

THE BUZZ

Newsletter of the British Bee Veterinary Association

Welcome!

CHRIS PALGRAVE, EDITOR

Welcome to the The Buzz - it's hard to believe that our first issue was already a whole year ago! Following on from the popularity of our in-depth articles on sustainable bee improvement and stingless bees in the last issue, I have included a greater proportion of two-page articles this month. Please do let me know what you think.

In this issue, President John Hill discusses events leading up to the formation of the BBVA over 7 years ago. Bee scientist and author, Dr Kirsty Stainton, gives us an excellent introduction to managing Varroa in our colonies - with part 2 to follow in January 2023. We review her excellent new book on the Bee Bookshelf ([page 14](#)). Aptly-named natural beekeeper, Paul Honigmann, of the Oxfordshire Natural Beekeeping Group, describes his apicentric (bee-centred), low-intervention, low-stress approach to keeping bees.

Biology teacher and beekeeper, Ray Baxter, gives us insight into his inspirational approach to teaching beekeeping and establishing bee clubs in schools in Scotland. Highly decorated beekeeper, Simon Croson, recipient of a coveted Gold medal at the world honey show (Apimondia) amongst many other awards, encourages us to display our honey and other hive products on the showbench - and discusses how it can make us better beekeepers. Co-editor of BeeCraft magazine, Dr Stephen Fleming, introduces us to Britain's best-selling and longest continuously-published beekeeping magazine. I am delighted that BeeCraft have offered BBVA members a generously discounted subscription rate as well as a range of other benefits.

Finally, renowned master beekeeper Christine Coulsting helps us to decipher the bees' iconic language of communication, the waggle dance.



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NOVEMBER 2021

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Formation of the British Bee Veterinary Association

JOHN HILL, BBVA PRESIDENT

How does a new veterinary organisation begin? In many instances, associations begin with several like-minded vets coming together with a common interest in cattle, sheep or companion animals and then present themselves to the British Veterinary Association (BVA) and/or Royal College of Veterinary Surgeons (RCVS) for recognition. The British Bee Veterinary Association began in a slightly different way. It was a discussion between me and a Past President of the RCVS, Bobby Moore, at Royal College Day in 2014. We had previously tried to find a bee-interested vet for every county in the UK, which was not successful. Bobby and his brother had been beekeepers in Somerset for many years and I had taken up the craft some 10 years previously in Northern Ireland. Bobby told me that the Royal College were fielding more and more questions about bees both from the public and the profession. He said that the Royal College wanted a knowledge base which it could call upon. So, in this instance, it was the RCVS making the request.

In early 2015, Bobby and I placed a letter in Veterinary Times and Veterinary Record looking for vets who were interested in bees. We were surprised by the response with over 100 emails in return. This was very encouraging, especially as there had been a lot of media publicity about a worrying decline in bees worldwide.

We arranged for an inaugural meeting at Bristol Vet School on 1st April 2015 and hoped that a few vets would turn up. I was delighted when 25 appeared from all over the country. The beekeeping experience in this group varied from beginners to very competent. We made it clear from the outset that we were interested in the science of all bees: honeybees, bumblebees, stingless bees and solitary bees. There are 20,000 species world-wide, so we have plenty of scope. Beekeeping is an important subject and we all should be familiar the basic natural history and husbandry of these remarkable insects.

Our very first BBVA lecture that day was from Professor Steve Martin from Salford University, who is a world authority on Varroa mites. Steve cycled from Salford to Bristol to deliver the lecture stopping off in a youth hostel in Wales on the way. His fascinating lecture was on the spread of Varroa mites and Deformed Wing Virus in honeybees in the Hawaiian Islands. A truly excellent inaugural lecture.



FROM LEFT TO RIGHT: BOBBY MOORE, PROF STEVE MARTIN, JOHN HILL
INAUGURAL MEETING OF THE BRITISH BEE VETERINARY ASSOCIATION
BRISTOL VET SCHOOL, LANGFORD. 1ST APRIL 2015

I, for my sins, was elected President of the BBVA and we made Bobby Moore our first Life Member. Since 2015, the BBVA has attended a range of events such as the London Vet Show, BSAVA Satellite Day, SASA in Edinburgh, Newcastle University, Surrey Vet School and Thornes Beehives. We have staged a number of well supported webinar series and continue to educate the profession and wider beekeeping community.



