

BBKA News

The newsletter of The British Beekeepers' Association,
incorporating the **BRITISH BEE JOURNAL**



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National Honey Show 2012



Some of the many competitive honey classes. Photos by Roger Cullum-Kenyon.

Despite the cold and blustery weather for this year's National Honey Show, there was an impressive turnout of intrepid, cheerful beekeepers, packing the lectures and workshops, catching up with a year's worth of news with their fellow beekeepers from all over the world.

Dr Marla Spivak talked about her work at the University of Minnesota, Dr Saad Masry talked about beekeeping in ancient and modern in Egypt, and there were lectures from Mark Greco, Keith Delaplane and Margaret Couvillon. In addition to this programme of lectures from eminent bee scientists there was a parallel series of lectures on the Friday, making the choice between all the riveting lectures, workshops, socialising and the trade hall even more challenging this year.

In view of the wet and miserable season for bees, beekeepers and honey production, there was an amazing display of entries into the competitive honey classes. It was delightful to see the Beavers (Scouts) arrive to receive their prize for their superb entry into the 'Any Artistic, Decorative, Interesting

or Instructive Exhibit relating to Bees or Beekeeping' class. Well done to them!



*Kai Wiggins and Jake Brennan from the 23rd Croydon Beaver Colony.
Photo by Steve Turner.*

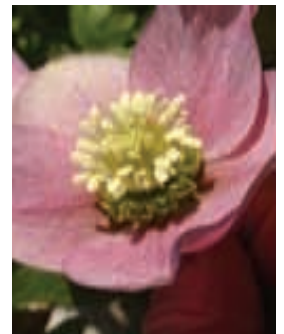
We look forward to seeing you all again next year, when we have more events planned. Though not perfect, St George's College Weybridge is a hard venue to better, so put 24, 25 and 26 October 2013 in your diary for the 82nd National Honey Show.

Val Rhenius,
Publicity Secretary, National Honey Show



Treating Colonies with Oxalic Acid

To find out when and how you should use oxalic acid to rid your bees of varroa see page 5.



Flower Power

Learn which bee-friendly, nectar-producing plants are in season in our new series, which starts on page 9.



The Wildlife Incident Investigation Scheme

What should you do if you suspect your bees have been poisoned? Turn to page 24 for guidance.





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Chairman's Letter



At the time of writing, in mid-November, winter has not started and bees are still managing to forage on ivy for short periods of time, helping augment their winter stores. Predictions are for dire losses of colonies over the winter because the poor summer of 2012 hindered the bees' ability to not only build up sufficient winter stores, but also to produce well nourished overwintering bees. Also, the consequences of poor mating during last year resulted in queens fast becoming drone layers. So please give your bees more attention over this winter and be prepared to help them; have the fondant ready to hand.

We are carrying out our winter loss survey again this year so please remember to note the number of colonies you had on 1 October 2012 and again on 31 March 2013. Then you will be ready to complete a survey form if you are one of the BBKA members selected by the randomised survey selection process.

Beekeepers by nature are optimistic and no matter how well or badly our colonies survive the winter we must nurture and develop the resources available to us. So colony multiplication and queen raising are key skills we need to acquire and practice. I hope member associations will take this on board and develop training sessions to help members build up healthy colonies. There are still plenty of long winter days before we see the first signs of spring and our bees becoming more active. Time for us to plan our beekeeping season: what would we like to achieve during the next season, and then set about planning and preparing for it. Next year we may see a reduction in the number of new beekeepers. However, the honey bee still continues to have huge public support and we should work with this support to help honey bees and beekeepers.

The landscape in which our bees try to survive continues to undergo substantial changes and it will be interesting to see the outcome of the current negotiations taking place in the Common Agricultural Policy for the period 2014 to 2020. Insect pollinators, including bees, appear to be featuring in the proposed changes and so perhaps the chances of our bees being able to survive in agricultural landscapes will be improved.

Keep reading *BBKA News* to find out more about our training and education initiatives for 2013 where the BBKA will be working with member associations to optimise the use of available resources, and from which you can benefit. For those with longer beekeeping experience please think about ways in which you can help beginners and those with a little more experience to improve their skills and enjoy their beekeeping if you are not already doing so.

I wish you all a happy and rewarding beekeeping year.

David Aston, BBKA Chairman

Cover photos: Main images: Roger Cullum-Kenyon and Steve Turner; Top right: Dr Ivor Davis; Middle: Dr Sally Bucknall; Bottom: Courtesy of the National Bee Unit at Fera.

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In the Apiary

During the winter our bees will have survived by clustering tightly around their stores. The lower the temperature the more tightly they will cluster and the more quickly they will use the stores. Without brood the temperature of the centre of the cluster will be at about 20°C, but the bees on the outside will be much colder. They will spread their wings and tuck their heads inside to form a thick insulating and protective layer which retains the heat inside the cluster. These outer bees must keep their temperature at or above 8°C or they will fall off the cluster and die. The colony should gradually move so that it remains in contact with the stores.

At this time in early January the bees will still be clustered, but the queen may already have started laying. The area of brood will be small, maybe only the size of the palm of your hand, but nevertheless there may be brood. This is important for several reasons. The bees must now raise the nest temperature from 20°C to 34.5°C, or very close, if the brood is to survive. They do this by eating their honey stores to produce energy and by vibrating the large flight muscles in their thorax to produce heat. This is the danger time and it is therefore important that they have sufficient stores. It is the reason that beekeepers say that spring feeding is done in the autumn.

Now is a good time to heft the hive and check that it feels heavy enough. Compare it with how it felt in the autumn. If it feels light or if you suspect the bees may have used up most of their stores then they will need feeding. It is too cold to feed sugar syrup as the bees will not break their cluster and come up to a feeder. The best option is to place a slice of fondant or candy directly on the top bars of the brood nest. Cover it with cling film to stop it drying out. It must be done quickly and without disturbing the cluster as the bees can chill very easily.

Fondant icing can be bought readily but for those who wish to make their own this is the recipe we use in Lancashire:

Proportions by volume: 5 parts sugar to 1 part water.

Boil for about three minutes and cool the container in a sink of cold water, stirring until the mixture thickens and whitens. Pour into suitable containers, leave to cool and slice.

Some beekeepers are tempted to feed honey but, unless it is your own honey, this is risky. Some imported honey contains spores of American foul brood and these can readily infect your colony.

During the winter when there is little if any brood the varroa mites can survive on adult bees, but as soon as the queen starts laying they will enter the brood, just before capping and start reproducing. It is important that the mites are knocked down before this happens as they will build up very quickly and affect the young bees which are so important for the colony to build up during the spring. If you have not already treated the colony with oxalic acid now is the time to do so. The earlier this is done the better, as ideally there should be no brood present.

Oxalic acid can be ordered from the suppliers ready mixed and is applied at a dose of 5ml per seam of bees. Choose a



Winter in the apiary. Bees will be safely clustered within their hives at this time of the year, but remember to check that they have sufficient stores to ensure their survival during the cold winter months. If the hive feels light when you heft it the bees may benefit from feeding fondant or candy placed directly on the top bars of the brood nest and covered with cling film so that it does not dry out. Photo by David Wootton.

relatively warm, clear day and work quickly so as not to disturb the colony.

Early pollen is also important because without it nurse bees cannot produce brood food for young larvae. In most parts of the country there is usually sufficient pollen, but it is definitely worth planting crocus, snowdrops, hazel or other sources of spring pollen near to the apiary to increase the supply next year.

While you are at the hive check that the entrance is not blocked. Some of the old winter bees will have died and could well be causing a blockage. It is important that the bees are able to make cleansing flights and forage for pollen on mild, sunny days.

It is also very pleasant to sit at home and read your books because we should all aim to improve our knowledge and understanding of our bees.

Margaret Murdin,
Ormskirk and Croston BKA

Treating Colonies with Oxalic Acid

Treating with oxalic acid

Oxalic acid has been shown to be very effective in the treatment of varroa infestations. When used correctly and at the right time a treatment can remove over 90% of mites in a colony. This article is a practical guide on when and how to use oxalic acid, based on experience over about ten years. The suppliers of oxalic acid provide two methods of application; an evaporation technique and a 'trickling' technique. I have used both and, while there are distinct advantages to the evaporation method, I have abandoned the approach on the basis of safety and time consuming complexity. Oxalic acid is a dangerous chemical and should one breathe in a vapour from the evaporator it can do a lot of damage to the lungs. For this reason I will only consider the 'trickling' method.

Supply

Oxalic acid can be brought from most of the larger beekeeping suppliers. There are many proprietary supplies available and it is advisable to buy a kit or ready made solution rather than try to make your own solution using an available formula. We sometimes hear of nurses and doctors who administer the wrong doses of medicine in hospital and it is easy for amateurs to make a mistake that could kill the bees or be totally ineffective.

Timing

Oxalic acid will kill varroa mites providing they are not hidden in a sealed cell feeding off a larva. Mites spend some of their life in the reproductive state in a sealed larval cell and the rest in the phoretic stage on adult bees. In winter when there are not many larvae the mites spend more time on adult bees and during a broodless period all the mites will be on adult bees. This is the time to treat with oxalic acid.

The problem is identifying when the colony will be broodless. One way is to watch the weather. Most colonies will stop raising brood once the highest temperature in a day remains below 5°C. Should the temperature stay like this for three weeks then it is safe to assume that the colony will be broodless. In the north and east of the UK this happens regularly at some point in winter, but in the south and west conditions may not stay like this for that length of time. The advice is to wait for a really cold snap between the end of November and the end of January. When the cold snap comes to an end the queen might start to lay again and you will have about ten days before the new brood starts to get sealed. This is the window in which to treat. I live in the south west and have often waited until mid January before applying oxalic acid.

Is it necessary?

Fera states that if the colony only has a low infestation of varroa, that is less than eight mites drop per day in October, it is probably not necessary to treat with oxalic acid. While supporting this

advice, I feel that early spring is a critical time for our colonies and every assistance should be given to the winter bees to raise healthy brood. To that extent it is helpful to remove as many varroa mites as possible before early spring, and oxalic acid can be very effective in doing this.



Top: Oxalic acid for varroa management;
Bottom: Application of oxalic acid to frames.
Photos by Dr Ivor Davis.



Treatment

The 'trickling' method requires that 5ml of the oxalic acid solution is dribbled over the bees in each seam where bees can be seen. A seam is the gap between two brood frames. To see if there are any bees in the seam it is necessary to look straight down as the bees may not be at the top of the seam.

It is better if treatment is done on a warm and calm day. There are a few of these in winter and under these conditions the cluster of bees will have started to break up and the bees are more likely to be moving freely. These are the conditions when oxalic acid is more effective. The solutions are toxic and corrosive so it is important to be covered when handling the solutions. We should be wearing our bee suits and gloves (nitrile or rubber washing-up type) and your eyes should be covered with glasses or goggles in case of splashes.

Depending on the proprietary solution, it may be necessary to mix a pot of liquid with the oxalic acid dissolved in water with a pack of sugar supplied as part of the kit, or the solution may be ready prepared. Sugar in the presence of oxalic acid will change slowly into more complex sugars that are toxic to bees. Any ready made solution or solution you make to treat the bees should, therefore, be disposed of after treatment and not stored for another year.

Once the solution has been prepared the only additional equipment needed to treat the bees will be a 50ml syringe, a smoker and a hive tool. If you can get a beekeeping buddy to help the job is much easier and quicker. If you have never used a 50ml syringe before, it is best to practice

by filling it up with water and then gently pressing the plunger to 'dribble' 5ml out at a time. It is quite simple and you will soon learn what 5ml looks like.

Approach the hive and gently remove the roof. If there are supers on the hive, remove these and place the crown board back over the brood frames. With help this can be done very quickly and with minimal disturbance to the bees. Prepare the syringe by drawing up 50ml of the oxalic acid solution into the syringe. Ask

your buddy to have the smoker ready and remove the crown board. Look straight down on the frames and determine how many and where there are seams with bees. Quickly apply 5ml to each seam and then reassemble the hive. With a hive that has no supers, the whole process can be done in less than thirty seconds and causes minimal disturbance to the bees.

Aftercare

Generally there should be no aftercare and certainly the treatment should not be done twice. Remember the solution is corrosive. While, when applied properly it appears to do little harm to the colony, every bee will have some acid on it and will probably digest some of it. This can damage the plumose hairs and sensory organs of the bees and can damage their digestive tracts. The solutions have been formulated to minimise the effects on bees while maximising the effects on varroa mites but still need to be used with respect and according to the labels, where they are available.

Legality

At the present time, there are no approved medicines available for oxalic acid treatment in the UK although there are some approved in other parts of Europe. We are fortunate in having a Veterinary Medicines Directorate that understand the problems we have controlling varroa and, until a medicine becomes available, do not appear to stop beekeepers using products available in Europe. So long as we are responsible and use properly formulated products according to the labels I hope this will continue. It is probable that one or even two oxalic acid treatments will be approved in the UK in 2013 and we will again be able to comply with the law.

Dr Ivor Davis, NDB

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Feeding Pollen and Substitutes

Bees require pollen as part of their diet. Brood food is made up of nectar or honey, pollen and water. If any of these are not available or in short supply then brood production reduces or in extreme cases ceases. If you consider your apiary site does not have an adequate natural resource or if you wish to induce brood production early in the season this sheet gives guidance on feeding pollen or substitutes.

Pollen

The best way to guarantee that honey bees have enough pollen is to ensure there are adequate and suitable pollen-bearing plants close to the bees. Assessing the plants around apiary sites is important to ensure plenty of pollens are available through the season.

