – starting with temper and calmness on the comb. Roger recommends classifying your colonies as either 'A' & 'B'. 'A' is the better 50% and new queens should be raised from these; 'B' colonies should have their queens replaced at the earliest opportunity.

Roger covered various means of making queens – from both natural methods e.g. swarm cells, supercedure cells and emergency cells, and some of the artificial methods. He also considers as myths that supercedure cells only appear in the centre of a frame and swarm cells around the edge. Rather it is the number of cells which is the more reliable indicator, 1-3 being supercedure cells and 4+ swarm cells. A key aspect of improving bees is that it is more important to cull than to propagate.

He also debunked the practice of leaving two queen cells as insurance and the need for queen cells to be unsealed to be sure they are viable. With two queen cells half your bees are likely to go in a swarm - and an open queen cell is as likely to become a dud as a sealed one. A sealed cell is closer to emergence and so getting your colony queen-right again.

Roger then covered using artificial means of creating queen cells using a queenless cell raising colony and we proceeded to the apiary to try it. On arrival at the apiary we immediately made one of the strongest colonies queenless. He then inspected several colonies demonstrating how to assess them for temper and

calmness. From the best larvae were grafted into a cell bar. Remarkably, Roger grafted two larvae into each cell since the bees would select the viable ones.

This cell bar was put into the queenless colony after just 1 hour 15 minutes and left overnight. Some books suggest waiting 8 days before grafting!



Day 2. We arrived at the apiary and inspected our cell bar. We were pleased to see it had 10/10 acceptance by the bees.

Roger finished demonstrating assessing colonies and then after lunch demonstrated the cell punch method then it was our turn to graft larvae.

We took 3 frames of larvae away from the apiary and into the nursery to avoid setting off robbing. This is not necessary if there is a honey flow but we didn't see much nectar coming into the hives. Everyone practiced grafting larvae of the appropriate age 1-2 days (these are the smallest larvae and usually next to eggs as the queen lays in circles from the centre).

Roger was very impressed with the temper and stability of the bees - especially in one of the colonies which he believes have near native characteristics. So much so that he took a bar of larvae that he grafted and he told me that even after the 4 hour journey home he had 10 accepted. It is a great credit to Mike's husbandry over the years that we have such good bees in our apiary.

We took grafts of larvae from the best colony and these have been left to develop. Mike will transfer these to Apideas to see if we can get some mated queens from our days in the apiary.

If anyone is interested in bee Improvement or queen rearing, please let me know and I will inform you of future events. Also, if anyone is interested in setting up a bee Improvement or queen rearing group please contact me: kevinthorn@me.com or 07557 418418.

Grafting is the way most people the world over raise new queens - it is good fun and much easier than it sounds. Producing queen cells is, however, only half the battle; next the queens must mate - so many fertile drones are needed - and then they have to be introduced to colonies. Ed.

Queen rearing course 6 May 2018

Only a few places available. Bookings to [Jeremy Quinlan](mailto:Jeremy.Quinlan@me.com) 01473 737700

Things I learned last year: Although I wouldn't recommend it trying it again, a queen in a Butler cage without attendants can survive a night of rain on a hive roof!

The 'ActivLives' Charity, Ipswich

When I joined the ActivGardens Team last April, little did I know that I would become a beekeeper as part of my role. What an amazing past six months it has been. To say that I have been totally inspired is an understatement. The fascination and feeling of responsibility towards our colonies is phenomenal and they have become a real part of my world.



I feel very privileged to be working alongside our bees and even more so that I am able to share our wonderful apiary with all walks of life from our local community and witness the benefits that it brings.

A huge thank you must go to my wonderful mentor Betsy Reid of the Ipswich & East Suffolk BKA (I&ES BKA) whose passion for bees just shone through. Betsy's calm nature, knowledge and delivery style has given me the confidence to really enjoy our bees and hopefully put them in good stead for the coming winter.

So the past six months: where do I start? A steep learning curve comes to mind. I vividly remember being extremely excited to be going to visit our bees for the first time back in April donning the bee suit and armed with the smoker feeling the bees' knees (excuse the pun). I don't quite know what I was expecting however once the lid was lifted and the bees took flight around us, I couldn't believe the hum and the constant thoughts of were the bees flying past my visor or were they inside? At the end of that session I remember thinking how on earth do you remember everything? The things you have to look out for, the things you have to do and record, planning for the next visit and how brave to be holding the frames.