Managing Varroa in honey bee colonies (part 1)

DR KIRSTY STANTON, HONEY BEE SCIENTIST AND AUTHOR

An introduction to Varroa

The parasitic mite, *Varroa destructor*, is native to south east Asia and its native host is the Asian honey bee, *Apis cerana*. In the 19th century, colonies of the European honey bee, *Apis mellifera*, were introduced into Japan and Russia, and were reared alongside the Asian honey bees. Here, the Varroa mites were able to cross over into the *Apis mellifera* colonies. The infestation spread from there; from Japan, they spread into South America, and from Russia, they spread westwards into Europe(1), reaching the UK in the early 1990s. The arrival of Varroa mites in Europe transformed beekeeping forever.

The damage caused by parasitisation

When Varroa mites parasitize the developing brood, they cause a physical injury of a tenth of a millimetre in size(2) when biting into the bee. The injury does not heal, as the mite's saliva inhibits wound healing. Bacteria may accumulate at the site of this injury and give rise to secondary infections. The parasitisation results in a significant weight reduction in parasitised bees and decreased lifespan(3). The mites may also inhibit the honey bee immune system; some studies state that Varroa parasitism causes immunosuppression, although this is disputed in other reports.

Worse still, the mites vector the virus, Deformed Wing Virus (DWV), between individual bees. The mites transmit DWV and pass it between developing pupae; a life stage that is particularly susceptible to DWV. The mites infect the pupa with a more concentrated dose of virus than it could acquire naturally. This infection can kill the pupa or manifest as a chronic infection in the adult bee, if it survives to emergence. A study performed in Hawaii by Professor Stephen Martin demonstrated that the establishment of Varroa resulted in a considerable increase in the number of colonies infected with DWV where Varroa was introduced(4). He also found that the amount of DWV in the Varroa infested colonies was a million-fold higher than the DWV from bees in Varroa free colonies.

High levels of mites, and DWV, result in 'parasitic mite syndrome' and will eventually result in colony collapse. The signs of this are summarised in figure 1. It is crucial to monitor for mites regularly, and treat the colonies appropriately to prevent colony death.

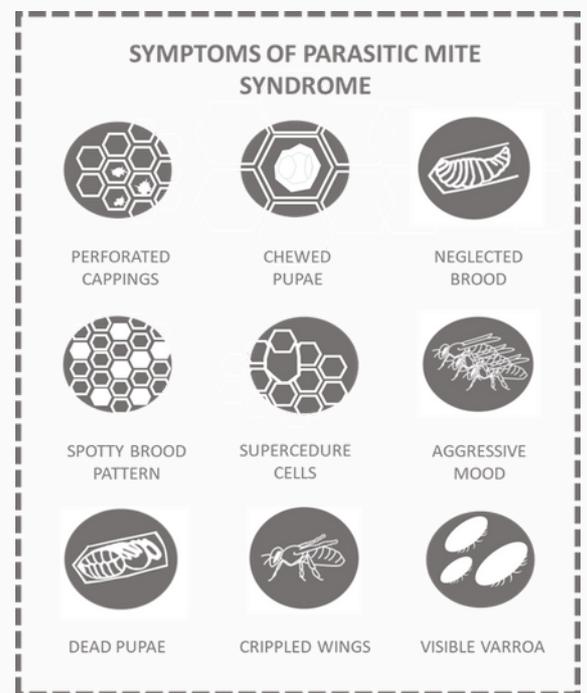


FIGURE 1: SIGNS THAT A COLONY IS SUFFERING FROM PARASITIC MITE SYNDROME.



FIGURE 2: DRONE BROOD UNCAPPING IS AN ACCURATE WAY TO CALCULATE THE LEVEL OF INFESTATION IN A COLONY. IMAGES COURTESY THE ANIMAL AND PLANT HEALTH AGENCY (APHA), CROWN COPYRIGHT.

Continued



Monitoring for mites

Continuous monitoring for mites in colonies is essential as there will be a constant influx of mites from neighbouring apiaries (unless the apiary is very isolated from other populations of honey bee), and the level of mite infestation is the metric for deciding if and when treatment is appropriate. The aim of treatment is to keep the mites below a certain threshold to prevent them from getting to levels that can harm the colony. To do this, it is necessary to perform regular monitoring of mite levels throughout the season, even after treatment. The main methods for monitoring mite levels are: the sugar-shake method, the alcohol-wash method, drone brood uncapping (figure 2) and counting the mite drop on the floor board (figure 3). I have summarised the pros and cons of each method in table 1.

Although counting the mite drop from the floor isn't the most accurate method, I still feel it's the most useful, especially if you perform it regularly and understand how mite levels fluctuate within the colony by bee/brood population and time of year. As a general rule if there are more than 30 mites, treatment is urgently needed, between 10-30 indicates that treatment is likely to be necessary soon, depending on colony size and season, and less than 10 is acceptable and treatment is not needed. For all the other methods, the threshold of 3% indicates that treatment is necessary, while 1% or less means that treatment is not needed.