- ❑ Do not forget that adequate pollen stores are very important. Pollen tends not to be stored in abundance, but rather collected as required.
- ❑ Do not assume that there is enough pollen in the colonies as shortages are common especially in early spring. If you find it is insufficient then feed a pollen substitute, pollen patty or pollen collected during the previous season.

Pollen can transmit bee disease so only collect it from a strong and healthy colony using a suitable pollen trap. There are many types of traps and they trap up to 20% of the pollen collected by the bees. They can be left on the hive for long periods but are best used when there is a plentiful and varied pollen supply. Collecting pollen during the swarming season has been shown to reduce the incidence of swarms. The pollen must be collected regularly to avoid it becoming damp. Entrance traps should be emptied at least every 24 hours but floor traps can be left up to 72 hours.

- ❑ Pollen collected from one hive will be adequate to feed at least fifty hives.
- ❑ Avoid using other beekeepers' pollen.
- ❑ Pollen can be stored in a number of ways but the easiest is to put it into paper or plastic bags and store it in a deep freeze at -18°C. When defrosted use immediately.
- ❑ Fresh or freshly thawed pollen can be fed to a colony by placing it in a shallow dish close to the feed hole.

Pollen substitutes

Pollen substitutes can be purchased from a suitable commercial source and when feeding substitutes always follow the supplier's recommendations.

If you cannot source a pollen substitute it can be made up by mixing three parts (by weight) soybean flour, one part dried brewer's yeast and one part dry skimmed milk. Next, prepare a solution of two parts by volume of sugar to one part hot water. Let the solution cool and mix one litre of this solution with 400 grams of the pollen substitute. Form it into a cake and wrap in greaseproof paper. If necessary they can be stored in a freezer. When using cut a small hole in the paper and place the package hole side down on the top bars over the cluster and preferably

over open brood. The bees will tear the paper away and feed on the cake. It is important that the cake remains moist or bees will ignore it, so maintain the paper cover over the top.

The amount fed is variable depending on the strength of the colony and external conditions. A small colony on three frames may only need 50 grams per week while a very strong colony may require 500 grams.

- ❑ Maintain feeding substitutes until there is an adequate natural pollen crop as it may be detrimental to the colonies' development to stop beforehand. This is because brood food production may be affected leading to starvation of the larvae.
- ❑ Homemade pollen substitutes can be very variable in nutritional value due to the different ingredient brands. Generally it is better to obtain a commercial honey bee pollen substitute as the quality is assured.
- ❑ Pollen substitutes must not be used if the colony is starving or has supers on it or honey for human consumption in or on it.
- ❑ If you find pollen is regularly insufficient in hives then a re-assessment of the apiary site should take place.
- ❑ Knowledge of feeding bees pollen substitutes is not as strong as with other feeds. You may wish to make comparisons between substitute fed and unfed colonies to find out if it is beneficial and which substitutes are best.

National Bee Unit,
Best Practice Guideline



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(Ad October 2011)

Flower Power

At the start of every year, in a cyclical and ordered way, the first plants push up through cold soil; hungry bumblebee queens emerge and seek the flowers of the first plants and on warm days honey bees and the earliest butterflies may be seen. In 1736 a man called Robert Marsham began to record the dates on which he saw these first signs of nature, he called them 'Indications of Spring'. He continued this dedicated work until his death in 1798. The detailed yearly notes he made enabled him to compare various events from year to year and record the differences. This rather eccentric hobby later became an important scientific practice that is now called phenology (See: www.naturescalendar.org.uk).

In 1875 The Royal Meteorological Society established a record network system which published annual reports of wildlife sightings until 1948. However, many individual naturalists continued to keep records and in 1998 the UK Phenology Network was resurrected at the Centre for Ecology and Hydrology in Cambridge. Currently there are around 50,000 people in the UK involved in what is now called Nature's Calendar Survey.

Phenology can unravel the web of biological interactions making it possible to provide more accurate predictions of the future including the likely effects of climate change. As beekeepers we are interested in these data and the trends that are recorded in the surveys; we watch for the emergence of bumblebees and we look forward to the sunny days on which the first of our honey bees leave the hive on defaecation flights or scouting for forage and water. An understanding of the trends can help us to know when to look for them. We are also interested in the timing of the appearance and growth of forage plants to provide early pollen and nectar to feed the growing brood. Timing is important to the beekeeper and to the bees; if the sequence of early forage-yielding flowers is delayed because of bad weather honey bees will not emerge and growing larvae will be fed from the stores in the fat bodies of overwintering worker bees. Usually this will keep the brood fed until the weather improves and fresh pollen is available.

It is difficult to write about what forage sources are available to honey bees in the early months as the temperature in the south of the UK may be several degrees higher than further north. Spring usually reaches the south days if not weeks before its signs are seen in the north, so readers should take this into account when reading this article.

In a mild January, and if the weather is warm enough for the

bees to fly, alder can be a good early pollen source produced from bright red catkins, a cheerful sight for the beekeeper on a dark January day. Alder grows near water, or on poor quality soils and

old industrial sites, helped by its ability to draw nitrogen from the air through nitrogen fixing bacteria found in nodules on its roots using the same mechanism as members of the pea family (Fabaceae). Hazel pollen is also sought out by early flying honey bees; they work its golden yellow catkins, also called lambs tails, for pollen. They are a hopeful sign of the coming spring; the pollen is prolific and disperses in clouds of powdery pale yellow dust as its branches are blown in the wind.

A number of herbaceous plants can usually be relied on for forage in January depending on the geographical location and weather. Perhaps the most welcome to gardeners is the snowdrop, *Galanthus nivalis*, which will push up and flower through the snow. Some species appear around Christmas. Throughout January other species and varieties follow, usually not flowering until the beginning of March.

Hellebores are important plants for bees. Flowering from December to March the Christmas rose, *Heleborus niger*, with its sturdy white bracts, which look like petals, can provide white pollen and nectar. Borne in modified sepals beneath the bracts this is available for bees if the weather is warm enough for them to fly. The winter aconite belongs in the same family (Ranunculaceae) and provides both pollen and nectar from January to March.

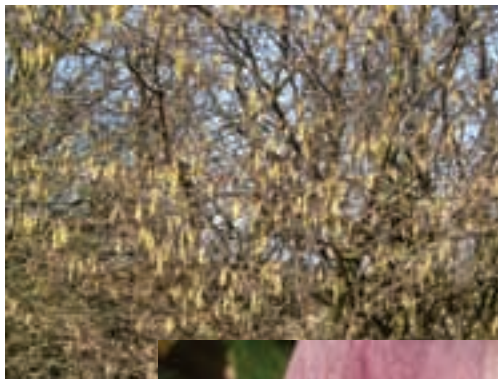
Other useful evergreen herbaceous plants include species and varieties of mahonia, flowering from November until April, and viburnum, most of which bear scented flowers to attract bees between November and February. *Garrya elliptica* with

its sage coloured catkins is an interesting addition to this list as it has both male and female forms, and Christmas or winter box, *Sarcococca hookeriana* var. *digyna*, is also a good plant for your garden. It bears tiny, heavenly scented, white flowers for several months followed by shiny black berries.

Dr Sally Bucknall



Top: Winter aconite; Above: Snowdrop; Below: Garrya and Bottom: Hellebore. Photos by Sally Bucknall.



Skep Beekeeping and Developing Best Practice

In earlier articles of this series we have 'looked to the past to look to the future' and explored the resurgence, resources and traditions of skep beekeeping. Now, understanding the development of best practice is demanded of us. Quality beekeeping entails social responsibilities, etiquette and community-mindedness; the practice of skep beekeeping accentuates these values.

Skep beekeeping may or may not be something you would ever contemplate exploring. As earlier articles in this mini-series have outlined, the advantages of skep beekeeping are many. However, the way in which you approach the fewer, but major disadvantages is crucial. The most significant problem to tackle is the difficulty in inspecting the fixed comb, and perhaps a minor complication is the honey/wax harvest. Before I write about these, let us first begin with the basics.

Siting an apiary

When choosing a site for skeps, in addition to all the usual considerations including whether you will house them under straw hackles; inside bee boles; enclosed in a bee house or on shelves in a shelter, it is proximity to the public that is of greater importance, especially if you adopt a swarming system of management. Swarm control systems do exist for skeps and it is wise to site them as if you were using a swarm management system. This is because your style of management may change with time and you may not always anticipate swarming. Due to the restricted access to viewing brood comb and because queen cells may not always be apparent, one may wish to develop a greater awareness and sensitivity to the behaviour of the colony to help assess when a colony is likely to swarm. This skill will take some time to hone. Swarming bees are commonly good tempered, but however educational and fascinating they may be to some, the sound, sight and energy of swarming bees may provoke fear and alarm in others. Swarms may become aggressive if they have been hanging around for a while due to bad weather and if their honey stomach reserves become depleted. We might say that as life is better on a full stomach and skeps are more sensitively situated away from people and animals. Lure hives or skeps may be reassuring and it is good practice to house swarms of unknown origin in an out-apiary.

Looking back through time, skeppists and cottage beekeepers, or one of their family or colleagues, were generally around to hear or see a swarm, settle them or raise the alarm. Today's broad-horizoned, less sedentary lifestyle means that one is often far from home even if you keep your bees there. This can create a potentially problematic situation: you have conscientiously sited your skep apiary a good distance from the public and perhaps your home, but you have settled into a system of management that



Above: Large capacity wicker skep.

Below: Large capacity wicker skep 'C  alveary.

All photos by Chris Park.



allows your bees to swarm (ensuring natural re-queening, vibrant bees and an effective form of varroa control). You lose many swarms and then what? The majority of us simply will not have the time or will to bother with swarming skeps. There may be some natural beekeepers who might consider these colonies as semi-wild, and be happy that they might be providing the world with healthy, happy bees that have been chemical free and developed hygienic behaviour. There will not be many unshackled, extraordinary individuals who experience a spiritual epiphany and feel that the soul of skep beekeeping is luring one's stressed-out, thinly spread, disconnected, highly mechanised beekeeper back 'home' to a simpler, deeper, more sustainable and healthier relationship with all that resides within their horizon.

Fundamentally, if you mind about losing the odd swarm you will need to give proper consideration to siting your skeps close to home, but away from those who may be alarmed by swarms. This will be fairly simple if you live in a rural area, not so easy if living in a suburban area and difficult if in an urban environment.

The capacity of a skep has varied historically from as little as 18 litres to as much as 50 litres. The skeppists who preferred to keep bees in small skeps certainly enjoyed an early swarming system.

Even those who preferred big skeps still sang the praises of allowing bees to swarm. Pettigrew finishes his chapter on swarming and non-swarming systems in *The Handy Book of Bees*, with the summary: 'we greatly prefer the swarming mode of management. Hives that do not swarm are often affected and made useless by that terrible and incurable disease of 'foul brood''. He also gives several accounts of hives that had been left to swarm naturally reaching a greater weight than those that had not by harvest time.

Healthy bees

How does one aspire to keep healthy bees in skeps or other fixed comb habitats that are not easily inspected? Once a suitable site for your skep is decided upon, be it a bole in your garden wall or a shelter at a club apiary, the next responsible decision to make is how to stock it. Throwing a swarm of bees into a basket and letting them get on with it could be considered as irresponsible, yet one

might point out that wild colonies of honey bees manage themselves and no one is responsible for them. A colony in an old stone farmhouse wall can yearly send out large healthy swarms of little black native bees from their undisturbed strongholds. However, it is possible that such a wild colony may have collapsed a few times, the hive might have been reoccupied several times over many years and the present colony may be living with a disease. On the other side of the coin that colony might have been keeping at bay, or living with, many of the pests and diseases that conventional beekeepers work so hard to eradicate. This illustrates that



Large wicker skep, cloomed.

the provenance of swarms is most important. Needless to say, the most reliable of healthy swarms is from your own stock, assuming your own stock is healthy. You may of course know of the 'bee whisperers' among us; those who can lovingly turn around a dwindling or bad tempered colony through their care and the spirit with which it is administered ... enhanced by a well-tended environment and the quality of forage. However, this may not be

help to improve your understanding and appreciation of honey bees and their behaviour, and perhaps improve your beekeeping. It will also be reassuring for a bee inspector if you keep one or two colonies on moveable frame hives in the same apiary, as a kind of control. There is no guarantee that they will contract a disease before a neighbouring skep, but the possibility of exposure to disease is greater. It may be the case that beekeepers are the cause of the spread of many pathogens through bad practice, but it is also possible that one little bee may one day alight herself upon a piece of toast within foraging distance that is spread with non-EEC honey that may contain pathogens of a foul brood. Hence, it is a good idea not to site a skep or any other kind of fixed comb hive within foraging distance of a wholesale honey supplier. These are all important considerations. Next month's article will begin to look at perhaps the most significant issue to tackle: inspection.

Chris Park,
Wiltshire BKA

Chris Park lives on the Oxfordshire/Wiltshire border and runs monthly skep making and skep beekeeping courses and visits bee clubs demonstrating and lecturing on the heritage of honey. For more information visit www.acorneducation.com



Skep stand with a mesh floor.

your calling, and those within your 'honey bee horizon' may not appreciate you siting colonies of unknown origin nearby. In a nutshell, a swarm of certain and healthy provenance or a shook swarm from a good colony is a perfect way to stock a skep.

It would be polite to inform your local club and neighbouring beekeepers of your skep or skep apiary. They can be a fascinating addition to an apiary safari. I am assuming that most of the folk that read this publication are experienced in and aware of the intricacies of keeping bees in moveable frame hives. If you are not, then it would be wise to understand the way bees are predominantly kept at this present time and to understand the varying crafts of your contemporaries. To visually and experientially learn from keeping one or two easily inspected colonies can only




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Bees Throughout The Ages

Introduction

In this five-part series of articles we will take a journey through time looking at the significance of bees throughout history from different perspectives. We will start by looking at the origins of bees, exploring our scientific understanding of when bees first emerged in history and how they have changed over time. In particular, we will see how certain species became extinct due to climatic changes leading to the emergence of the modern day western honey bee, *Apis mellifera*.