As the weeks went by it gradually became routine, although still as invigorating; I began to understand bee terminology/jargon and identify what it was I was looking for, it began to make sense, my confidence and knowledge grew and my mentor never faltered.

It certainly wasn't plain sailing as we had Varroa, wax moth and a multiple swarming hive identified in my first visit followed by laying workers/drone-laying queen which unfortunately had to come to a sorry end. I also remember the multiple stings I received whilst delivering a session at our Big Garden Party.

Highlights? There are lots: holding a frame covered in bees for the first time, spotting the elusive queen bee, harvesting and sampling the glorious honey, observing peoples' reactions whilst offloading wonderful facts about our honey bees, seeing first-hand how our bees have built confidence in so many of our visitors and being successful in placing a queen cell into a nucleus, taking it home to my garden for 6 weeks and forming a new colony.

We have had schools, both primary and secondary, colleges, pupil referral units, prison services, community groups, corporate groups, individuals from the community as well as our regular volunteers visit our apiary amounting to more than 400 visits. Hopefully our apiary will go from strength to strength and we have some great ideas which we hope to further develop our apiary as a real 'CommuniBee' educational and wellbeing resource.

Other visitors have included David Barnes (DEFRA, National Bee Unit) in June; he was very reassuring that our bees were in good health and our housekeeping was in order. David also commented on our wonderful setting. Joyce Boorman (Director of [Phoenix2 Network CIC](#)) also recently visited us and I am very pleased to say that we now have a copy of the 2 BeePlus Resource

CD 2017 that Joyce and her team developed, we look forward to sharing with our next generation of young beekeepers.

Thanks must go to Betsy Reid and Chris Stevens for their very kind donations of two queen ready colonies to replenish our apiary, which I must say have settled in very well. Also thank you to the I&ES BKA for their kind donation of sugar for our bees.

I am quite disappointed that our four hives need to settle down for the winter and that it won't be quite so hands-on (purely very selfish of me as our bees really deserve a rest) however, there is plenty to do behind the scenes, including creating a new shallow pond within the apiary and work is already underway in creating a wonderful wild flower meadow bordered by a hedge adjacent to our apiary. We also hope to source/develop and share valuable resources for our visitors to engage and enjoy in the New Year and I can't wait to attend some local courses to increase my knowledge and a visit to *Buzzworks*, Hitchin's Bee Discovery Centre in Hertfordshire, **on 22nd February - please join us.**

The future of our apiary is looking very promising and we are now planning our introductory course in Beekeeping, led by Betsy Reid, beginning in January. We are also very excited to have just launched our "ActivGardens CommuniBee Hive Sponsorship" aimed at involving local businesses and organisations.

I hope this has given you a brief overview of what our bees are doing for our community and that it is a hive of activity. If you would like further information or believe you could help us in any way please do not hesitate to contact us.

Danny Thorington, ActivGardens Coordinator

danny@activlives.org.uk; 07532 794173

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Moving Eggs

I am sometimes asked if bees move eggs around the hive. Books, as ever, give different opinions, but as our swarm control was once ruined by the presence of viable queen cells in the super, I'm sure they do. (No, the queen did not go into the super, as there was no other brood there at all. And how many beekeepers check the super for queen cells?) However, it was nice to have this confirmed by the following study. Ed.

"A colony of dark-coloured Dutch bees was re-queened with a caged golden Italian queen. The queen's attendants were removed, but she was not released. Twenty-two days after introduction, the queen in the cage was very much alive, whilst brightly coloured young bees were present, and more were emerging from cells. One worker was seen at the cage carrying an egg, much as an ant carries a pupa. The eggs deposited in cells adhered to them very irregularly."