Method	Pros	Cons
Counting mite drop	Easy Don't need to open colony	Not all that accurate Annoying on a windy day
Sugar shake	More accurate than mite drop	Messy Sacrifice of 400 bees Ineffective when it's humid or damp Labour intensive
Alcohol wash	More accurate than mite drop	Sacrifice of 400 bees Sacrifice of alcohol Labour intensive
Drone brood uncapping	Very accurate	Sacrifice of 300 drones Cannot perform outside of drone rearing season

TABLE 1: THE PROS AND CONS OF EACH MITE MONITORING METHOD.



FIGURE 3: COUNTING MITE DROP AT REGULAR INTERVALS GIVES A 'BALLPARK' INDICATION OF INFESTATION LEVELS BUT MUST BE CONSIDERED ALONGSIDE COLONY SIZE AND TIME OF YEAR. IMAGES COURTESY THE ANIMAL AND PLANT HEALTH AGENCY (APHA), CROWN COPYRIGHT.

Products for treatment

There is a long list of Varroa treatments available. To simplify everything, it's easier to classify the products by their active ingredient. The available products can be classed as: 1) thymol (an essential oil), 2) organic acids: oxalic acid and formic acid and 3) synthetic pesticides: amitraz, tau fluvalinate, or flumethrin. There are also various husbandry techniques available, such as drone brood removal, queen caging and colony splitting. In the next article I will discuss these products and methods, how effective they are, and their relative advantages and disadvantages.

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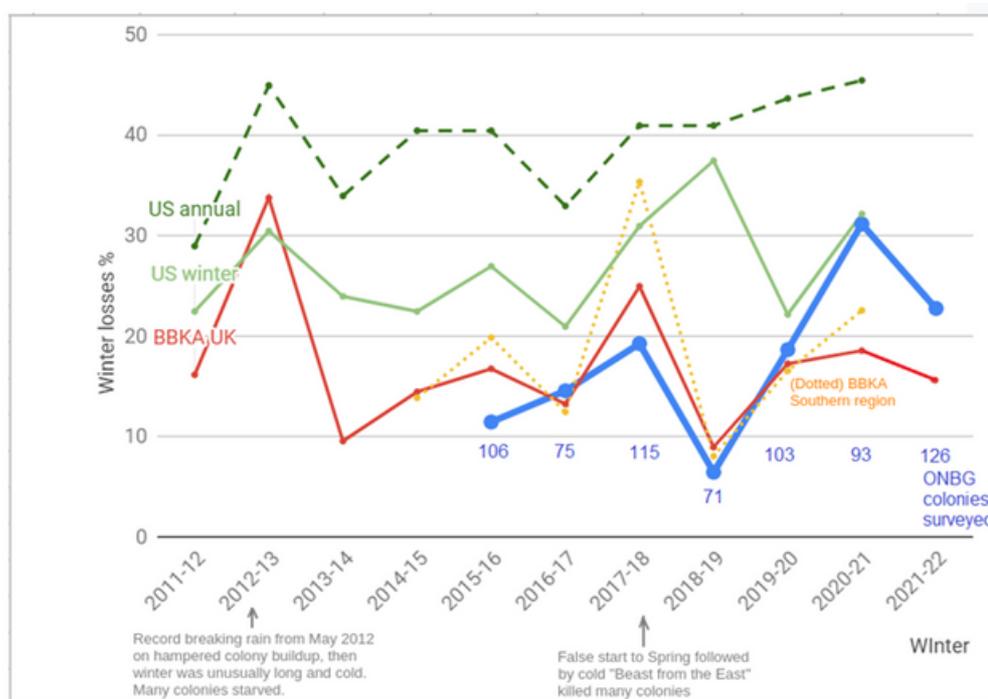
Insights from natural beekeeping

PAUL HONIGMANN, BEEKEEPER, OXFORDSHIRE NATURAL BEEKEEPING GROUP

Natural Beekeeping is apicentric, focussed on encouraging natural bee-behaviours and not disrupting the integrity of the colony / hive, thus minimising stressors which cause problems for the bees.

Natural (low intervention) beekeepers do not use miticides. Most take little honey and feed rarely. Inspection is normally through non-invasive observation rather than opening hives. This has created a large 'natural experiment' where people observe the behaviours bees use to handle parasites when they aren't constrained and stressed by intensive management: in effect un-learning "beekeeping".

We see exceptionally low levels of pests and diseases by simply avoiding creating the optimal conditions for them, and stressors for the bees.