From early civilisations we will learn about the evidence of honey hunting skills from rock art in Spain, India and Africa. We will also look at different mythological representations of the bee. In the next article we will explore the fascinating roles of bees in Ancient Egypt, as well as their Greek and Roman history.

Bees played an incredibly important role in Egyptian history not only being kept at home, with written beekeeping activity in existence from as early as 2422BC, but also having a major symbolic role. We will see how bees were kept in upturned straw baskets, the discovery of golden bees in the tomb of Childeric, and how, even after 5,000 years honey in tombs is still edible!

In Greek History, we will discover the role of Aristaeus who was the patron god of beekeeping as well as of hunting and husbandry. We will also find out about Aristotle's observations about bees. Then we will learn about beekeeping and the qualities of bees as mentioned by Roman writers such as Vergil (Publius Vergilius Maro was an ancient Roman poet).

In the fourth article we will look at role of bees in different religions. In particular, we will focus on scriptural references from the monotheistic faiths of Judaism, Christianity and Islam. We will look at the numerous mentions of bees and honey in *The Bible* such as: 'My son, eat honey, for it is good, and the dripping of the honeycomb are sweet to your taste' Proverbs 24:13 (English Standard Version). We will discover that in *The Qur'an* an entire chapter is called 'The Bee' which mentions that '... your Lord inspired the bee, saying 'Build yourselves houses in the mountains and trees and what people construct. Then feed on all kinds of fruit and follow the ways made easy for you by your Lord.' From their bellies comes a drink of different colours in which there is healing for people. There truly is a sign in this for those who think.' The Bee 16:68. We will also look at the role of bees in other religions.

In the final article in the series, we will look at bees in the modern world. Starting from the 17th century with the spread of bees across the world, aided by human migration. In the 19th century we will learn about the invention of the smoker and moveable frames with foundation. We will finish in the 21st century looking at the role of bees today and our vital role in securing their future.

The origin of bees

Bees have an extraordinary history and have changed considerably over time resulting in the bees we see today. Bees first appeared during the Cretaceous period, 130 million years ago. During this time the first fossils of many flowering plants, insect groups, birds and early mammals were found. The earliest recorded bee was

found in Myanmar, where it was encased in amber, dating approximately 100 million years old.

In this early stage it is thought that bees were in fact predatory, eating other insects for survival rather than seeking nectar and pollen. At this time they were part of the wasp family, namely, Crabronidae. They were also solitary, non-social insects.

120 million years ago specific morphological changes occurred including longer tongues, pollen baskets and increased 'fuzziness'. These changes resulted in the improved ability of bees to collect pollen and nectar resulting in the transition from insect-based prey to a vegetarian diet.

In the Oligocene-Miocene period, some 35–40 million years ago, temperatures cooled at a time when the European honey bee became extinct. However, the Indo-European honey bee was able to survive and develop. Around six million years ago the bees which were able to form cavity nests, spread east and northwards.

In the Pleistocene period, two to three million years ago, the warming allowed bees to spread westwards into Europe and Africa. Inhabiting vast areas of very different climatic conditions from hot summers to dry winters, desert and tropical environments allowed different subspecies to emerge.

Today, in total, there are seven established species of honey bee with 44 subspecies. Considering there are approximately 20,000 species of bees in total, the honey bee forms a surprisingly small fraction. In fact, honey bees are the only surviving members of the tribe Apini which is part of the Apidae family.

The single genus of honey bee, *Apis*, is split into three branches of subspecies depending on how the bees nest. These are the cavity nesting honey bees (including *Apis cerana*, *Apis koschevnikovi*, and *Apis mellifera*), the open nesting honey bees (*Apis dorsata* and *Apis laboriosa*), and the single-combed honey bees (*Apis andreniformis* and *Apis florea*).

Apis mellifera is the main truly 'domesticated' species of bee, which has moved beyond its native range from at least the time of the Egyptian pyramids. And so in the next part of this series we will explore the remarkable role of bees in Egyptian life from how they were kept by ordinary civilians to the discovery of golden bees in the tombs of Kings.



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Taking Advanced Husbandry

In 2011 I was steadily working through my modules when I decided it was time to tackle the General Husbandry. I passed it, so in February 2011, with June seeming years away I entered for my Advanced Husbandry Assessment. I had looked at the syllabus and it seemed quite daunting ... but June seemed years away. Still, I decided that I had better prepare. The Advanced Husbandry Assessment is in five parts, and you have to pass all five in order to gain the certificate. The parts are:

- ❑ Bee handling and manipulation.
- ❑ Microscopy and dissection for acarine and nosema.
- ❑ Queen rearing ... grafting and a question and answer session.
- ❑ A fifteen minute presentation on a given topic plus five minutes of questions.
- ❑ A viva voce on any topics from the syllabus.

At the Spring Convention I attended the Advanced Husbandry session on the Sunday. John Hendrie, the Assistant Moderator, went through the syllabus, explained exactly what would be expected on the day and answered our questions. He told us to download the syllabus and stressed that the Moderator, Margaret Thomas, said we had to read it carefully. I went home and read it carefully.

There was clearly a lot of work to do. The syllabus for the viva was several pages long, but fitted well with the syllabi for modules 1, 2, 3 and 7, so I dug out my old exam notes. I started at the beginning of the syllabus and worked steadily through over the months before the assessment. I wanted to be as sure as I could that I would be able to answer any question they came up with. I took module 7 in March so that also helped.

I felt confident about the microscopy. I had attended several of John Charlton's courses in Manchester and Graham Royle's short NDB course. I also did acarine and nosema dissections for my own bees and had done them for the branch. Just to be sure though, I asked Graham Royle if he would help me. He kindly agreed to go through setting up the microscope and to give me some bees to test for acarine and nosema. What I found, of course, was that what I could do in a relaxed situation at home I certainly could not do under pressure. I went home, collected thirty bees and practised.

The syllabus states that candidates will be expected to set up their microscopes, explain all the parts and their function and carry out dissection for acarine and nosema. So, every day I set up my stereo microscope and practised taking the collar off and looking for acarine. I did about twenty bees each day for the month before the assessment. I had to know that I could set the microscope up and carry out the dissections when I was tired, stressed and under pressure, in other words under exam conditions. I then set up my compound microscope and carried out the test for nosema. I put the microscopes out of focus and put them away. I rang John Charlton in Manchester and asked if I could come over and practise my acarine dissection. He agreed and showed me an easier way to remove the collar. I felt as if I was 'getting there'.

When you enter for the Advanced Husbandry, Val Francis, the Exam Board Secretary, gives you a choice of two topics for your fifteen minute presentation. Mine were 'Sterilisation of the Comb', or 'The Effects of the Sting and Suitable First Aid Treatment.' I choose the sting. It did not have to be PowerPoint, but I guessed

that most people would use it so I would do the same. The problem was that I was not very good at PowerPoint so I had a steep learning curve. One of our branch members, Brian Foster, gave me a few lessons and I managed to write my talk.

I contacted Geoff Critchley in North Wales and asked him if he would prepare a one day course to prepare me (and another beekeeper in the area) for the Advanced Husbandry. Geoff decided that he would do a mock assessment. He arranged a session in the local village hall and invited a group of local Clwyd beekeepers to listen to our talks and ask us awkward questions. They were great and their feedback was really helpful. As a result, and with Geoff's advice I rewrote some of the talk and improved my PowerPoint skills. Geoff also took us to one of his apiaries and gave us some handling tasks. We examined colonies; we made up nucs; we marked queens and we did artificial swarms. We practised whatever was in the syllabus and we were doing it with bees we had never seen before.

We then tried grafting for queen rearing. Now, at home I graft; at home I have no problem grafting but I now know that, just like microscopy, grafting to order and under pressure is another matter. I would have to improve and speed up. Finally Geoff asked us some 'hard' questions. It was a long but rewarding day and I had learned a lot. I needed to improve my grafting. So every two days I took a suitable frame of young larvae from one of my hives and grafted. I used one side on one day, put the frame in the 'fridge' and used the other side on day two. Then I returned the frame and got one from another colony. I was not sure what I would have to graft into or onto ... cell cups, microscope slides, cover slips ... so I did them all. I grafted at least twenty larvae every day for about three weeks. I persevered until I could graft one day old larvae to order. And all the time I was revising for the viva.

I found it quite difficult to prepare for the bee handling and manipulation but the syllabus sets out clearly a number of tasks that you can be asked to do. So I practised. I made up nucs, I did artificial swarms and disease inspections, I combined colonies and pretended that they were aggressive. My queens are already clipped and marked so my poor drones had their wings clipped and their thoraces painted.

I eventually got the date for my assessment and realised that June was not years away but was upon me. I booked into a B&B near Stoneleigh, packed my car and set off. Needless to say I did not sleep, but was walking the floor at 3am telling myself that this is only a hobby.

It was raining on the Sunday morning and I was first with my presentation. John Hendrie put my memory stick into the computer and I was off. There were twelve to fifteen people in the audience; assessors, trainee assessors and some visitors. I was asked a few questions, not what I had expected but nothing too daunting. Next onto the apiary. There were no records. I was asked to find the queen, clip and mark her (at least go through the motions) and put her into a cage. Then carry out a disease inspection. There was an imaginary audience of twenty people some of whom were beginners.

I did my health and safety checks as these are specified in the syllabus. I checked that none of the imaginary people were allergic

to stings, that no one was asthmatic (or if they were did they have their inhaler with them), I put them in pairs and asked them to check that their partner was well zipped up. I checked my mobile for a signal and asked them to move well away from the front of the hive.

I was lucky, the rain had stopped. I marked and clipped a drone, I was well used to that, but I could not find the queen. I gave a running commentary for my audience and let them handle a drone. I explained what I was doing. Just as the rain started I did my disease inspection. It was soon over and with relief I moved on.

It was queen rearing next. I had to go into a different colony, find a suitable frame to graft from, take it inside and graft. I can only graft using a head magnifier and size 00 paintbrush so I had taken them with me.

I was asked to explain how I do my queen rearing, about starter and finisher colonies, drone congregation areas and much more. I then had to graft three larvae of a suitable age into a cell bar with about ten cell cups. The first graft was a bit too old but the next three were fine. I took the frame back to the colony and moved on.

The viva. The assessor explained that he would be asking questions from his list, which looked very long to me. The questions were varied, some about disease, anatomy, bee handling, the properties of honey, the honey regulations and drone congregation areas. I was very glad that I had spent so long revising.

My final session was microscopy. I was asked to set up my microscopes and name and explain the parts of the compound microscope. I had to explain how the magnification worked and demonstrate the sub stage condenser. There were questions about microscopes in general and mine in particular. I had my thirty bees which I had killed the night before. I dissected for acarine. The collar came off and the dissection was good. The bee was clear. I removed the abdomens from six bees and made a slide for nosema. Under a magnification of 400 I found a few nosema spores but no amoebae.

I put the microscopes away and it was all over. I do not remember whether I was pleased, hungry, worried or just exhausted, or all of them. I drove home and could only remember my mistakes. I decided I had failed but that I would take it again next year.

About eight days later my letter came. I had passed. It took a lot of hard work and I had help from a number of people. The syllabus is long and daunting and it takes a lot of preparation. But it is not intended to be easy.

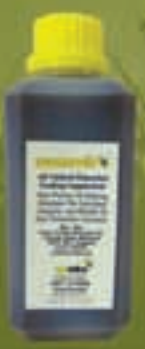
Just as I was leaving Geoff Critchley's house that day, Geoff's wife had said to me: 'Remember: fail to prepare, prepare to fail'. I remembered.

Margaret Murdin,
Ormskirk and Croston BKA



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University of Sussex Hygienic Bees Research Project Update

Since the last reports about our bee breeding programme at the Laboratory of Apiculture and Social Insects (LASI), University of Sussex,¹⁻³ much has been achieved. Readers may recall that the project began in the autumn of 2008 and it aims to selectively breed the dark European honey bee for tolerance to varroa. The

been evaluating these and other colonies headed by our queens throughout 2012, testing for hygienic behaviour as before, but we have also been monitoring temperament and mite infestation. Equipment has been purchased enabling us to carry out testing for hygienic behaviour in the field away from the laboratory.

varies throughout the season and what proportion of colonies show this desirable trait. In parallel, work was carried out focussing on the impact of various environmental conditions such as food availability and bee:brood ratio on the removal of dead brood.



Left to right: The LASI home apiary, August 2012; Luciano Scandian with some of his colonies; Testing colonies for hygienic behaviour using liquid nitrogen in the field.

As for most beekeepers in Britain, the exceptionally wet and cold 2012 season has been very frustrating for us, with queen rearing in particular proving very disappointing. Initially, we experienced serious problems with the acceptance of grafts by the bees. Later in the season, although queens appeared to have mated successfully

In a third project, we investigated the possible evolutionary costs that may be linked to hygienic behaviour. In particular, we examined the inadvertent removal of healthy brood across colonies showing various degrees of hygienic behaviour. The results will help us to better understand the underlying basis of this complex behaviour and will assist in streamlining the breeding process. Some results will have a more immediate and practical impact, so after analysing preliminary results we were able to select colonies from which to rear queens. These were then assessed for several desirable traits, including temperament and hygienic behaviour, with the goal of establishing several breeding lines.