Peter Borst. peterborst@cornell.edu

A Junior Beekeeper writes:

I was excited to join bee keeping club because I love bees and it was going to be fun handling bees. On the first day we (me, Jed and Lucy) learnt about the different kinds of bees and did drawings of them. Over the winter we learnt most things about bees and how to look after them. When summer came, we got fitted into the right bee keeping suits and saw the calmest bees and checked that the queen was laying. When Lucy got stung we lost a bit of confidence but quickly got it back. When we were good enough bee keepers we did our test. I was quite nervous before the test but when it began my nerves soon left me and it felt like a normal bee keeping day with a few questions at the end. Before the



questions, we all enjoyed Lucy's nice honey cupcakes that she did for her project. I did a poster with pop up bees and lots of facts. A few weeks after the test Betsy e-mailed us to say we had passed. I was happy and I am looking forward to another year of bee keeping.

Molly Smith (aged 9), Waldringfield Young Beekeepers

My first year as a junior beekeeper

I started beekeeping when I was 9 years old; I am now 10 and I have completed the first part of my Junior Beekeepers' exam.

I became a junior beekeeper because I was interested about bees and how you look after them. On my first day at bee club, my friend Molly and I were really excited about going down to the hive. However we didn't get to go to the hive as it was too cold. I didn't realise that you could only see bees when it's warm. During my first few weeks at beekeeping I learnt how to make beeswax candles and

delicious honey foods such as: granola cupcakes and oaty honey biscuits.

During the winter months we wrote our bee diaries, about bee diseases and how to stop bees getting poorly. I learnt about and drew a hive structure and the job that each bee does. As it became warmer we learnt how to put on bee suits and how to be safe around the hive. I really enjoyed learning about the personality of bees and how some things like shouting at the hive would upset them. I don't like shouting either.



During the summer holidays we had our beekeepers' exam. I made a poster about a hive and each bee's job. I also made some honey cupcakes with lemon icing. The man who tested us was very nice and quite funny [David Adams] - we had fun during the exam. We had to show we knew how to look after a hive and how to keep bees healthy and happy. We had to answer questions as well as going to the hive.

I am pleased that I have passed and I got a badge and certificate. I'm looking forward to this year and learning even more. I really enjoy bee keeping and that is thanks to Betsy Reid, my teacher, and her lovely bees.

As the summer came along, we looked at flowers their structure and how bees pollinate them. We also learnt how different flowers make different colour honeys. When the summer came we were allowed to go down to the hive. We were shown all of the tools and what they were used for. We then saw inside the hive. I was amazed at how many bees were in there; I thought maybe only 100 bees would be there! I was wrong. Other visits to the hive meant we did things such as using a smoker, looking for brood putting a queen in a mating hive and checking for diseases. I also practiced lifting hive frames. On one visit I was stung; it was a good thing that we had just learnt about what to do if you were stung. We also learnt what happens to the bee if she stings you. I was more upset about the bee than my own finger.

Lucy Phillips, Felixstowe

Making a Medicinal Honey Salve

A while ago I attended a course taught by Dr. Sara Robb on making lotions and soaps with products from the hive. Essentially honey, wax and propolis.

We made lip balm, cerate, moisturiser and soap in the day and I left inspired, and with an armful of products I had made.

I have since made all of them again, but keep coming back to the cerate. This is a salve made of beeswax, olive oil and honey...it couldn't be simpler to make, but its properties are almost magical. I use it on stings, bites, grazes, itches, hard skin, sore fingers and rough feet. All of my family love it too, and it is a product I get repeat orders for.

In essence, you melt 20g of beeswax in 40g of olive oil in either a microwave or bain-marie. Add 40g of warmed honey (but not overheated) and keep combining until cooled and thickened. A stick blender is ideal for this. Only once it is thickening put into pots (I find 30ml pots ideal). If you do it while it is still hot the honey and oil will separate.

Handy Hint: wipe down blender and bowl quickly, while it is still soft, to remove the wax before you wash up.

The full details of the recipe can be found here: <http://beesfordevelopment.org/media/3789/bfdj118-honey-cerate.pdf>

As you would expect it is a slightly sticky balm, so if you are putting on your hands, it is best to do it when you are not going to be handling anything for a while, and if you are putting on your feet, best to do at bedtime and use an old pair of socks.

Susie Weston

Things I learned last year *From Clive de Bruyn:* To speed an inspection, don't remove the crown board to admire the frames in the honey super. When lifting the super to get at the QX and brood chamber, its weight will quickly tell you whether there is any honey in it, or not.