AT FIRST GLANCE, COLONY LOSS RATES (BLUE LINE) ARE NOT DISSIMILAR TO INTENSIVELY MANAGED COLONIES!. HOWEVER, BBKA RESULTS IGNORE COLONIES SMALLER THAN 5 FRAMES GOING INTO WINTER, AND THEY OFTEN REQUEEN - MASKING COLONY LOSS THROUGH QUEEN FAILURE - WHERE WE RELY ON SUPERSEDURE. SOURCE: [OXNATBEES.WORDPRESS.COM](https://oxnatbees.wordpress.com)

Strategies natural beekeepers employ include:

Bees

- Local landrace/survivor stock. Most prized are swarms from established wild nests, as weak nests would be dead - natural selection rapidly weeds out the unfit in Britain's undependable climate.
- Commercial bees are weak and dependent, with survival traits like propolis artificially bred out; they're avoided as potential disease and varroa vectors, and prone to aggressive crosses.
- Not requeening: even Buckfasts can activate latent survival traits after 1-2 years' outbreeding and self management. Requeening overwrites adaptation.

Continued



Hives

- Static hives: not migrated to forage.
- Not overcrowded: allowing size of colony to be determined by the bees themselves in line with their needs, adapted to the local environment and forage patterns.
- Few hives in one spot.
- Warm hives: cold, damp hives promote fungi / nosema. Over winter, bees generate many litres of water as they consume their honey and this will condense on a National's thin cold walls. Improving insulation means bees waste less energy to maintain brood temperature within the nest, freeing workers to switch to other activities like propolis and hygiene.
- Natural comb: bees like 15-20% drones; this seems to correlate to health (an observation, not an explanation!). There's no evidence that old, black comb is harmful if it's not contaminated with miticides. Miticides persist in wax - which may be re-used and resold as foundation!

Management

- Let the weak die. 1-2 years of losses followed by continual health, or decades of propagating dependant bees spreading disease and poor genetics around the country. Which is more moral?
- Not suppressing natural swarm behaviour: unlike splits, this avoids horizontal parasite transmission; the post-swarming brood break resets mite numbers as effectively as a dose of acid - most parasites need brood to reproduce. Swarms are prized, not suppressed.
- No frame swapping between hives: intensive honey farmers with large apiaries streamline management by ensuring hives are identical, routinely moving brood from large colonies to weak ones! We usually let drone laying colonies die rather than reboot by moving brood in.
- Propolis: we encourage this natural disinfectant by roughening walls, and not selecting against it.
- Little or no feeding: props up maladapted colonies, promotes brood laying (negates brood break firewalls versus varroa), crowds colonies. Yes, less honey crop. Lack of junk food is undoubtedly linked to the total absence of dysentery in our hives, and wild colonies.
- No miticides: their pungency masks key hygiene scent signals like "this larva is damaged" and queen-right pheromones - which is why hives get aggressive when treated. I see about one deformed wing a month.
- High frequency of external inspection: you can see many health indicators at the hive entrance: ejected larvae, crawlers, dysentery; other tests like sounds, smell, hefting and using windows tell you more.
- Low frequency of internal inspection: brace comb serves functions like draught exclusion, and we don't suppress swarms. Incidentally, this avoids scent plumes attracting Asian Hornets or Small Hive Beetle.

The bottom line: Miticides mask underlying problems caused by running hives as 'productively' as possible. Yet varroa are a non-issue for us; I haven't even seen Chalk Brood since 2015. It comes down to a choice of maximising honey, or health.

WE ARE GRATEFUL FOR THE GENEROUS SUPPORT OF OUR SPONSORS:





Can young people give Scotland healthier bees?

RAY BAXTER, BIOLOGY TEACHER AND BEEKEEPER

I am delighted to have been asked to write this article about the experience of putting beekeeping on the school timetable.

I have been a biology teacher since 1995, working in England and Scotland. I started beekeeping 12 years ago with a local beekeeping course. I wanted to learn how to include “bees” in my lessons and it didn’t take long for school lessons to become an exercise in awe and wonder at the marvellous lives of honeybees and other pollinators. A school bee club was established, and we had fun learning about honeybees, building hives, catching swarms and much more. As a club, we had freedom, with no exam expectations and no syllabus. Learning became a blend of teacher-led, but mainly learner-led approaches. Students had to work collaboratively to answer their own questions. A favourite starter became ‘I wonder?’ questions and we would then plan how to use science to answer them:

‘I wonder...how bees communicate?
..if beekeeping is bad for bees?
..if our bees are healthy? etc.’

My role was generally ‘expert’ facilitator, joining in and providing direction. Bee Club has often felt at odds with the methods used to teach adults. My experience of adult beekeeping education is much more about lectures and teacher-centred organisation. I really hope that I’m not misunderstood here as I have witnessed some brilliant presentations and will be forever grateful for the wisdom shared, but nonetheless feel it is important to acknowledge that transferring many of the methods that I have experienced in an adult education setting to a school context simply would not work.