In a related project, Hasan Al-Toufailia is studying the genetic and behavioural basis of differences between patriline (that is,

project has been funded by donations from Michael Chowen, from the Merrydown Trust, and from Rowse Honey Limited. The methods that we are using have been reported previously^{4,5} and the breeding work is being undertaken by Dr Karin Alton and Norman Carreck, together with Gianluigi Bigio, a PhD student funded by the BBKA since the spring of 2010. Gianluigi has been researching various aspects of bee breeding and queen rearing associated with the project.⁶ At the start of 2012 we were joined by Luciano Scandian, a local semi-commercial beekeeper, who is now our full-time Honey Bee Research Facilities Manager funded by the Esmée Fairbairn Foundation. In addition, Hasan Al-Toufailia, from Syria, who recently completed a Master's degree at LASI, has now begun a PhD on aspects of bee disease control, including hygienic behaviour.

Any bee breeding programme is open-ended. We have now, however, reached the stage of being able to evaluate the progress that we have made so far. In the autumn of 2011, a number of our reared queens were given to Luciano Scandian to see how they fared under his apiary conditions. We have

during brief periods of reasonable weather, we had unexpected problems with queen introduction. In addition, for the first time since establishing our apiaries at the university, we were forced to feed our bees in July to prevent starvation. Despite these practical difficulties, in the autumn we were able to pass a number of our reared queens to several members of the Bee Farmers' Association in different parts of England for evaluation under a range of conditions.

We were also able to make progress on several other research aspects. By the end of the 2012 active season, Gianluigi Bigio, with the help of Luciano Scandian, managed to complete a survey for hygienic behaviour on a subset of a group of semi-commercial colonies. This will provide us with information about how hygienic behaviour

groups of half-sister workers derived from different drones) in terms of their defensive and hygienic behaviour. We have noted that some hygienic colonies appear aggressive, so the project will determine whether the hygienic workers are from different patriline to the aggressive bees. If we can understand these differences in patriline behaviour it will be possible to breed queens from a hygienic colony that is also defensive, but not aggressive, by rearing daughter queens only from hygienic non-



aggressive patriline. So far, samples of aggressive and hygienic bees have been collected, and these will be analysed in the next few months.

Our policy is only to treat colonies for varroa if absolutely necessary to prevent imminent colony collapse, and Hasan Al-Toufaily is also aiming to improve control using oxalic acid, so he is investigating the degree to which colonies in the UK carry brood throughout the winter. This will be done on colonies at the university, but it would be very useful to have a comparison with colonies kept elsewhere in Britain under colder winter conditions than Sussex. Hasan is looking for beekeepers to help with his research. He needs volunteers with at least twelve honey bee colonies who would be willing to monitor them at monthly intervals through the winter of 2013–14 by photographing the areas of sealed brood and worker bees and counting them. If there are fewer than twelve colonies in one apiary the study colonies could be in several apiaries, but they need to be in the same area or nearby. Please contact: Ha214@sussex.ac.uk

As part of our programme at LASI of outreach to stakeholders such as beekeepers, over the last two seasons we have run several successful workshops at the university to introduce the techniques for measuring hygienic behaviour. These have been well received⁷ and were attended by beekeepers travelling from a considerable distance. We hope that these workshops will result in beekeepers around the country following our lead and developing local breeding groups to make the best use of their locally occurring bees. We intend to run further courses next year.

For further information please visit our website: <http://www.sussex.ac.uk/lasi/>

Norman L Carreck,^{1,2} Karin L Alton,¹ Gianluigi Bigio,¹ Luciano Scandian,¹ Hasan Al-Toufaily¹ and Francis LW Ratnieks¹

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The BBKA Annual Delegates' Meeting: Making Your Vote Count!

The BBKA ADM will take place on Saturday 12 January 2013. For several years, I was the ADM Delegate for North Staffordshire and these are my long-held and personal views about the events of the day and how associations could help to make the meeting more effective.

I believe that the ADM is the most important day in the BBKA calendar as it is the main policy-making event of the BBKA year where the Association Delegates (on behalf of their associations), hold the BBKA Trustees to account for their stewardship, elect future Trustees and vote on the agreed BBKA policies for the forthcoming year.

The ADM, via the Association Delegates, is charged with completing a certain amount of business within the day through a set democratic process and a fixed agenda. While in theory, the meeting closes when all of the business is completed, actually, the time available is dictated by delegates who, contemplating their journey home, start to get itchy feet around four pm. That often occurs regardless of the importance of the work remaining to be conducted.

In my view, over the years, this clock-

watching attitude has resulted in some bizarre decisions on propositions, thus failing the democratic process. This is genuinely no reflection on the delegates or the chairing of the meeting because the level of debate in the meeting is determined by the delegates. So how can the ADM be made a more effective and positive experience for the delegates and their associations?

Primarily, the delegates need to appreciate that they are representing and presenting the views of their association, and voting on behalf of their association as appropriate. Only official delegates have a vote and it is the results of the delegates' votes that determine the way forward for the BBKA for the following year. It is therefore important that all views are heard and all questions satisfactorily answered. That can only be achieved through full and frank debate taking place in front of delegates who are adequately prepared and vote according to what they have read and heard during the debate.

Preparation requires that the delegates have previously read and digested the ADM documentation that has been sent to them and their association, thus enabling them to

attend the ADM fully equipped with their associations' views and any questions. The reason the BBKA sends the full information in advance is to allow local debate and discussions that can help delegates to understand and appreciate the views of their association and enables delegates to more effectively respond and represent their association during the debates.

At some ADM's, I have listened to delegates state that they had been mandated by their association as to how they will vote and while they felt that information revealed during debate was informative and persuasive, they had to obey their association's 'three line whip!' I believe that it is both useful and important that delegates should be given some guidance but associations should trust their delegates to represent them to fulfil their task. Trust means empowering the delegates to listen to the debates at the ADM along with all the views/information revealed during the debates, and then be allowed to make the most appropriate decision for their association, based upon consideration of all factors.

David Teasdale, BBKA Trustee

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Planning Your BBKA Spring Convention 2013 Visit

I have to admit a bias as I have been going to the BBKA Spring Convention for over thirty years and I am now involved in its organisation, but it seems reasonable to pass on some of my experience to those new to the Convention and those who wish to get the most out of it. Since the move to Harper Adams in 2012 there have been several changes. Most were for the better and some others will be better in 2013. So even to those used to Stoneleigh this article may be helpful. There are many aspects to the Convention that are valuable in their own right, but when combined with a little organisation can make for a very good day or weekend. The separate elements are the trade show, the lecture programme and the workshops; all of these can be combined with a little planning.

The first priority is to purchase tickets in advance because there is a good discount and this saves queuing on the day. With your tickets will be a programme and a wristband. The wristband is most important as this permits entry to all areas and if forgotten it is difficult and time-consuming to have reissued. The programme will give you an idea of the site layout and details of the programme for the lectures and workshops. The online and postal booking dates will be advertised in *BBKA News* and you will need your membership number and that of any others that you wish to buy tickets for when placing your order. New beekeepers: do check that your association secretary has sent your membership details to BBKA and ensure they get your membership number for you.

The next priority is to look at the workshop programme to see if there are any of interest, as many have to be pre-booked. The numbers are always limited and they work on a first-come first-served basis; very few have any spaces left on the day so do book as early as possible or get to them early on the day and hope there are still spaces. Workshops are available on Friday, Saturday and Sunday and some are repeated to maximise the possibilities of attendance.

If you are going to make the most of the Convention it is worth making a little chart of workshops and lectures that are of interest as this will immediately show if there are any clashes or potential difficulties getting between them. Do allow time to move around the site; ten minutes is usually enough to walk between any two points. And remember to make time to eat!

The lectures are arranged with a thirty minute gap between them to allow time to clear the venue and give the new audience time to take its seats. It is not possible to sit in the lecture theatre all day. Some lectures have been oversubscribed in past years — even in 2012 when Harper Adams offered 30% more seating; indeed, however many seats are made available some lectures will always be very popular and the best advice is to get to the lecture venue early and queue. In some of the lecture theatres the stewards can determine when the queue has reached the theatre capacity so please be prepared to head for your second option if this is the case. The lecture programme runs on Friday (BBKA members only) and Saturday so there is plenty of chance to see several high quality lectures.

The third element is the trade show, which is only open on

Saturday. A whole day could be spent on this alone as there is an enormous amount to be seen and to buy. One very important tip is to make a list of what you need to buy, then what you want to buy and keep some spare money for items you never knew you needed or books that you really ought to own and read. Set yourself a budget as it is easy to get carried away. Some of the traders will be offering a pre-order system which can mean that many of the items you order will be pre-packaged and available from a separate pickup point avoiding the queuing and the need to carry separate items back to the car. The road system will allow access to the pickup point direct so you can load your car and then return your car to the car park. Similar arrangements will be made for wax exchange, but this will be in a separate area outside the trade hall. The trade hall is very busy early on as beekeepers rush for the best bargains; pre-ordering can avoid this and allow more time to visit other stands.

Other very important aspects of the Convention include eating, drinking and socialising. There are several catering outlets providing everything from a cold drink to a full sit-down meal; these are all marked on the map in the programme. They are easy to find and in 2012 were of high standard and reasonable in price.

Socialising is a very important part of the Convention and most journeys around the campus or in the trade hall take much longer than expected as you bump into beekeepers that you may not have seen for a while and stop for a chat. Make the most of this as some you may not see until the next year and you may make new acquaintances on the way.

I hope to see many new faces at the Convention in 2013 and hope that this article may help you to make the most of your experience. Do not forget to drop in to the BBKA stand at some time to meet the staff and trustees and discuss with them how to make the service that the BBKA offers better for all beekeepers.

Julian Routh, Spring Convention Committee

WANTED

Stewards for BBKA Spring Convention 2013

Harper-Adams University College
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Spring 2013 Convention

Harper Adams University College, Newport, Shropshire TF10 8NB



Friday 12th April – Members Day
Saturday 13th April – Public Day & Trade Show
Sunday 14th April – Education Day

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How to pass the Basic; General Husbandry; Advanced Husbandry; Module 1; Module 5; Food Hygiene Certificate;
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N.B. Booking is required for most courses

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01308 482483 • e-mail: workshopconvenor@live.co.uk

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Notes from a Clifftop Apiary

How old is your hive tool? I lost mine in the shamefully long untrimmed grass around the hives. So I ordered a new one. Nowadays hive tools are sold on eBay in pairs. Two shiny steel articles arrived, one with a lug-lifting hook, the other with a claw. Both had honed edges. Suddenly I realised how blunt and ineffective my old hive instrument was. Scraping down the inner edges of crown boards, I found waxy residues curling away from the blade like butter, and old propolis and brace comb shattering into dust under the chisel. Now crown boards are clamped tight onto brood boxes. No uneven fittings. Moral: one's sentimental attachment to old tools can mask the fact that they no longer do a very good job.



Each year my fellow allotmenters get a free pot of honey. It's by way of compensation because maybe in July a ball of bees appeared inside a rhubarb forcer, or back in May a giant's beard of bees arrived to hang off somebody's bean canes. They are, as are all human beings, a colourful and mildly strange bunch of people. Some time in the summer a notice appeared by the entrance gate: 'Kindly refrain from allowing your dog to commit befoulment of the environs.'

'Seen my notice, then,' said neighbouring plot-gardener, Frank.

'It's impressive,' I said. 'It's got style.'

'Ah. Not afraid of long words, me. You take your Dickens and Trollope and your Henry James. Them fellers, they didn't dumb down. They didn't stoop.'

'No. Right. So, your notice about dog poo is up there with Dickens and Trollope, is it, Frank?'

'Been goin' to this creative writing class, see.' He straightens, leans on his hoe and screws his eyes to look across at me. 'You does something along them lines, in a small way, don't you?'

'In a small way,' I agree.

Frank tells me he's started a novel. He's calling it *A Right Old Carry On Up the Allotment*. 'And it en't got no sex in-you-endos about vegetables in it, neither.' He pauses and gives me a meaningful look. 'I might bring your bees into it.'

'Okay. Anything you want to know, just ask.'

'Ah, and if you need me to check over your stuff before you sends it in, you just say.'



Rainfall records have been kept in East Devon since 1860. In the intervening 150 years, the only summer wetter than 2012 was in 1876. The district's honey yield for the summer reflects that. I had been keeping quiet about my honey crop. But by now the hatred will have faded. If you have honey from this wet, cool and windy summer, you hoard it, keep it for family and close friends. Through luck and location, I managed to spin off enough for family, friends and my landlord. But I kept quiet about it because one's

fellow beekeepers are no less prone to competitive hatred than are prize-hungry artists or poets. Why give some to the landlord? Because there's something weirdly English and historic and traditional about passing a pot of honey up the line to the hereditary land-owning peer of the realm who happens to own my allotment as well as a hefty chunk of the rest of Devon. That's fine. I'm far enough away from the revolutionary fervour of my student days to be able to do that now. My annual rent probably keeps him in cigars for a week.



Do bees benefit from living beside the sea? I think they do. The sea moderates extreme weathers. On-shore winds are frequently balmy. Severe temperatures rarely last long. And the light is a factor. The warmth of early sunlight on the hives invites an early start to the working day. And frequently sunlight is intensified by being reflected off the sea. The sea and its infinite faces: one day it's flat as metal under sheets of blinding light; another day it's a theatre stage spot-lit from holes in the cloud-ceiling by slanting shafts of sun. All this has a very beneficial effect on the beekeeper too. There is often a quality of stillness in the early windless air before the day has got under way. Stillness in nature is infectious. When you notice it, how nothing moves, how every leaf is utterly motionless, then you join it. It's called Meditation. Dusk often has this special quality too. The hives are lumps of shadow, humming quietly like buried motors. Every leaf, every twig in the gloaming is perfectly still. Forty miles away over the dark waters of the bay pin-prick lights flash for a moment on the Abbotsbury Road and then go out. It's where cars crest the rise and then dip again above the long shingle bar of Chesil beach.