Nectar Microbes Influence Pollinators' Foraging Preference

Hear that honey bee buzzing toward a flower? It's not just the nectar that she's scented. Nectar-living microbes release scents or volatile compounds, too, and can influence a pollinator's foraging preference, according to newly published research led by UC Davis community ecologist [Rachel Vannette](#).

The research, published in a recent *New Phytologist* journal, shows that nectar-inhabiting species of bacteria and fungi "can influence pollinator preference through differential volatile production".



When they examined the scent of flowers in the field, they found that flowers which contained high densities of micro-organisms also contained volatile compounds likely produced by those microbes, suggesting that microbial scent production can be detected and used by pollinators.

Although microbes commonly inhabit floral nectar, microbial species differ in volatile profiles, they found. "Honey bees detected most of the microbial volatiles or scents that we tested," Vannette said, "and they distinguished the solutions of yeasts or bacteria based on volatiles only." This suggests that pollinators could choose among flowers based on the microbes that inhabit those flowers.

Things I learned last year *From Keith Morgan:* When inspecting a brood chamber, begin first taking out the dummy board and the first frame. This creates a decent gap between the side of the box and the next frame. Before raising the next frame, first turn it slightly so that it is diagonal across the gap. This helps avoid crushing any bees between the side bars and the side of the box.



Box House Beekeeping Supplies

In East Bergholt, Suffolk - for the local supply of hives, frames and foundation, tools and other equipment for keeping bees. Open by arrangement - please email or telephone Paul White to discuss your requirements. 01206 299658 or 07768 634038.

Is honey good for you?

Sugar gets a bad rap. Not because eating too much sweet stuff isn't bad for you: it is. In fact, over time, a high-sugar diet can have devastating consequences on a person's health. But a bad rap because, over the last decade, white granulated sugar has become the pantomime villain of the healthy eating brigade. In its place, "natural" sweeteners such as honey, agave syrup and plant extracts such as stevia have often been touted as being in some way better for you.

But the truth is somewhat less palatable. Both refined and unrefined sugars have much the same effect of the body. While refined table sugar (sucrose) is dealt with by the pancreas (which produces insulin), unrefined fruit sugars (fructose) are processed by the liver. Despite this biochemical difference, our bodies react to unrefined, natural sweeteners in much the same way as a spoonful of the white stuff - with a blood sugar spike. This encourages the liver to produce glucose, and high blood glucose levels ultimately cause the body to store fat and gain weight.

Studies have shown that when eaten to excess, products containing fructose contribute to obesity, heart problems and liver disease just like products containing granulated sugar. Other research has shown that fructose actually drains minerals from your body.

And not for nothing are alternative sugars also implicated in weight gain and tooth decay; they also perpetuate your palette's taste for sweet things - because many are actually sweeter than sugar. The theory is that consumers will therefore eat less of it - but who really does?

Recent statistics from the British Nutrition Foundation reveal that 96 per cent of us don't know how much sweet stuff we are consuming every day. For the record, the Government recommends no more than 30g of added sugar a days, which is about seven teaspoons but, on average, British adults eat and drink double that.

So what's the truth about "healthy" sugars?

A couple of years ago, sales of honey exceeded those of jam in Waitrose supermarkets, a change attributed to a perception that honey is a healthier spread. Indeed, market research company Mintel estimated that honey sales totalled a staggering £112 million in 2013, meaning that we Brits ate our way through 20.3 million kilos. But is honey really better for us than white granulated sugar?

While honey is often thought of as a "natural" form of sugar, how much refining is done to the contents of the jars you find on the shelf at your local supermarket?

Certainly, the raw, unrefined varieties of honey available from farms and health food stores do contain some health-boosting trace minerals - niacin, riboflavin, thiamine and vitamin B6 - but those elements make up around only two per cent of honey's total content. Hardly a viable source when you know that usually more than half of the product is pure fructose. In terms of our blood sugar, because honey can be 55% fructose, is it in reality of any more benefit to our bodies than granulated sugar?

While honey is marginally lower on the glycaemic index (58) than sugar (65) - which means it is absorbed into the body at a slightly slower rate - the main difference between the two is image. Honey appears to be more natural.

Yet honey is also higher in calories than table sugar. A tablespoon of commercial natural honey contains around 64 calories whereas a tablespoon of sugar contains around 48 calories.