GETTING INTO ‘BEE SPACE’ – THE RIGHT ATTITUDE FOR STRESS-FREE BEEKEEPING WITH BERWICKSHIRE HIGH SCHOOL AT THE MARCHMONT ESTATE

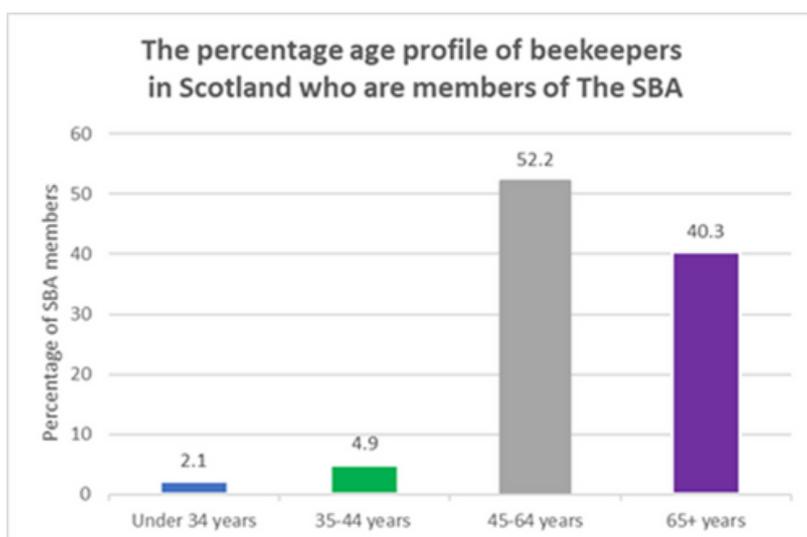
The way that risk is managed, helps to illustrate this. As a beginner, my first ever guided group inspection involved a full hive with lots of other people. My beekeeping suit and gloves were not up to the job.

I remember the pain of the first sting, the fear and questioning that I could ever become a beekeeper. It is unimaginable that a schoolteacher would put young people in this position. In the years, I have been working with young people, not a single student has been stung. This has only been possible by adopting a stress-free approach for the students and the bees. This has at its core an acknowledgement that different people have differing responses to working with bees and that the tutor needs to monitor and act upon this information when doing any practical activity. Beekeeping is as much about better understanding and managing self as it is understanding and managing bees. New youngsters will start with the smallest colony possible and care for it as it expands, whilst also growing in experience and confidence. This approach gives lots more wriggle room, to be able to make mistakes more safely. Working with young people, it takes about a whole season before opening a full hive.

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In 2017, The Scottish Beekeepers' Association (SBA) and Inverness Beekeepers' Association developed a new qualification with Inverness College and the Scottish Qualifications Authority. Kelso High School was the first to be approved to deliver this Level 5 qualification. Today, more than a dozen Scottish schools now offer this course. That's 100's of young people learning how to care for honeybees.



RESULTS FROM A 2020 SURVEY OF SBA MEMBERSHIP
(27% OF A MEMBERSHIP OF 1800 RESPONDED)

It takes years to become a competent beekeeper and there is much to learn about evidence-based practice. Currently, beekeepers are predominantly middle aged/elderly and more male than female. The graph above shows the only data available, suggesting that only 2.1% of the SBA membership is under the age of 34 and more than 90% are above the age of 45. Also, that 60% of the membership are male. Although there is no data for ethnicity and class, my experience supports the view that most beekeepers are also white and middle class. Personally, I started beekeeping around the age of 50 and am only just getting to grips with it. I imagine in another 10-15 years it will be touch and go whether I will be able to move the hives about and apply the learning that it has taken so long to acquire. Experience is vital for honeybee health and the world needs experienced beekeepers. Bees and other pollinators urgently need young people and other underrepresented groups who have the potential to bring to this world new and different ways of thinking, applying learning and building a lifetime of experience.

As retirement looms, I can confidently say that supporting schools with beekeeping education forms some of the most worthwhile experiences of my teaching career. I value how the course provides a meaningful way for young people to thrive and learn how to better manage self, while also learning about a complex biological/social system.

I hope that more young people, can study this subject and that more support is made available for schools. Also, that schools are soon offered a progression pathway in the form of a new SQA level 6 qualification. The quote below is from one of the many students interested in studying beekeeping at a higher level.

“I like the hands-on style of learning for the beekeeping qualification. I was able to develop confidence and build skills, as well as a deep understanding of the science of a process. It was an exciting way to learn and I am proud of my achievement”

BIBEX FOUNDED



Honey shows, why and how?