'Did you know that bees protected sacred sites in history?' says Wife, who has been reading about such things. 'They protected the special religious places of the African Bushmen, otherwise known as San. And the Minoans kept bees. And the Ancient Egyptians.' She looks at me meditatively. 'You have bees. Maybe you're a Shaman.'

'No, thank you, I don't want to be a Shaman. I'm quite happy being me.'

Mind you,' she adds, 'the Romans used to lob hives of bees by catapult at their enemies. So not all bee keeping people are civilised.'

I make a note to tell Frank about the lobbying. He might put that in his novel.

Rowland Molony, East Devon BKA



Bees in the Chimney and Honey in the Kitchen!

With a beekeeper in the family it is not surprising that we use a fair amount of honey in our kitchen. My wife has some as part of her breakfast every day, we use it in all kinds of cooking and, dare I say, I make a honey cake and honey flapjack, which is well appreciated. So I could claim that the 'funny thing that happened in our apiary', was a unique attempt to pipe a supply of honey straight into the kitchen. But that was not how my wife saw it and it resulted in a serious domestic!

I have been a beekeeper now for about twenty years or so. My interest in bees started many years ago when I was at school and was a member of the Scientific Society. We had a wonderful biology teacher who, during his summer holidays from university had worked at Gale's Honey Farm and as part of the Society set up a beekeeping group at school. We even had a hive on the staff-room roof! Can you imagine that nowadays in this age of health and safety? Anyway, many years passed by until I was persuaded by a beekeeper who I had known through work to 'give it a try'.

I am sure that, like many other beekeepers, I intended to have just a couple of hives to produce some honey for family and friends and I also thought it would be a natural 'add-on' to my interest in gardening. Of course things grew and grew until I was running

around ten colonies at home and at an out-apiary, but I have now scaled back and intend to stick at no more than six. We shall see!

Although I am now chairman of our local association, I would never claim to be an 'expert'; I simply do my best to keep my bees in good health, produce enough honey to cover my costs, give the odd talk to the WVI and other interested groups and thoroughly enjoy the company of my fellow beekeepers.

Of all the problems we encounter as beekeepers surely one of the most difficult to control is swarming. I have tried everything from inspections every nine days, knocking down the queen cells (but they always build more), splitting the colony, artificial swarm control, bait hives etc., etc., but I am convinced that whatever you do, when a colony decides to swarm, it swarms. So I usually work on the 'swings and roundabouts' principle and when sometimes you 'lose' as you wave goodbye to a swarm as it sets off across the neighbouring field, later on you 'gain' when a call comes in from a neighbour or the local Environmental Health Office to say, 'there is a swarm in the garden which needs collecting'.

Anyhow, the saga of bees in my chimney started one day in May 2009 when my wife and I were just about to set off for a day out. I was having my morning stroll around the garden when I heard it, that unmistakeable 'humming' sound of thousands of bees in the air and sure enough one of my colonies at the side of the house that I knew to be serial swarmers was on the move. 'What are you going to do?' enquired my wife. 'There is not much I can do' was my reply. 'We will carry on with our day out and I will look for them when we get back'.

I am not sure where we went that day but during the afternoon my mobile phone beeped to let me know a text message had been received. It was from my neighbour and read quite simply, 'You won't need to smoke these bees, Rich, they have landed in your chimney!'

Now I should point out that we are very lucky in having excellent and very tolerant neighbours who, even though they have two young children, are quite laid back when one of my swarms passes over their garden or even lands in one of their apples trees. In this case they were highly amused at what had happened.

We arrived back from our day out and, sure enough, there were the bees happily going in and out of one of the chimneys, but why on earth had they chosen a soot stained chimney and not my bait hive with its tempting frames of drawn comb. 'Now what are you going to do?' my wife asked, and yet again 'Nothing', was my reply. Which may seem somewhat cavalier, but you need to know something about my house to understand my reply.

We live in a detached house with two chimney stacks, and the stack at the rear of the house has three flues, two of which are not used and I had capped them off using a sort of terracotta 'mushroom', which is perforated at the side thus allowing the flue to be ventilated but keeping the rain out. An ideal place for the bees to form a nest.

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The problem is that the roof has four hips or slopes which mean that access to the chimney by ladder and roof crawlers is impossible and it would mean using an expensive scaffold. I reasoned that providing they were not in the 'live' flue, then they would do no harm and would possibly succumb to cold weather, varroa or both. And so the bees in Richard's chimney became something of a joke in the association and at my apiary meeting (not for my wife though).

We now fast forward to the summer of 2011 and I wandered into the kitchen one morning half awake and lacking my fix of tea and I noticed a small pool of liquid on one of the worktops. I looked up to see that something was running down the wall, through a joint in the cupboards and dripping on to the worktop. Our airing/linen cupboard is immediately above and my first befuddled thought was that we had spilled something in the cupboard. I went into the bathroom and opened the cupboard door. My wife says she then heard an 'Aah', then 'Oh No!', as I realised that one of the redundant flues passed through the airing cupboard; the flue had been blocked off in the depth of the floor. I went straight back down and dipped my finger into the pool on the worktop and tasted it. Honey! Albeit with a hint of soot, but no doubt about it, honey. I am lucky in having a wife who is very tolerant when it comes to my beekeeping, which after all can be quite messy, but in this case she was 'not amused!' 'Sort it out or else', was the order of the day.

My fellow beekeepers were very helpful, 'Try putting a round of toast under', was one suggestion. 'Bottle it, there may be a market for soot flavoured honey', was another. But something had to be done. I called in a good scaffolder and a few hundred pounds later I had safe access to the top of the chimney.

I had been puzzled as to how the honey had run out of the combs, for when you think about it, honey does not run out of a hive, but when I removed the two 'mushroom' caps, all was revealed.

There had been nests in both of the capped-off flues, but one of the nests had fallen down the flue to the point where it changed direction (the flue was corbelled over) and, at this point the comb had smashed open and it was honey from these combs which had run into the kitchen. In the other flue was a very live and active colony, which needed to be removed.

I first drilled through the joints in the brickwork to establish how far down the flue the nest extended. When I found this point I cut out the mortar joint and inserted a piece of plywood to prevent the combs from falling further down the flue. I then called in my good friend and beekeeping colleague who has devised a 'vacuum' system for gathering in swarms in awkward places. We cut out the wax comb piece by piece and 'hoovered-up' the bees. It was a very messy job and unfortunately not many of the bees survived. One of the combs, which was full of brood, I fixed into an empty frame and put into a weak colony, and believe it or not I extracted 10 lbs of honey from the sealed combs in the nest, which was not sooty at all.

The final act was to replace the 'mushroom' caps, but this time sealed with wire mesh to prevent a repeat of this expensive saga. The scaffold was taken down only to reveal some broken tiles where its weight had rested on the roof, and so in the manner of that wonderful Flanders and Swann song about the gas man calling in, the next trade to arrive was a roofer to replace the tiles and then a painter to touch up the fascia board.

The honey dripping into the kitchen gradually dried up, everything was cleaned up and things returned to what passes for normal in our household, and a 42 year marriage was saved.

There is, however, one awful threat hanging over me. Remember that our house has two chimney stacks and other one, which is equally inaccessible has one flue capped off with a little mushroom in the same way. I can only hope and pray that my bees have not taken a liking to chimneys.

Richard W Matkin,
Derbyshire BKA

BBKA Examinations Board Examination Dates 2013

23 March 2013 **Module 1,2,3,6,8 Examinations**
Applications in by 10 February

9 November 2013 **Module 1,2,3,5,7 Examinations**
Applications in by 30 September

Advanced Certificate in Beekeeping Husbandry
15/16 June 2013 other dates as required
Applications in by 28 February

General Certificate in Beekeeping Husbandry
Date by arrangement with the Examinations Board Secretary
Applications in by 28 February

Microscopy Certificate
Assessment takes place in October/November 2013
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Patterson's Page

Protection of the dark European bee

'SICAMM (Societas Internationalis pro Conservatione Apis melliferae melliferae) seeks to promote national and international cooperation between beekeepers, scientists, associations and institutions concerned with the conservation of the dark north European honey bee, *Apis mellifera mellifera*.' This statement has been copied from the website <http://sicamm.org/index.html> of this rather unusual organisation. I say unusual because SICAMM is a fairly loose group with no members and no bank account. *Apis mellifera mellifera* is the native bee of the whole of northern Europe north of the Alps and across to the Urals, and includes the UK and Ireland, so SICAMM welcomes any beekeeper with an interest in this sub-species. Although there is quite a lot of contact between beekeepers and beekeeping organisations the main activity of SICAMM is a biennial conference, the latest of which was held in September at the Plantahof Agricultural College in Landquart, in the eastern Canton of Grisons in Switzerland. Swiss beekeepers did a fine planning job and in five days provided attendees with a very varied programme of visits and lectures. The lectures were held over three days with 29 half hour presentations, each relevant to bee breeding and improvement and of interest to all beekeepers. The UK and Ireland were very well represented with presentations by Andrew Abrahams from Scotland, Micheál and Eoghan Mac Giolla Coda from Ireland, Philip Denwood, Dorian Pritchard and myself from England. The topics were diverse and included mating behaviour, EFB, varroa resistance and control, and genetics. My lecture was on the queen problems of early superseding, failure and 'disappearing' and how they affect the queen breeder. Afterwards I had a queue of people wanting to tell me of their experiences, including a French researcher who had been having exactly the same problems that I had described. She had spoken to colleagues whose replies were unhelpful and suggested she was doing something wrong.

I took the opportunity to stay on in Switzerland for a further eight days, staying on a proper working farm in Grabserberg, north of Landquart. As well as walking in the mountains I spent two days with local beekeepers and with the information I gleaned from them and the conference I learnt quite a bit about Swiss beekeeping.

There are three main BKAs, each allied to the main languages of German, French and Italian. There is an estimated 18,000 beekeepers keeping 160,000 colonies, so the average beekeeper keeps double the number we do in the UK. All beekeepers are amateur and there is no exam system. In the area where I was staying, they have a two-year course of 18 half-days shared between theory and practical.

Apparently bee houses are only used in the German speaking area and they are much more common there than individual hives. The latter are mainly Langstroth and the majority of those I saw were on two shallows instead of one deep brood box.

EFB is referred to as 'sour brood' and has become a major problem. This was described in an article in *BBKA News* 200 in April 2012 by Balser Fried.

The summer that never was

Many beekeepers have experienced problems in colonies this autumn. Even after treatment for varroa in August there were a significant number of colonies with Deformed Wing Virus (DWV) and the number of adult bees in colonies reduced dramatically in August and September. In many colonies this summer, there were bees with shiny abdomens suggesting they were suffering from Chronic Bee Paralysis Virus (CBPV). I have seen many colonies with a pile of dead bees outside that have presumably been ejected by healthy workers. I have spoken to beekeepers from different parts of the country and it seems both these situations are quite widespread. I suspect a certain amount is caused by a high varroa load, but at the Wisborough Green teaching apiary we monitor for varroa five times a year and the counts are in the low category. We have experienced some problems and so have some of our members who are good and careful beekeepers. The weather was poor during the 2012 summer with the bees being confined for long periods and this may have increased the level of CBPV, but it is now accepted that although viruses were in colonies at very low levels pre-varroa they are increasing without being helped by varroa. No longer can beekeepers reliably take DWV as an indicator of a high varroa load.

We need to become more knowledgeable beekeepers and we should now add bee viruses to the list of topics to study and recognise in the hive. Start by reading the relevant information on the NBU website, but check occasionally as things are moving fast and information is updated regularly. Those of us who teach beekeeping must be fully aware of what is happening and not have the attitude of 'my bees are alright — you must be doing something wrong'. There are many beginners and they do not always have the experience to see a problem with adult bees. Many beginners are not taught to see what healthy brood and bees should look like and it may be too late when the colony dwindles, as the usual answer of uniting will only put two or three sick colonies together.

Best before dates

In June 2012, I stayed at a B&B where granulated English honey was on the table with a best before date of Dec 2018. There are no rules governing what the best before date should be and although I do not wish to appear critical I think six years plus is a bit excessive. If the honey had a low water content and was kept in ideal conditions it may well have still been good, but would anyone really expect someone to take that long to eat a jar of honey! It could well deteriorate due to the lid not being screwed on correctly, because it was granulated or kept in a warm place and the beekeeper may get a complaint. I would have thought two years was sufficient.



Honey and toast for breakfast. Photo by Chris Knott

Roger Patterson,

Wisborough Green BKA

roger-patterson@btconnect.com

The Wildlife Incident Investigation Scheme

What is the Wildlife Incident Investigation Scheme?