Nicole Mowbray in the Daily Telegraph 6 Nov 17

Deformed Wing Virus Research

The I&ES is, I think, the only Suffolk BKA to join with 59 other UK BKAs and Bee Disease Insurance in the “REViVe” (Rolling out the Evolution of resistance to Varroat and DWV) research project. This provides £40,000 over three years to investigate Super Exclusion, how some colonies are able to live with high levels of Varroa. The work is led by Dr Declan Schroeder (Plymouth MBA) and Prof Stephen Martin (University of Salford).

An I&ES member provided samples from 5 colonies. For brevity, the reports on three of them are shown below.

Total infection refers to the total amount of deformed wing virus detected in the colony. High viral loads are those above $1E+11$, medium loads are in the range of $1E+06$ – $1E+10$ and low loads are less than $1E+06$. Samples which were extremely low in DWV fell outside the range of the detectable limit; these results are marked as BL.

As well as establishing total DWV infection in these colonies, the percentage of each variant is shown. It is thought that colonies with high loads of DWV ‘type A’ are at a greater risk of dying, whereas the type B variant may be providing some level of ‘protection’.

Type C is rare and is suspected to be lethal, as this was found in colonies which died unexpectedly during winter. The effects of each variant upon colony health are still under investigation.

[Superinfection exclusion paper](#); [ABC assay paper](#)

Hive 2: BL for all DWV variants [Very low]

Hive 4 spring: B = 100%, A = BL, C = BL.

Total infection = $4.20 E+10 = 4.2 \times 10^{10} = 42,000,000,000$ [Medium]

Hive 4 winter: B = 100%, A = BL, C = Negative.

Total infection = $1.03 E+11 = 1.03 \times 10^{11} = 103,000,000,000$ [High]

Hive 7 spring: B = 99.76%, A = BL, C = 0.24%.

Total infection = $1.60 E+11 = 1.60 \times 10^{11} = 160,000,000,000$ [High]

Hive 7 winter: B = 100%, A = BL, C = BL.

Total infection = $2.45 E+10 = 2.45 \times 10^{10} = 24,500,000,000$ [Medium]

Jessica Kevill, Post graduate researcher, Salford

Things I learned last year *From Clive de Bruyn*: While Oil Seed Rape gives a fine grained honey much enjoyed by customers for its ‘tongue feel’, it is high in glucose so sets quickly. This quality is a nuisance in any other honey stored in that super as, inevitably, too much OSR will remain in the cells.

After extracting the OSR, to ensure the bees really clear out the remaining honey, return the super to the colony over a piece of polythene (or an old fertiliser bag) cut to the size of the hive and provided with four or five holes the size of 2p pieces.

Honey Samples Worldwide Test Positive for Neonicotinoids

According to a [study](#) published in the 6 Oct 17 issue of *Science*, global sampling of honey finds 75% to be contaminated with neonicotinoid pesticides. While, the concentrations detected are below the amount authorized by the European Union for human consumption. The situation is bleak for pollinators; the widespread application of neonicotinoids has been identified as a key factor in the global decline in pollinators, particularly bees.

Natural Medicine from Honey Bees (Apitherapy) by Jacob Kaal

This is a 2017 reprint of a 1991 English translation of a book written by the late Dutch beekeeper, Jacob Kaal, which describes the potential health benefits and healing properties of the honey bee products propolis, venom, royal jelly, pollen, honey and “apilarnil” (powdered drone larvae), backed up by international scientific research.

In the preface it states that the book contains ‘... a systematic, detailed record of known and potential medicinal properties of bee products’. The book discusses how, particularly since the discovery of antibiotics, we have lost touch with the healing potential of bee products which were successfully used for thousands of years to treat all kinds of ailments and shows how they can be used alongside modern medicine, or even used where modern medicine has failed.

Each bee product has its own chapter which explains how it is collected, what the components are, who might benefit from it and how it can be applied, along with scientific research studies which have been conducted on the product. These studies are older now but are still relevant from a historical perspective. Some of the claims made in the book left me feeling somewhat sceptical, but mostly it seemed reliable. I had not come across apilarnil before reading this book – vegetarians beware!

I found the book interesting and informative and it should appeal to anyone interested in bees, medicine and alternative therapies.