SIMON CROSON, THE ARTISAN HONEY COMPANY

As beekeepers new and old, we are all aware of the products of the hive (e.g. honey, beeswax) and often wonder how we can add more value to the wonderful products that the natural world and our bees provide for us. Showing honey and other items at the showbench encourages us to improve on the presentation of our own products and really think about what the bees provide for us and what we can do with them. For those of us who sell honey, the accolade of being successful at the various shows provides good ‘sales kudos’, along with a fair bit of light-hearted rivalry.

Visiting a honey show is often a great opportunity to not only socialise, but also to see a wide range of products/exhibits, some of which we may never have seen before or indeed considered to have a go at ourselves, eg cut comb, chunk honey, pollen, nucs and even observation hives or some of the wonderful wax exhibits to mention a few. Honey shows can be daunting for competitors but hopefully the varying exhibits and show benches will inspire many of us to “Have a go”.



THE BRISTOL SILVER QUEEN, OVER 100 YEARS OLD



A SHOW FRAME IN THE MAKING

Honey shows are staged at all levels from Club to County to National and beyond to The World Honey Show, which is known as Apimondia (recently held in Istanbul). There is usually a class to provide an opportunity for every beekeeper to stage an exhibit of some sort. Most of the shows have a similar range of exhibits, but many have a few specialist classes, so it’s a great idea to visit different shows to get some fantastic inspiration. The show schedule will provide all the details necessary to make entering the show more accessible - and many of the specifics should be common to all levels of showing, so the “club show” is usually a confidence boost for the exhibitor wanting to take exhibits to a wider audience at other shows.

I’d encourage every beekeeper to have a go at showing, as often it will make you prepare your own “products for sale” just that bit better and also introduce you to many more possibilities. The liquid honey classes are usually light, medium and dark and here the adventure begins. If you don’t get dark honey you question what the floral source is and then maybe travel with your bees to try and capture some of the dark gold. There are great guidance notes for preparing honey for the showbench, so read them thoroughly. Explore some of your seasonal single floral source honey by harvesting it as the honey becomes ripe; it’s surprising what a contrast your hive will provide for you each month. For those who harvest just a few times a year, the wonderful specifics of each monthly bounty may well be lost in a three month blended harvest. The skill of preparing your hive to get a single show frame, or even better some good sections, is a skill worth learning as it improves your knowledge and understanding of your bees. A good frame or pair of sections on the showbench is not overlooked or taken for granted by the Judges, who really do appreciate the work, thought and skill that goes into these classes.

Continued



Wax products are another range of classes that are often revered as very difficult to become proficient at, but as with all show exhibits, practice makes perfect. Cappings wax is often regarded as being the most sought after and admired, as it is often very pale and clean. Once again, the range of wax colours can be quite surprising the more you collect and prepare for the showbench.

The range of classes can be quiet daunting, but start with something most of us have access to – liquid honey. Prepare it to the best of your ability and if your honey gets tasted by the judge, you’ve already done your best as the judge will only taste the honey when all the other criteria of preparing the exhibit have been satisfied. Most, if not all, of us have access to a camera and take photographs of our beekeeping activities. Many shows have classes for photographs, so have a go at these too. Taking photographs helps catalogue and record our beekeeping activities and we often see something really interesting, sometimes on our holidays, that others may have seen but not photographed, bee prepared but also bee safe.



BEE INSPIRED BY OTHERS!
AN INCREDIBLE MODEL HIVE MADE
OUT OF SHEETS OF BEESWAX



PREPARING SHOW WAX

To help our understanding of how the Judges do their work it’s a great idea to volunteer to be a Judges’ Steward. This will often provide you with a running commentary of everything the judge is looking for and what they see, this will help hugely with your honey show participation and it also helps with running the honey show.

I do hope you will consider entering a honey show and improve your own beekeeping activities. For those who already show, I hope this article will inspire you to consider exhibiting in classes that you haven’t done before and broaden your horizons. There is nothing more rewarding than having your exhibits awarded with a certificate and possibly a trophy, many of which are adorned with your name to allow you to become a part of the Show History, along with putting a huge smile on your face. It’s not always the more experienced showmen and women that win the big prizes as on a number of occasions the enthusiastic novice has been known to Win Big.

Enjoy your beekeeping and do your products and bees justice by working to get them seen on the show bench by a wide audience, Good Luck.

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BeeCraft – Britain’s best-selling beekeeping magazine for the past century

DR STEPHEN FLEMING, CO-EDITOR

First published when a pandemic raged across the world and honey bees were recovering from a mysterious disease that decimated colonies, BeeCraft magazine will soon begin its 104th year. It is Britain’s longest continuously published honey bee magazine and its consistently high-quality reporting has established it as one of the world’s top beekeeping magazines. In the 2022 Apimondia congress, it again received an award as a beekeeping and honey bee science magazine.