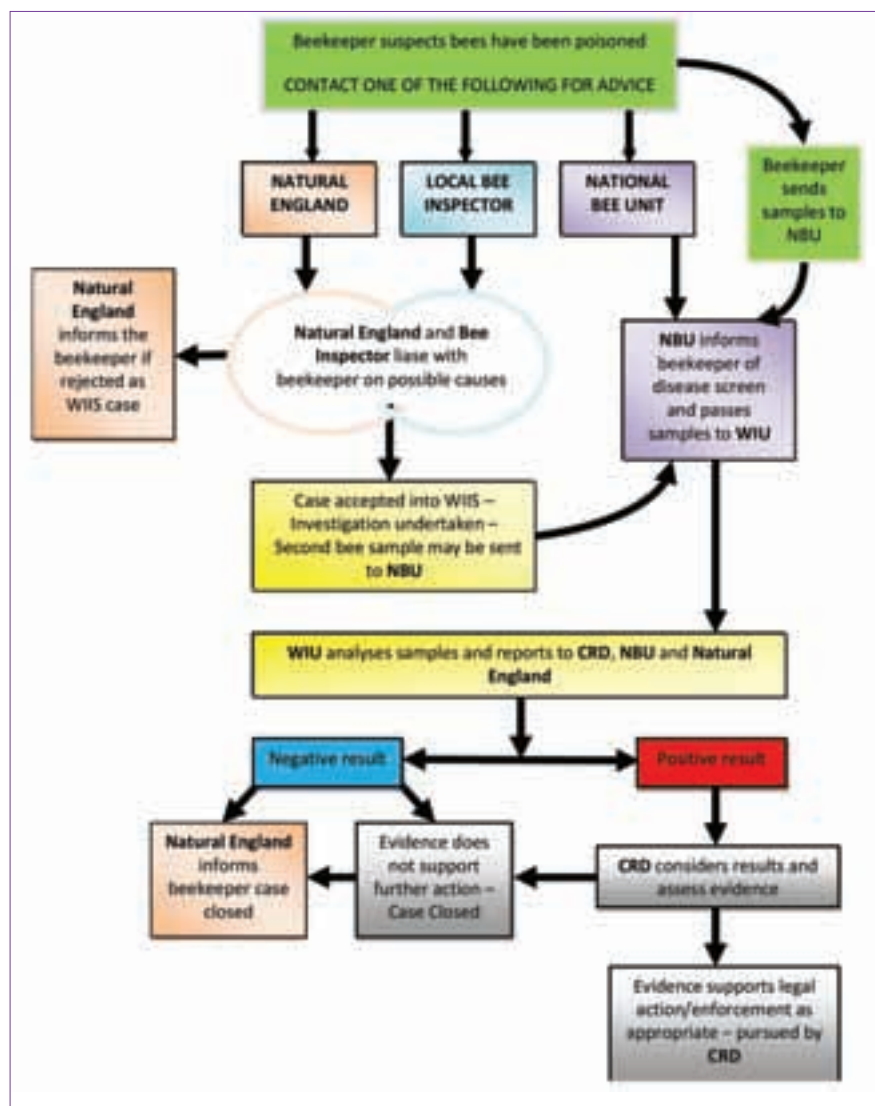
The Wildlife Incident Investigation Scheme (WIIS) monitors effects of Plant Protection Products (PPPs) on UK wildlife including honey bees. Set up to investigate suspicious wildlife deaths, WIIS also examines PPP usage as part of the pesticide approval process. By identifying post-registration issues, WIIS allows PPP approvals to be revised, ultimately resulting in changes to label recommendations.

Who is involved?

WIIS relies on members of the public and interested organisations reporting carcasses/suspected baits so that these can be submitted for chemical analyses. For incidents involving honey bees WIIS involves close collaboration between a number of separate agencies (see end of article for contacts). It is led by the Chemicals Regulation Directorate (CRD) which is the 'Competent Authority' for approval and regulation of pesticides. Natural England (NE) manages the Scheme in England on behalf of CRD and undertakes site enquiries into pesticide exposure. In Wales this responsibility



Dead and dying bees – victims of a suspect poisoning? Photograph courtesy of Natural England. (All other photographs are courtesy of The Food and Environment Research Agency, Fera, Crown Copyright and images supplied by the National Bee Unit at Fera.)



Flow Chart — The WIIS and how it works in England.

lies with Agricultural Rural Affairs Department (ARAD) on behalf of the Welsh Government (WG). The Food and Environment Agency (Fera) carries out disease screening and pesticide analyses. For incidents not involving honey bees, another agency is also involved — the Veterinary Laboratories Agency (VLA), which carries out post-mortems on other wildlife. Rapid communication between all these agents and tracking of incidents is facilitated by the WIIS On Line database (WIISOL); all parties can view incident details and upload information such as disease reports and analytical results. Two Fera teams are involved in honey bee incidents:

- ❑ The National Bee Unit (NBU) is responsible for sample receipt, initial assessment, adult bee disease diagnosis and liaison with beekeepers.
- ❑ The Wildlife Incident Unit (WIU) analyses bee samples (and a variety of animals' tissues, including gut contents, faeces, blood, urine, liver, kidney, lung etc.) for pesticides. Based on collated information from all agencies, the WIU interprets findings.

How are suspected bee poisonings reported to the WIIS?

This depends on where you live. In England reports may enter the scheme through a number of routes (see flow diagram); for example, through the WIIS telephone line, through NE or the NBU. However, the easiest way is to contact the NBU office or your Regional Bee Inspector (RBI) directly. Contact details can be found on the BeeBase website (www.nationalbeeunit.com). You can also post samples to the NBU: collect at least 200 (a large matchbox full) recently dead or dying bees, and send them in a cardboard container along with a letter outlining circumstances surrounding the incident. If

posting the sample is delayed, please seal and store it in a freezer until it can be sent off. Decomposed samples are more difficult to analyse for diseases and the fresher the bees are the greater the chances of identifying residues,

What happens when an incident is reported to the NBU?

A local bee inspector will contact the beekeeper to arrange a visit to the affected apiary site where he/she will assess the situation and the condition of the bees. If he/she finds good reason to suspect that a poisoning has occurred, a sample will be submitted to the NBU laboratory (either to supplement any bees previously submitted or as a first sample).

How are incidents reported under the WIIS?

On receipt at the NBU each sample is tested for common adult bee diseases (Acarine, *Nosema* spp, Amoeba) and, if present, any pollen found on the bees can be used to identify which forage plants may have been visited at the time of the incident. This is valuable information if poisoning is confirmed, misuse/abuse is identified and the case goes to court. The NBU will post the results of disease (and pollen analyses) to the initial sender. The sample is then transferred, with appropriate chain of custody paperwork, to the WIU. If the case is later accepted for submission to the WIIS for investigation, samples will be analysed for pesticide residues. At the same time the NBU will contact NE or ARAD to alert them of a potential incident. A NE or ARAD Wildlife Adviser will liaise with the bee inspector and also contact the affected parties to gather additional information. For example, if specific field spray application is identified as a potential cause then details about the products used, time of spraying and growth stage of the crop will be collated; all spray applications must be logged by the farmer or contractor making the application. Beekeepers can provide other important facts, such as what the bees were foraging on, what was the weather like at the time of the incident or were any other beekeepers in the area also affected? Based on all available information, the Wildlife Advisor will decide whether pesticide use is likely to have been responsible for the loss of the bees and whether the case should be admitted to the scheme for full investigation. Incidents may not be investigated if they are not covered by the scheme, e.g. if poisoning is thought to have involved other pollutants. If the visit to the site or the post-mortem identifies the cause of death as something other than pesticide poisoning, samples may not be sent for analysis. The NE or ARAD Wildlife Advisor will inform the beekeeper whether the incident has been accepted into the WIIS.

What happens if a sample is accepted into the WIIS?

Incidents will be entered onto the WIISOL database. The Wildlife Advisor will compile a field investigation report including all of the information gathered from the beekeeper. The bee samples are transferred from the NBU to the WIU to measure any pesticide residues present. Chromatography instruments, connected to mass

spectrometers, provide a very high degree of certainty regarding identity and levels of any residues present. Typical limits of detection range from 0.05 to 0.5 nanograms per bee. Samples are screened for organophosphorus, organochlorine, carbamate, pyrethroid and neonicotinoid insecticides, fipronil, and some fungicides. Following field investigation, disease diagnostics, pollen screening and residue analysis, evidence is collated to determine whether a PPP killed the bees. Sometimes residues are absent, or present at sub-toxic levels, so the cause of death remains unknown.



Historically some insecticides on Oil Seed Rape have been a problem for honey bees.

In some instances lethal quantities of pesticide are detected, but are not due to misuse or abuse and the bees have died as a result of exposure to authorised use of PPPs, for example the bees were exposed to pesticides because their flight path happened to be across a field being sprayed according to label instructions. If significant levels of pesticides are found in bee samples and there is

evidence of misuse or abuse of pesticides then legal action may be taken. The HSE considers whether this is appropriate. In some instances the police may also investigate.

How long will this take?

The NBU screens samples for disease within 48 hours of receipt before passing them to the WIU, who generally require up to twelve weeks to complete their analysis, particularly if there is little evidence as to possible cause. Once the whole investigation is complete and the case closed, the beekeeper will be informed by NE or the WG. If a case is taken forward for prosecution, resolution may take considerably longer. Over the last few years a common cause for concern has been secondary poisoning of managed honey bees following misuse of pesticides to control feral colonies. There have been successful prosecutions of pest control companies for failing to follow the guidelines. The results of the enquiries made by the WIIS are published quarterly on the CRD website.

How can bees be protected during spraying?

Any product harmful to bees will be labelled as 'harmful', 'dangerous',



Honey bees with corbicular pollen loads.

'extremely dangerous' or 'high risk'. All users must take this information into account when undertaking their risk assessment before use. It is also the legal responsibility of anyone using pesticides to follow the label instructions to the letter. Failure to comply leads to prosecution. *The Code of Practice for Using PPPs* (http://www.pesticides.gov.uk/safe_use.asp?id=64) states that before applying pesticides at times of year when bees are at risk or if a particular pesticide is known to harm bees, users should inform beekeepers or the local Spray Liaison Officer 48 hours in advance, to allow beekeepers time to take necessary precautions. Local Spray Liaison Officer details can be found on the BBKA website (http://www.bbka.org.uk/help/spray_liaison).

What about Scotland and Northern Ireland?

In Scotland samples are sent to the Science and Advice for Scottish Agriculture (SASA) in Edinburgh to be investigated. Veterinary support is provided by the Veterinary

Laboratories of the Scottish Agricultural College and by Lasswade Veterinary Laboratory. Samples from Northern Ireland go to the Agri-Food and Biosciences Institute (AFBI). As in the Scottish scheme, site visits are normally only carried out when pesticide poisoning has been found. Investigations can be carried out by the Health and Safety Executive Northern Ireland (HSENI) or by the police.

Selwyn Wilkins, Honey Bee Ecotoxicologist,
Environmental Risk Team (Fera)

Andrew Charlton, Analytical Chemist,
Food and Environmental Safety (Fera)

Gay Marris, Science Co-ordinator,
The National Bee Unit (Fera)

Further Information

CRD Website: <http://www.pesticides.gov.uk>

Natural England Website: <http://www.naturalengland.org.uk>

WU Website: <http://www.fera.defra.gov.uk/wildlife/wiu.cfm>

SASA Website: <http://www.sasa.gov.uk>

HSENI Website: <http://www.hseni.gov.uk>

WAG Website: <http://wales.gov.uk>

Useful Leaflet Reports (*Links available on BeeBase)

HSE — *Guidance on Treating Feral Colonies**

Crop Protection Association — *Bee Safe Bee Careful**

Defra — *Incidents Involving Pesticides and Animals**



Above: Pesticide analysis and interpretation of results at Fera.

Right: Pollen grains at high magnification (Scanning Electron Micrograph).



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BBKA Training Initiative 2012–2015

The start of a new year is a suitable time to review progress and reveal plans for the future. David Blower, the BBKA Training Co-ordinator has now been in post for just over six months and the preliminaries to the Training Initiative are behind us. A full survey of all the associations and all their branches/divisions in the country has been done and the results collated. These are discussed in David's article, which follows this one. Perhaps even more important than the data collected is the fact that this has enabled us to establish a network of contacts around the country who can co-ordinate efforts to supply training at the right level to each member who wants it.

The next step is to get these people together to share ideas, consider different approaches, and make concrete plans for the future. We have called these meetings 'Workshops' because we want to emphasise that the participants are coming, not to listen to 'experts' telling them how to do things, but to work! Our aim is that each participant will leave at the end of the day with concrete plans for his/her area, with the promise of local, regional or national support where needed. David, myself and the other Trustees at these Workshops will leave with our own plans of how we, at the centre, can help initiatives around the country. The first of these Workshops was held in November 2012 for the Midlands BKAs, and a further five will be held in February and March covering the rest of the country.

This is still only the beginning. Data and plans are not sufficient. We will only be able to claim progress when we can point to actual

training events or courses which have arisen out of our efforts. Thankfully, these are already in view! There is no doubt about the demand for some types of training, particularly at national and regional level, and a number of more advanced courses are already being offered, usually, but not solely, by trainers holding the NDB. If you would like to develop your beekeeping in one direction or another, the branch you belong to should by now have a Training Co-ordinator (very likely going under a different name, but who cares?) with whom you should get in touch.

I am occasionally warned that people in local associations will resent this initiative as an intrusion into their affairs. I hope that this is not the case, and certainly my experience so far is the exact opposite. Certainly such a view would be wholly misguided. We are very aware that we at the centre are quite limited in what we (on our own) could achieve. The term 'Co-ordinator' was chosen very deliberately; all we can do is to bring people together and enable them to do what they want to do.

Equally, we do not want anyone to feel ignored or left out. If you are involved in delivering or organising beekeeping training at whatever level, and have not been involved in our survey or contacts, please feel free to get in touch with either David Blower at david.blower@bbka.org.uk or with me at peter.sutcliffe@bbka.org.uk.

Pete Sutcliffe, BBKA Executive

Education and Training Survey 2012

During August and September 2012 on behalf of the BBKA Education and Husbandry Committee I was gathering data from branches and divisions of the BBKA in order to establish a view of the current status of training activities. The request for information went out to all branches, 220 in all, and 158 responses were received. Thank you to all those who submitted information on behalf of their branch or division. With a sample of over 70% I believe the data can be treated as representative.