Gillian Leung

Autistic Bees!

The common phrase ‘busy as a bee’ doesn’t apply to all individuals in a hive. Researchers have long known that some members of the colony appear quite lazy. They hang about doing very little work, but serve as a reserve workforce that can quickly spring into action. It turns out that some other bees are antisocial. They don’t engage in normal guarding or nursing behaviors but sit around, interacting very little with hive mates. It turns out that these antisocial bees share genetic profiles with humans on the autism spectrum disorder.

Scientists from the University of Illinois tested the responsiveness of 245 groups of 10 worker bees to a social challenge and a social stimulus. The challenge was the introduction of an unfamiliar bee, viewed as a territorial threat that typically provokes aggressive guarding behavior. A young queen larva in need of feed simulated the social opportunity to provide nursing care. Some workers showed very aggressive behavior to the stranger and were classified as “guards”, others immediately attended to the queen larva and were dubbed “nurses”. Just 1% of bees responded with both behaviors, as guarding and nursing are typically carried out at different life stages. A substantial proportion of bees, however, about 14%, didn’t react to either situation. Genetic analysis revealed that many of the genes overexpressed in autistic humans were also overexpressed in these antisocial bees.

In his innovative book *Sociobiology*, E.O. Wilson proposed that similarities between the social structures of human and non-human animal societies reflect common evolutionary origins. The similarity of gene expression in antisocial bees and humans with an autism spectrum disorder suggests that honey bees could provide another window into understanding the genetic and neural underpinnings of such behavior. Read the full [PNAS](#) paper or check out Elizabeth Pennisi’s excellent summary for [Science](#)

Musings on Membrillo and Mead

Membrillo: A firm paste made from quinces and sugar, used in Spanish cuisine and often served with Manchego cheese

I first heard of membrillo when I was studying with Jeremy on Monday nights for one of the beekeeping Modules. Jeremy has been making membrillo with honey for some years and kindly gave me a carrier bag full of quince so I could have a go. It is simple, but you cannot rush it!

I read lots of different articles on the internet and some say you do not need to peel the quince. I peel mine. I want the membrillo paste to be as smooth as possible. Quince does have a slightly gritty texture anyway, but I don't want any other texture which might be introduced by the skin or core. So I peel and core them and then boil them until they are soft, which takes a good hour. I put some lemon zest in with them - half a lemon's worth of zest per kilo of quince.

I take out the lemon zest and process the soft quince in a food processor, so it is a smooth puree. I then weigh it and put it back in the pan. If you are using sugar, you put the same weight of sugar in but with honey I put $\frac{3}{4}$ of the weight. I got this figure by surfing the internet and getting a general consensus on substituting honey for sugar! It

seems to work. I also follow the consensus on lemon which is $\frac{1}{2}$ to 1 lemon's worth of juice per kilo of quince puree.

If you are short of time, you can make the puree, then pause and make the membrillo on another day. The puree can sit in the fridge. You have to

boil the quince-honey-lemon mix for a long time until it thickens. I lost track of time. Seriously, don't plan to go out. Remember ultimately it needs to be a paste which you can slice, so it needs to be *really* thick.

When it is thick in the pan I transfer it to a baking tray lined with greaseproof paper. Most recipes then suggest putting it into a low oven to dry it out further, to become firm enough to slice. However, I had read that traditionally, it was just left to dry over a period time, even putting it on the parcel shelf of a car! So I let mine sit in the pantry for a while but then transferred it to the airing cupboard where it is drying out nicely. In fact it has reached the right consistency now but I am leaving it there. Membrillo is strange. It doesn't go off. I should cut it up and put it in containers in the fridge but it seems quite happy sitting in the airing cupboard. I suppose I might forget to eat it.

Once it has reached the desired consistency, which may take weeks if you don't use the low oven technique, you can slice it and have it in delicate morsels with cheese – Romeo y Juliet, as the Spanish call it!

You can also make pastafrola, a quince jam tart from Argentina, which is simply divine but will have to wait for another day!