How the world has changed since Spanish flu and what is now thought to have been chronic bee paralysis virus that ravaged honey bee colonies. But then again, how little has changed. Aside from the covid-19 pandemic, we are currently being revisited by chronic bee paralysis virus, albeit at a much lower level than in the early 20th century. We have also seen another mysterious honey bee disease in the early 2000s – CCD, colony collapse disorder.

Independent and run as a not-for-profit, BeeCraft keeps its subscribers up to date each month with beekeeping news, developments and trends. Edited by experienced beekeepers and drawing upon specialists across the world, it covers beekeeping issues in depth in well-illustrated and accessible language. Restyled on its centenary three years ago, the magazine is proving increasingly popular with its engaging and lively style.

Featuring articles from individual beekeepers, international researchers and statutory bodies, the magazine covers all aspects of honey bees and beekeeping from genetics and disease through to management and honey harvesting. Beekeeping is set in the broad context of the environment and includes reports on climate change and its effect on bees, the changing foraging landscape and the impact of pollinators on the economy.

Since honey bee pests and diseases are a constant source of concern for beekeepers, the magazine regularly features the latest on identification, causes, prevention and treatments. Working closely with the UK’s National Bee Unit and honey bee researchers, the magazine updates the evidence and prevalence of the diseases and pests throughout the country. With book and equipment reviews, all the latest news and fun features, BeeCraft offers its readers a perspective on the impact of bees in the environment and in society.

BeeCraft, published monthly, is a 48-page full-colour magazine supported by its website (www.bee-craft.com) and social media (@beecraftmag).





BeeCraft: discount scheme for BBVA members

WENDY DALE, ASSOCIATIONS LINK

We are delighted that the BBVA is looking to set up a bulk discount scheme for BeeCraft magazine. This is particularly exciting as BeeCraft received yet another medal at [Apimondia Congress 2022](#) confirming its place as the best UK beekeeping magazine. Do take a look on our website www.bee-craft.com and view a free copy.



The articles in BeeCraft are written by highly experienced and qualified beekeepers, providing essential reading and referral, all providing knowledge and background on the complexities of beekeeping and surrounding topics. This ensures you have the best understanding of bees, beekeeping, forage and the science behind it all.

Everyone concerned with bees, whether from a personal, environmental or beekeeping perspective, is keen to ensure they are given the correct information on caring for, or supporting, bees in the environment. BeeCraft is also conscious of the need to get this information at the best possible price.

In order to play a part in this journey BeeCraft's bulk subscription scheme provides ongoing benefits for those who subscribe through the scheme.

The BBVA will run the scheme and BeeCraft will support them by way of discounted subscriptions in print and/or digital formats or a mixture of both as required by the subscriber; discount on BeeCraft published books as an individual (or bigger discount if purchased by the scheme operators when 10 are purchased together). All print subscriptions include complimentary digital editions which can be accessed anywhere, anytime with internet access. Each subscriber has their own area within the BeeCraft website to store their digital copies with the ability to update their own details.

Importantly support will also be provided in the following ways, depending on which category applies:

- For members who run courses for new beekeepers within a beekeeping association or branch, BeeCraft will provide a free print copy plus three digital copies for every person on your new beekeeper courses.
- For training courses that are run by BBVA with a clinical emphasis BeeCraft will provide one print copy for each person attending.
- New members to BBVA, either as individuals or part of a group practice would receive the standard subscriber discount and benefits.

Existing members of BBVA who subscribe to BeeCraft independently can transfer to the scheme and all subscribers have their own area on BeeCraft's website to store and view their digital editions.

We would like as many members as possible to subscribe in order to maximise the benefits available and would encourage you to contact the team at contact@britishbeevets.com to express your interest and for further information.



Deciphering the waggle dance

CHRISTINE COULSTING, MASTER BEEKEEPER

One of the aspects of honey bees that makes them such good pollinators is their ability to communicate forage sources to other foragers.

A forager on returning to the hive will offload her cargo of nectar to the house bees for processing, then she goes to an area of comb 'the dance floor,' where she performs the waggle dance to communicate the location of the forage she has found to unemployed foragers.