I asked the recipients to answer five sets of questions hoping to find out what demand they are seeing for training, how well they felt they were coping with that demand and if they had access to the resources required. The questions differentiated between training at four levels (new, beginner, improver and accomplished), and went on to ask how the need for training is determined and how training is currently publicized.

So what did the survey tell us?

Who is responsible for training and education within the branches and divisions? The role of education coordinator is not normally a formal office within BBKA associations so I was pleased to find that 35% of the respondents gave this as their role. Moving forward I hope that other branches will adopt the same policy thereby helping us create an effective, direct network for sharing information.

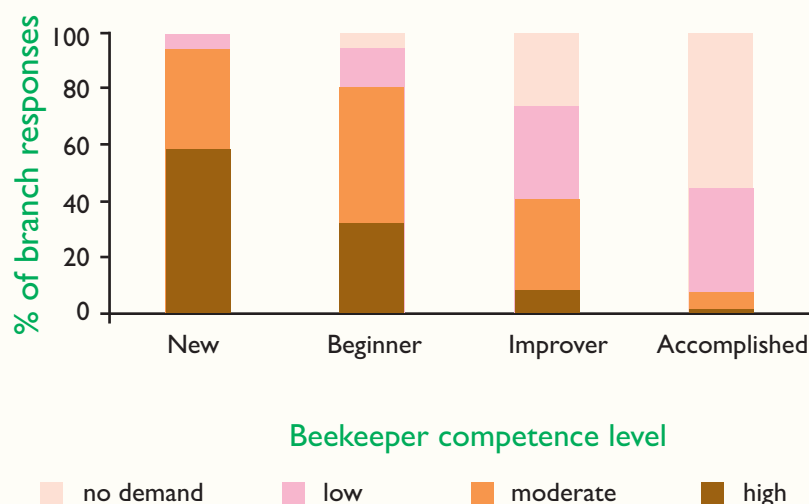
Are we meeting the demand for training from new beekeepers?

Nationally the survey indicates that we have risen to the initial challenge. Demand is strong for introductory training for those new to beekeeping. 84% reported significant demand and only 6% felt they needed help in coping with this boom in interest. Beyond the introductory training for new beekeepers, we aspire that with the help of their local association, all beekeepers should reach a level of competence equating to the Basic Assessment. This is the beginner's category. Demand for preparation for the Basic is currently moderate (59% high or moderate demand) but it is worth noting that demand for additional training beyond the introductory level is higher (81% high or moderate demand). I interpret this gap to mean that members are keen to learn but not all wish to take the Basic Assessment yet. Certainly this is something I have heard in feedback elsewhere. (Alternatively once the demand for post introductory training has been met there will be higher demand for Basic Assessment preparation). A small but significant number, 15%, reported that at present they offer no training in preparation for the Basic Assessment.

With the recent growth in membership is there demand for improver training?

The improver beekeeper is competent to at least the Basic Assessment level and may have anywhere from two to ten years of

Demand for training by level of competency



What are the critical issues that are obstructing the provision of training?

Nearly all, 92%, of branches felt that their training venues were adequate and 82% reported they had access to suitable training apiaries. The high take up of the White and Yellow Course in a Case (CiC) is reflected in 92% of branches having adequate training material for new beekeepers. However, this dropped to 53% when considering training material for the improver and accomplished beekeepers; over 30% felt it was the critical issue that was holding them back. If we had the material, do we have the leaders and mentors to deliver it? According to the responses we received just over half, 53%, felt that they had sufficient people in place, 30% had a shortage but were addressing it but the remainder, 17%, identified the lack of trainers and mentors as a critical factor.

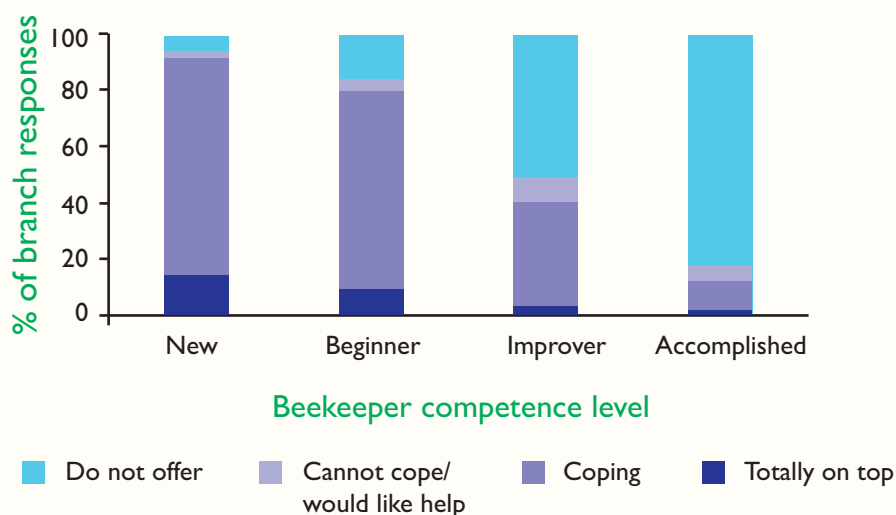
practical experience. They are ideal candidates to help mentor a beginner but will need the confidence that comes with more in depth knowledge of our craft. I asked for data about demand for general training as well as training towards the BBKA modules and General Husbandry Assessment. As we might expect demand is lower in this experience range than for the newer beekeepers. Significant demand for improver training was only evident in 42% of branches while 26% reported no demand from their members. Just under a half of the branches, 47%, reported that they do not offer training at this level which, when considered alongside the relatively low demand, seems to indicate the need for branches to link together. Demand for preparation to General Husbandry Assessment is reported as low in 50% of branches.

This equates to between one and four people in each of those branches. Of these branches 60% do not offer any training but half of those who do have indicated that they are unable to cope with the demand and would like assistance. Again, the data suggest the need for branches to work together.

Are the branches providing training for the accomplished beekeeper's needs?

Using the need for training for modules 5,6,7,8 and microscopy as well as interest in preparing for Advanced Husbandry Assessment we sought to measure how well we are doing in providing training for the more experienced beekeepers. At this level interest was predictably lower still with at best moderate demand (five to fifteen members) in just 10% of branches and low demand in 35%. Of these branches a high proportion felt they are not able to cope with the demand. Overall, half the branches had no demand and reflecting this, the same proportion do not offer this level of training. With demand and resources so thinly spread this suggests the need for regional or national training activities at this level.

Ability to meet training demand by level of competency



What next?

During this winter we will be running six regional workshops for education coordinators from each branch. Our aim is to help delegates identify and fill in any gaps in their training for new beekeepers and then turn their attention to the training activities for improver beekeepers, working in conjunction with other nearby branches where needed. In addition to the experience and suggestions the delegates bring there will be the chance to see what resources are available from the NDB Short Courses, Correspondence Courses and the Course in a Case sets.

How do members know what training and skills they need to be better beekeepers?

We want to provide our members with a clear framework of the competencies they should aspire to at each level of beekeeping. This work will follow the workshops in early 2013.

David Blower, BBKA Education Coordinator
david.blower@bbka.org.uk

Learning from Others: Beekeeping with the Duke of Edinburgh

The beekeepers of the future are at school right now. Somerset teacher, Steve Mynard, is working with his local secondary school to introduce young people to beekeeping. Here's how.

The Duke of Edinburgh (D of E) Scheme has been running since 1956 and is an ideal vehicle for beekeepers to engage with young people and introduce them to our craft. The mission of the D of E scheme is, 'To inspire, guide and support young people in their self-development and recognise their achievements.' In the last twelve months 275,000 young people have signed up to this aspiration. This article details how I have worked with the D of E leader at my local secondary school to introduce students to beekeeping.

Getting started

I teach part time at Frome Community College in Somerset. This is an upper school for students aged 13 to 18. Having returned to beekeeping in 2011 after a fifteen year break I was keen to offer students at the school the opportunity of an introduction to beekeeping. My eldest daughter was taking her D of E Gold Award at the time and I mentioned my thoughts to the D of E leader, Steve Marsh. Not only was he enthusiastic, he also offered me a corner of his smallholding as a new apiary site specifically for the purpose. This was welcome as I had recently had two hives stolen and was looking to relocate.

Health and safety

Before we could actually get students out in the field and introduce them to beekeeping there were permissions to seek. We met with the head teacher and the school business manager who were enthusiastic about our proposal.

There was also form filling to do. Somerset County Council uses an online system for schools to register activities which need health and safety approval. I sat down over a mug of coffee with Steve Marsh one afternoon and we went through the set questions one by one. The process took us an hour and a half.

Essentially the County Council needs to know that we have made a reasoned assessment of risk and that we have strategies in place to meet these risks. We consider stings to be a risk. We say this on the form and we say that we will provide students with protective clothing. We

consider it to be possible that a student may still get stung and that there may be an adverse reaction. To meet this risk we have an agreed procedure: two adults are present when colonies are inspected so in the event of an emergency one can go for help while the other stays with the casualty. Health and Safety legislation and protocols are not there to stop schools from offering students exciting opportunities: they are in place to ensure due care and consideration of risk. Once the risk has been assessed and appropriately met it is reasonable to proceed.

First aid

I was due a renewal of my First Aid in the Workplace qualification and the college agreed to pay for me to go to the next level. I attended a two day course over a weekend at another school and now have an additional qualification for Outdoor First Aid. These courses are not expensive; the course I went on cost £50 for two days training. It would certainly be worth area associations buying in a qualified first aid trainer and each division/branch sending along a member to be trained. Whether you plan to work with young people or not I would suggest it would be good practice for a local association to have a trained first aider available for apiary meetings.

Insurance

Our beekeeping activities are covered by the school insurance. Technically a visit to our apiary by students is a school trip and Steve Marsh's smallholding has been included on the risk assessment as a place where school trips can take place. You would need to discuss location and insurance with the D of E leader to ensure you and the students are adequately covered.

Child protection

Anyone who works with young people has to have police clearance. Specifically, this means that the various child abuse registers have been checked by the police to ensure that the applicant is not on a list of those excluded from such work. Most schools will pay the fee and arrange the forms for those members of their community who wish to volunteer with young people to be police checked.



Qualifications

On our risk assessment we made reference to my BBKA Basic qualification and this was considered by Somerset County Council as an indication that I am a competent beekeeper. Remember, at this stage we are simply showing students the inside of a beehive and explaining to them some of what they see.

In the field

And so in June 2012 we introduced five students from Frome Community College to beekeeping. The fact that for beekeepers this season was the most disastrous in living memory simply added to the challenge! We were able to get the students out in the field on a handful of occasions and they certainly enjoyed themselves.

We have decided to run sessions in 2013 once a month on a Saturday afternoon from April to September. This will meet the requirement of the D of E scheme that students study a skill for a six month period. I will sign the students D of E log book to this effect. In the future we will consider preparing students for their BBKA Junior Exam.

And finally

In order to maintain a strong community of beekeepers into the future we need to be working with young people now. The Duke of Edinburgh Scheme is ideal for this. Having read this article I hope you will feel motivated to pick up the phone and make an appointment to meet with the D of E leader at your local secondary school.

Steve Mynard, Somerset BKA,
email: steve@microbees.co.uk

Executive Actions Taken on the Resolutions of the 2012 ADM

02/2012 — Middlesex BKA — ACCEPTED

'Following the success of previous campaigns, we call upon the BBKA to build for the future and allocate increased resources to support associations in the training of aspiring beekeepers and the education of the public in ways that may help honeybees.'

Executive Committee Response

After this proposition was overwhelmingly passed, with the support of the Executive Committee, at the last ADM, the Education and Husbandry Committee has been charged with the formulation and putting into practice of policies to further education and training in all the regions. Some time had to be spent formulating a strategy to provide the basis of this work, but the Training Co-ordinator is now in post and has begun work. The first workshop of regional coordinators took place in November with the rest, five workshops — in the South East, South West, East, North East and North West, are planned in the first months of 2013. By the time of the ADM we should be able to report on a programme of training courses and events arising out of these organising events. Courses are being organised around the country with the emphasis on training beekeepers beyond the Basic Assessment level — an area where most associations need some help. It is important to stress that this initiative is not aimed at pushing people into the BBKA's exams. It is however aimed at improving skills and beekeeping knowledge around the country with the probable result that both the uptake of the BBKA assessments and the pass rate increase.

The next two 'Courses in a Case' have been produced, taking our provision of teaching materials up to the level of advanced skills and knowledge i.e. the Advanced Theory Certificate and General Husbandry.

Much effort in terms of hours and energy has gone into this policy. The BBKA has also included about £65,000 in the next budget, which will have a significant impact on BBKA finances. Two partner organisations have been keen to support us financially in this, the Wax Changers to the tune of £15,000 per year over the next three years, and Fera with £35,000. This proves that other organisations are impressed by our plans and want to be involved with them, and it safeguards the BBKA's finances for the duration (three years) of the present initiative.

Educational work among non-beekeepers has not been forgotten. The BBKA continues to publish useful leaflets, the 'Adopt a Bee Hive' scheme provides much publicity and information to the general public, and the Public Affairs team continues to do a good job in feeding information about our stance and the correct facts to the media.

03/2012 — BBKA Executive Committee Proposition — ACCEPTED

'That the BBKA invites all its members to pay an annual voluntary donation of £5 to the BBKA Research Fund collected by the Area Associations.'

Executive Committee Response

During the year, Area Associations were reminded by the Operations Director/General Secretary that this proposition was passed in 2012 and that the collection of voluntary donations would be welcomed. So far only a few associations have contributed and we look forward to receiving funds from the remaining majority.