Mead: an alcoholic drink of fermented honey and water

This is my fourth year making mead. I made a batch in 2014 which won third place in the 2015 Honey Show. I knew that mead was supposed to improve with age so I entered a bottle of the same vintage in the 2016 Honey Show where it won second prize! I was running low on supplies, so I entered my final bottle of the 2014 vintage into the 2017 Honey Show and it won first prize. I was joyful! Those who attended the Suffolk Show this year will recall it was a very hot day so after collecting my precious bottle of mead, I returned to the farm and sat under the lilac tree with Lee and my mum and dad and we drank the whole bottle! It was indeed lovely.

I made some more mead in 2015 which was sweeter and not, in my opinion, as nice but I think it is improving. Inspired by my first prize, I made a batch after the show this year, using 2016 honey. Does that make it a 2016 vintage? Or 2017, because that is when it was made?

I am now making mead from 2017 honey from the wax cappings. I am making two meads as I have quite a lot of this "cooking honey".

The first is traditional, the same as 2014, 2015 and 2016: warm 2 litres of water to just below boiling. Add 2 kg of honey and stir till it is dissolved then allow to cool. I then put it in a demijohn with 24 raisins, 2 tablespoons of lemon juice and the grated zest of one lemon and shake it vigorously. I then add a heaped teaspoon of wine yeast and wriggled it around until the yeast seemed dissolved. Apparently you are not meant to shake the yeast too vigorously. I then topped the demijohn with water. I use tap water as our water comes from a well and has no additives. This is a recipe I got from the River Cottage forum and is the recipe I used for the prize winning 2014 mead. 24 raisins – very specific!!

The second is lavender and blackberry. I like the sound of this and I have both lavender and blackberry. However, the recipe I saw is American and seems quite complicated and involves using some chemical (which I don't have) to neutralise the natural yeasts which may be on the blackberry. So instead, I have put the lavender in with the honey water to infuse, but I have left out the raisins and lemon. I intend to add the blackberries at the two month point after fermentation has taken place. It is the demijohn on the left. I don't know why it is so much dark than the other one. The honey is all from the same source.

Liz Marley

[What will you be making ready for the Suffolk Show? Ed]

Levon Biss, a UK based photographer, creates incredibly detailed [photographs of insects](#). Each photograph is a composite of up to 8,000 individual images. This is a delight for entomologists & microscopists.

One of many [videos on skep beekeeping](#) in Germany. Fascinating!

Some commercial beekeeping practices may harm honeybees more than help them, scientists warn in a paper published in the journal [Nature Ecology & Evolution](#).

Meetings Notes

Wed 3 Jan Clive de Bruyn: *What to do about Swarming?*

“Since the early 60’s I have been an amateur, commercial and professional beekeeper in 11 English counties. In 1976 I gained the National Diploma in Beekeeping and soon afterwards joined the MAFF National Bee Unit where I participated in setting up the apiary and laboratories. I then worked for Honey Farmers Ltd, (2,000+ colonies) as trouble-shooter and queen rearer. For 18 years I was the County Beekeeping Instructor for Essex. With Bernard Möbus I wrote The New Varroa Handbook, 1993. Practical Beekeeping gained a bronze medal at the 1999 Apimondia Congress. I now run about 200 colonies for honey and pollination.”

Thu 22 Feb A visit to “BuzzWorks” in Hitchin

Robin Dartington, the inventor of the Dartington Hive and the founder of “BuzzWorks”, invites those interested to visit. Members of the “ActivHives” apiary will be going and offer lifts. There are two sites; to do justice to both, we must leave Ipswich at 9.00 - it is a two hour journey each way – and expect to be back late. See: <http://www.buzzworks.org.uk/>. The two BuzzWorks sites are:

a. The Bee School. An educational exhibition in six chapters, developed in association with Kew Gardens, which explains the world of the honey bee, while an observation hive gives a close-up view of them at work in the garden; that is planted with flowers and vegetables that need bees.

b. The HoneyWorks Training Centre is currently the only member organisation of the British Beekeepers' Association devoted exclusively to education and training. There are many different kinds of hives and full facilities for extraction and processing, all set in a beautiful garden.

Contact: Betsy Reid: 01473 736506 or betsy@talk21.com as soon as possible & no later than 10pm Thu 15 Feb - earlier would be better.

Sat 10 Mar Cambridge BKA One Day Seminar. “Is active swarm control still the best policy?”