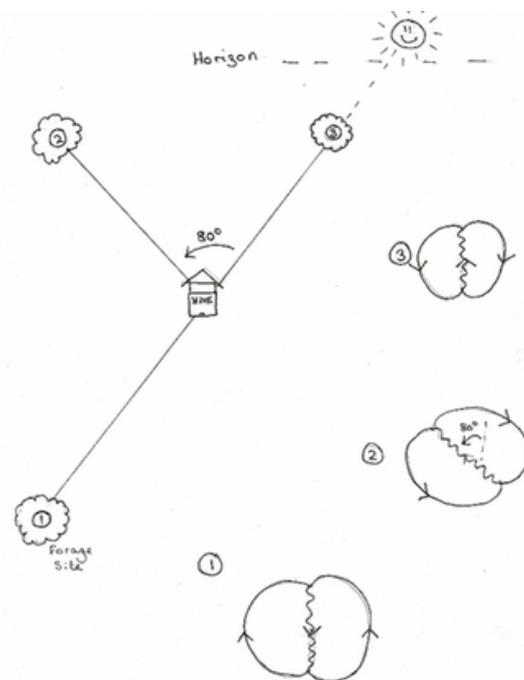
The dance consists of a central waggle section where the dancer moves her body from the head downwards, side to side as she moves in a straight line, buzzing as she waggles. She then circles back to the start and repeats the waggle in the same direction as before, alternating her return trip from one side to the other, forming a figure-of-eight pattern. Her dance will attract the foragers who follow her movements closely, feeling the vibrations through the comb. As she travels around on her return to the start of the next waggle she will stop and offers samples of the nectar she has collected to the followers and they will antennate her, picking up the scent of the forage source

The forager also indicates the distance, not as a unit of specific measurement but as the energy required to get to the forage source – the duration of each dance circuit lengthens to relay a longer distance. This duration is adjusted to account for a longer flight time if there is a head wind, or the route is uphill in the direction of the outward journey.

It's the waggle run that conveys the navigation information. The bees are good navigators, using the direction of the sun – they have an inbuilt clock and this enables them to understand how the sun processes across the sky. The dancer orients her waggle runs to indicate the direction to the forage source as an angle relative to the sun's direction. On the comb, the sun's current location is indicated by an upward vertical waggle run. Locations in other directions are indicated as an angle relative to this. Hence, a forage source located at 80 degrees to the west of the sun's position would be indicated by a waggle run angled at 80 degrees to the left of vertical on the comb.

The Waggle dance

- Vertical line = sun position
- Direction of waggle – angle off vertical = angle off current sun position.
- Length/no of waggle = energy expended
- Samples of nectar shared



Von Frisch carried out extensive research and established that even when the forage source cannot be accessed in a direct line eg it is round the other side of a mountain side – the direction indicated is the direct line, although the distance is the actual flight time.

Having followed the dance, foragers head out in the indicated direction and once in the vicinity of the forage will pick up the scent to home in on the forage location.



The bee bookshelf: Varroa management

JOHN HILL

The subtitle to Dr Kirsty Stainton's new book is "A practical guide on how to manage Varroa mites in honey bee colonies" and it does exactly what it says on the tin. The initial chapters cover the biology of Varroa and its effect on bees. This is done in straightforward language, a feature that is continued throughout the book.

The effect of Varroa on bees with the addition of viruses is explained clearly. Parasitic Mite Syndrome is illustrated with excellent photographs. Monitoring mite levels with daily drops, sugar roll and alcohol wash are described with the authors preference and recommendations. Drone cell uncapping is dealt with in detail.

The methods used to treat the bees are also covered in detail with excellent diagrams and step by step descriptions. Mode of action and efficacy are based on statistics from many scientific articles. Emphasis is given to correct time of year to treat and an appraisal of side effects and how best to limit them.

The photographs, diagrams and tables are very good quality. There is a table of all medications used in Europe against Varroa; some of these are not legal in this country, but it is important that beekeepers know to avoid them.

I would highly recommend this book as an easy to read and user friendly guide to treating bees for Varroa mites and a handy reference for future use. Varroa Management (2022) is published by [Northern Bee Books](#) (£16.95).

The British Bee Veterinary Association

The British Bee Veterinary Association (BBVA) was launched in 2015 in response to an increased demand for bee knowledge and expertise within the veterinary profession. We host multiple educational events each year and attend a number of veterinary conferences. The BBVA also runs the very successful [Bee-Friendly Practice Scheme](#).

For more information on membership or becoming a Bee-Friendly Practice, please visit: www.britishbeevets.com. All previous issues of [The Buzz](#) are available on the BBVA website.

Editor: Chris Palgrave

Chris is a beekeeper and veterinary surgeon living with his family in the Exe Valley in Devon. He is a member of [Tiverton Beekeepers](#) and [Exeter Beekeepers](#) and writes regularly for the veterinary and beekeeping press, including a monthly column in [BeeCraft](#) magazine. Please send any comments, suggestions or contributions to buzz@britishbeevets.com.