04/2012 — BBKA Executive Committee Proposition — ACCEPTED

Amendment to the BBKA Constitution

'That the BBKA Constitution clauses 4.2 and 18.1 be amended as follows:

4.2 to read 'the Executive Committee (EC), which comprises the Trustees, elected by the Delegates; and 18.1 to read 'At any time the EC shall comprise a President and a maximum of twelve other Trustees, all of whom are elected at a Delegate Meeting to be members of the EC, except that an election under clauses 15.2 or 18.3.7 may be postal.

Executive Committee Response

The necessary amendment was made to the BBKA Constitution and notified to the Charity Commission.

05/2012 — BBKA Executive Committee Proposition — ACCEPTED

That the BBKA Constitution be amended to create a Junior Membership category as follows, and furthermore, that the capitation rate shall be equal to half that of a registered member.'

Add clause 7.11 — Junior Members: Individuals under the age of 18 years, for whom a membership fee has been paid to their AAM or one of its component associations and in respect of whom a capitation is subsequently paid to the BBKA and for whom a contact name and address has been supplied to the BBKA. Junior membership shall cease at the end of the BBKA Financial Year in which the junior attains the age of 18.

Executive Committee Response

The necessary amendments were made to the Constitution and notified to the Charity Commission. The Operations Director/General Secretary has created guidance notes to incorporate what junior membership will entail. However, following feedback received at the 2012 Forum and from Area Associations working with the documentation, a review of the guidelines is required and is being undertaken. Likewise, the agreed amendments to the Constitution appeared to require clarification and are subject to a further amendment to the Constitution at 2013 ADM.

6/2012 — BBKA Executive Committee Proposition — ACCEPTED

That the BBKA Constitution clause 10.2.2 Arrears of Capitation be amended to read:

If any AAM is in arrears with its capitation fees payable to the BBKA by more than eight full weeks, the General Secretary shall issue a written 'Notice of Arrears'. If the AAM fails to settle the arrears in full within four full weeks of such notice, it shall be suspended from membership, forfeiting all the benefits thereof, until the arrears are paid. Neither lapse nor suspension of membership will cancel the debt of the arrears.

Furthermore, a substantive amendment was passed asking that three main association officers should be notified to cover in case of absence or serious illness.

Executive Committee Response

The necessary amendment was made to the Constitution and notified to the Charity Commission. The requirement to notify three Area Association officers was considered by the Executive Committee. It concluded that this was an administrative rather than constitutional issue and has incorporated the requirement into office procedure accordingly.

7/2012 — BBKA Executive Committee Proposition — ACCEPTED

That the BBKA Constitution clause 16.2.5 be amended to read:

Only the Trustees have the right to vote. In the case of an equality of votes, the Chairman of the meeting shall have a second or casting vote.

Executive Committee Response

The amendment was made to the Constitution and notified to the Charity Commission.

8/2012 — BBKA Executive Committee Proposition — REFERRED BACK

That the BBKA Constitution adds a sub clause 19.5 to read:

The Trustees have the power to expel a Trustee if s/he is deemed to have engaged in conduct considered disreputable or opposed to the general interests of the BBKA or is in breach of the Trustees' Code of Conduct. In such an event, the Trustee will have the right to be heard at a properly convened meeting of Trustees, held prior to any such expulsion and the expulsion, shall only take effect by a two thirds vote of the Trustees present, the quorum for such a meeting of the Trustees being two thirds of the total number of Trustees excluding the Trustee under consideration.

Executive Committee Response

The matter has been reconsidered by the Executive Committee which felt it appropriate to submit a revised Proposition at the 2013 ADM suggesting suspension in the first instance. The detail of the new proposition sets out the pros and cons and the alternative wording for expulsion as offered in the proposition last year.



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Your Letters



Does Nature's Work Stop at the Apiary Gate?

I really enjoyed reading *The Biggest Danger to Honey Bees: Part 1* in the November edition but on one point I am curious. First let me refer to two paragraphs.

Page 15: If any colony was abandoned or died out wax moths and mice would enter and destroy any trace of old comb and any diseases that went with it. A new colony of bees would clean out or propolise over the debris and start life with a minimal disease load in the nest. The new comb produced would be disease free. Page 17: In all type of hives, if left unmanaged, bees may starve, swarm or harbour disease all of which are detrimental to other colonies in the area. If a colony dies out for any reason the hive will be robbed by other bees and probably be repopulated by a swarm. Robbing is a good way of spreading disease and the swarm may become infected by any disease present.

My question is this: what, if anything, is the difference between a natural wild nest of honey bees and an unmanaged colony? The paragraph on page 15 suggests nature copes well with pests, predators and diseases: 'disease load would be kept low and disease would be self-managing'. In the later paragraph it is said that unmanaged colonies are a problem. Why the discrepancy? Hives are 'superior hollow trees' so I fail to see any essential difference between a wild nest and an unmanaged colony. If the latter dies, the same cleaning out process will occur. I am not suggesting it is good or sensible to abandon a colony, and it is not kind to bees, but why the alarm?

The reason why I am interested in the question is because if beekeepers come to regard unmanaged colonies as a 'biohazard' then by logical extension wild colonies could also be thought of as biohazards. I have rarely heard this claim, but would hate to think that somehow beekeepers could even begin to promote such an idea. Remember that *Apis mellifera* is a fully paid up member of the native fauna of the British Isles and surely we lament the decline in the wild population, just as we lament the decline in pearl bordered fritillary or the natterjack toad. And if the UK population of wild *Apis mellifera* bounces back after the varroa shock of the 1990s, I for one will be delighted.

Janet Probyn,
Wye Valley BKA

In Response

At one level you are totally correct, the same clean up would occur in an abandoned hive as in a wild colony. The major difference is that often abandoned hives are in groups of hives or in areas with a greater density of hives than would occur in nature and the likelihood of early recolonisation is higher than in nature and swarms may enter before the wax moths and mice have had a chance to clean up the colony.

Much worse are badly managed colonies where the 'beekeeper' makes no effort to prevent swarming and does not inspect for disease or possibly for any other reason. In this hive there may be protection against mice and colonies are kept on increasingly old comb. These hives will harbour a disease load on the combs and normally will get progressively weaker and get

robbed out before the wax moth can destroy the comb. The 'beekeeper' may simply throw a swarm into a hive where the colony has died out rather than dispose of the old comb and clean out the boxes first.

A bee hive of any type is no more of a biohazard than any store of food or fridge where the old perished stock has been left to fester until the pathogen load has increased to a point where it may infect other food or any unsuspecting person that may be tempted to eat it. If managed correctly there will be no hazard. If food is left to rot naturally in say a compost heap it will eventually be useful again, if left in a larder it may cause other food to rot prematurely and become a hazard.

I hope that this adds a little to my point and clarifies any confusion in the article.

Julian Routh,
Warwickshire BKA

Deformed Wing Virus

If you were interested in Dr Stephen Martin's article, *Hawaii Provides a Key Piece of the Varroa Virus Puzzle*, in December BBKA News, you might be interested in reading an open access article which can be downloaded for free at: <http://www.landesbio science.com/journals/virulence/2012VIRULENCE0067R.pdf>



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Readers are reminded of the BBKA's policy to discourage the importation of queen bees and colonies from outside the UK. Prospective purchasers should satisfy themselves of the origin of bees offered for sale.

Diary of Events

16 February. Somerset BKA Lecture Day at Kings of Wessex Academy, Cheddar. Dr Dewey Caron, Peter Guthrie, Adam Vevers and Dr Stephan Wolf. Details from Caroline Butter 01934 742075 E-mail: okapi.bhive@uwclub.net

2 March. Bucks Beekeepers Association 17th Annual Seminar: Not just beekeeping. Memorial Hall, Wendover, HP22 6HF. Speakers: Ivor Davis (Pheromones) Celia Davis (Beekeeper vs bee) and Peter Brash (Bees and the National Trust). £12, inc lunch. Book through John Catton 01494 726616 or richard.catton1@ntlworld.com

23 March. North of England Beekeeping Convention, The Beacon, Newcastle; 9am-5pm. Speakers: Eric Robson (Radio 4's Gardeners' question time), Keld Branstrup, Michael Badger; trade; book stands and displays. Application forms: www.nebees.org; all welcome.



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Do You Wish To Get Some Formal Teacher Training?

The BBKA has been offered some funds to pay for course fees and possibly expenses for a limited number of members to take part in the C&G 7303 Preparing to Teach in the Lifelong Learning Sector.

Interested members please contact julian.routh@bbka.org.uk.

The enrolment and claim forms have to be submitted before the beginning of March. Many courses start in January so there should be time to locate a course and enrol.

Julian Routh,
Lead Trustee Education and Husbandry

BDI Review



A wide-ranging review has recently been carried out by Bee Diseases Insurance Ltd (BDI) and has been discussed by the BDI committee.

The recommendations that have been accepted will be implemented in a phased manner, and to avoid any confusion, member associations will be informed at the appropriate time.

In the course of conducting the review it has become obvious that expert help is needed in some areas; one of which is knowledge of formulating and making changes to company rules that are acceptable to the Financial Services Authority (FSA). If you or anyone you know may have expertise in this area and may be able to help please contact the BDI Secretary, Donald Robertson-Adams, Tel: 0753 2336076.

E-mail: donald@theoldmill.fsnet.co.uk

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question time), Keld Branstrup, Michael Badger; trade; book stands and displays. Application forms: www.nebees.org; all welcome.

3-5 April. Microscopy for Beekeepers 2013. University of Bath. A three-day course with residential option for those preparing for the BBKA Microscopy Exam. Further details www.microbees.co.uk Tel: 01373 300 748

6 April, Saturday, 11am. LBKA, Lincoln District. Sale of bees and equipment. County Showground, Scampton, Lincoln. For details tel: 01636 610349; 01522 522679; 01522 730365; or 01427 788550.

12-14 April. BBKA Spring Convention, Harper Adams University College, Newport, Shropshire.

Your Letters



Making Cold-pressed Soap: A Useful Warning

Dr Sara Robb's interesting article on soap making in September BBKA News encourages beekeepers to try their hand at adding value to the products of the hive. I would like to add a warning about safety and personal protection. One of the essential ingredients in soap making is 'caustic soda', which is a solution of sodium hydroxide (NaOH). Potassium hydroxide (KOH) can also be used in the saponification process, which converts oils and fats into soap and glycerine. This is not to be confused with 'washing soda' (sodium carbonate) which is used by beekeepers to clean hive tools, boots and gloves in the apiary.

Microscopists studying for the BBKA examinations use NaOH in small quantities in the preparation of anatomy slides of parts of bees. They are taught that personal protection should be worn when handling NaOH. This consists of a long-sleeved laboratory coat to protect clothing and skin, disposable latex gloves or gauntlet types such as 'marigolds' and, most essential, safety goggles with side protection to prevent splashes reaching the eyes. Similarly when making soap, everyone else working or observing in the same room should wear eye protection, even though they might not be directly involved in soap making. If, despite these precautions, there is contact with the skin or more seriously with the eyes, then a tepid water rinse (shower) should be used for at least fifteen minutes. There should be no 'soapy' feel. If the eyes have been involved it is essential that medical advice is sought as soon as the eyes have been washed. If NaOH or KOH remain in contact with the skin for any length of time then layers of skin can potentially be destroyed and in the worst case this might require a graft to

replace damaged tissue. Dr Robb correctly instructs soap makers to add solid NaOH pellets to the water when preparing a solution. Do this slowly and stir with a glass or stainless steel rod because a large amount of heat is generated. **NEVER EVER add water to NaOH pellets, as this can cause boiling and spitting with obvious dangers to yourself and those around you.**

Risk assessments

You should be aware that if you are using chemicals you should carry out a risk assessment. For those of you that are not sure of this procedure here is a simple explanatory guide. Before beginning any practical procedure you need to identify the hazards that you are likely to encounter and evaluate the effect of exposure to these hazards. You should minimise the risk of injury or ill health to yourself and to those around you. **A hazard is anything that could cause harm e.g., chemicals, fire, electricity, diseased bees, heavy objects such as microscopes or sharp dissecting instruments. Risk is the chance — high to low — that somebody could be harmed by these hazards. You need to evaluate how serious the harm could potentially be.**

Good practice requires that you make special consideration in relation to young persons and new/ expectant mothers. Risk assessments must be recorded in writing and reviewed regularly if you are demonstrating any practical procedures to the general public (or fellow beekeepers). In a domestic situation where no other person is involved a written risk assessment is not essential. If you are selling cosmetics, for instance, the retailer may require you to prove that you have written risk assessments in place. Controls should be aimed at preventing accidents and minimising contamination of the product. Risk assessment in five steps:

- ❑ Identify the hazards.
- ❑ Decide who could be harmed.
- ❑ Evaluate the risk and assess appropriate controls.
- ❑ Record your findings (see below) simply and clearly.
- ❑ Review your risk assessment on a regular basis.

If you are going to use unfamiliar chemicals you would be well advised to find out as much as you can about the hazards, symbols and warnings that are easily available on line.

Useful websites

An EU-based search site that advises of the labelling and special phrases that should be used for any specific chemical is available at: <http://echa.europa.eu/information-on-chemicals/cl-inventory-database>. Under 'Search Criteria' you can enter the common name of the substance. Tick the legal disclaimer box and click 'Search'. Scroll down and under 'Search results' find the chemical you are looking for and click 'View'. A new window will open. Hold the cursor over the 'Hazard Statement Code' to see the relevant warnings. Appropriate pictograms are also displayed.

John Chandler, Harrogate and Ripon BKA

Dr Sarah Robb added:

'Risk assessments are required in a training or commercial environment (where staff are employed). For soap making at home, the correct handling and safety precautions are of course important, and if a maker wanted to produce this sort of risk assessment for their own use, then fine, but there is no legal requirement to have these documented formally in the 'home' environment.'

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