Speakers: Ged Marshall: *Swarm control without nine day checks*; Prof Steve Martin: *Will letting colonies swarm help to solve the Varroa problem and increase genetic diversity?* Dr. David Aston: *Swarming - Time for a re-think?* Richard Ridler: *Beekeeping practices in Africa*. Tickets £25 include lunch. 01223 834620

Sat 7 Apr Nosema - a problem for honey bees and for beekeepers

The Icen Microscopy Study Group offers tuition in this important endemic bee disease. This follows our successful session on the two foulbroods last July. Berg Apton Village Hall NR15 1AA between 10:00 and 3:00. Visitors £5.00. Tea, coffee & biscuits freely available. Bring your own sandwiches and, if you have your own compound microscope, that too. Details from Keith Wilkinson keithwilkie160@gmail.com or 01502 741201 by Thu 29 Mar. Bring your own sample of at least 30 bees, alive or dead.

Richard Martin Beekeeping Supplies

A large range of stock including: Hives in the flat, WBC, National and Commercial; Frames and foundation, honey jars, buckets, tools, bee suits, veils and gloves. Agent for Thorne's of Wragby Little College Farm, Creeting Hills, Creeting St Mary IP6 8PX
Opening hours: 1 April - 30 Sept 4pm - 7pm Mon - Sat.
At other times please call on 01449 720491

Lime Trees: Nectar Bounty or Bee Death?

See: [Biology Letters](#)

Calendar

Members of the six Associations which form the Suffolk Beekeepers' Association are welcome to attend any or all these meetings. There will be other meetings but details were not available at the time we went to press.

Ipswich & ES BKA winter meetings are held in the Scout Hall, Kesgrave IP5 1JF from 7:30pm.		
Wed 3 Jan	Clive de Bruyn: What to do about Swarming? TMT: Danny Thorington: The apiary at Maidenhall	Ipswich & ES Richard Allen Contact
Wed 7 Feb	AGM and Deidre Charlestone: Integrated Pest Management	Ipswich & ES Richard Allen Contact
Thu 22 Feb	An all day visit to “BuzzWorks” at Hitchin. See Meetings Notes.	Ipswich & ES Betsy Reid
Mon 26 Feb	Introduction to Beekeeping Course begins in Jubilee Hall, Dallinghoo + following 4 Mondays, etc. 7:30pm start	Ipswich & ES Jeremy Quinlan 01473 737700
Wed 14 Mar	Suffolk BKA AGM at 7:30 pm Saxmundham United Reformed Church IPI7 IBJ	Leiston & District BKA
Wed 7 Mar	Arlen Mulder: Bee Farming TMT: Jeremy: <i>Preparing wax for show</i>	Ipswich & ES Richard Allen Contact
Sat 10 Mar	Cambs BKA One Day Seminar: Is active swarm control still the best policy? 10:00-4:00 pm. £25 includes lunch.	David Abson 01223 834620
Sat 24 Mar	Best Practice Day 2018 Stowmarket IPI4 2BD Guest speaker: Celia Davis	Suffolk BKA See website
Wed 4 Apr	Diane Ling: Bee Lines in East Suffolk TMT: Liz Marley: <i>Show cooking classes</i>	Ipswich & ES Richard Allen Contact
Sat 7 Apr	Bee Diseases Nosema & Amoeba Berg Apton village hall NR15 1AA 10:00- 3:00 £5.00. All welcome.	Icen MSG Keith Wilkinson 01502 741201
Sun 22 Apr	Ted Hooper Memorial Talk Norman Carreck: Eva Crane & IBRA The Lecture Theatre, Writtle College, Chelmsford CMI 3RR: 2:00pm £?	Essex BKA
Fri 13-Sun 15 Apr	BBKA Convention , Harper Adams University, Newport, TF10 8NB	BBKA
Sun 22 Apr	Bee Health Day , Dallinghoo IPI3 OJX. 10:00 - 4:00. Booking essential. Bring own sandwiches.	Ipswich & ES Jeremy Quinlan 01473 737700
Sun 29 Apr	First Wherstead apiary afternoon 2:00 - 3:30. Then every Sunday until August.	Ipswich & ES See website

[Brain study reveals how insects make beeline for home](#)

[Bees have a left or right wing preference \(but most are centrists\)](#)