

BBKA News

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



No: 204 – August 2012

RHS Flower Show, Hampton Court — What A Success Despite the Weather!



In the Apiary
Now is the time to ensure our bees are in peak condition for the winter ahead. Turn to page 5 to discover how.



Microscopy for Beekeepers
In preparing for the BBKA microscopy exam we develop important skills; see pages 17 and 18.



Summer Cold
Has the cold, wet summer led to an unusual mating rendezvous, as one reader suspects? Read her letter on page 30.

This year BBKA shared a marquee with the Bumblebee Conservation Trust who had their 'bumblearium' with live bumblebees flying in a terrarium type closure. BBKA had two hives with flying bees where demonstrations could be viewed four times each day behind protective netting or from inside the marquee through a transparent side.

The BBKA volunteers were kept busy the whole day answering questions from gardeners and prospective beekeepers on a range of beekeeping subjects while teaching candle-rolling techniques to other visitors.





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Chairman's Letter



Beekeepers always say that no two years are the same and 2012 seems to be following this adage.

In the British Isles, honey bees are kept in a wide variety of locations, habitats, climates and forage potential. Even two beekeepers keeping bees in the same location can experience different fortunes depending on a range of

factors such as the state of the colonies when foraging opportunities are available. For these reasons it is sometimes impossible to write generically about honey bees. Having said that there is one thing which has impacted significantly on our bees this season and that is the weather.

The unseasonal heavy rain, winds and flooding in April and June have exacerbated an already poor season because of lack of forage or suitable foraging weather and many beekeepers have had to feed their bees to ensure their survival. This is a reminder to take care when selecting apiary locations ensuring they are sheltered from prevailing winds and the risk of summer flooding. The weather has also affected the timing of colony reproduction (planned or unplanned) and successful queen mating.

Beekeepers new to the craft need help to overcome these challenges and guidance is not always to be found in books. It is often best gained through talking with local experienced and established beekeepers. I know this is happening in many associations already and I urge the more experienced beekeepers to share their knowledge with new beekeepers. Regrettably we find that many new beekeepers manage to keep their colonies for a couple of years and then the colonies die out, their enthusiasm is lost and the craft loses a potential beekeeper who could be part of the next generation.

Nowadays there seems to be an obsession throughout government and elsewhere with putting an economic value on natural ecosystems and, in the case of beekeeping, with asking what the economic value of honey bees is to the UK in terms of food production. There is no agreed methodology on how this can be determined and consequently a range of values is quoted in the media. These values are grouped as 'pollination services'. However, this approach fails to recognise that honey bees follow their natural behaviour and while beekeepers attempt to manage them they are not livestock in the same sense as cows and sheep. A re-evaluation of the status of honey bees could enable simplified authorisation requirements for veterinary medicinal properties so that we have a greater range of tools available to help our bees combat pests and diseases.

David Aston, BBKA Chairman

Cover photos: Main image: Roger Cullum-Kenyon; Top right: Dr Bee; Middle: Dr Ivor Davis; Bottom: David Shale.

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In the Apiary

This is good time of the year to check for diseases and start preparations for winter. This is a time when the colony size has peaked and the queen has reduced her laying rate. In many parts of the country the quantity of forage will be reducing. There are always exceptions; if one of your honey sources is heather or balsam, these will continue to flower through August (we hope!!) and the ability to check for diseases and prepare for winter will be delayed. Timing of these activities must always follow the seasons and local weather where you have your bees.

Assuming that the forage in your area is just about over now, the colony workers will have far less to do. There is not much nectar to collect so they will now be exhausting themselves flying. Similarly, house bees will have fewer larvae to feed and this will reduce their ageing process. In effect there is a sudden reduction in the ageing process of individual bees at this time of year and the average age of an adult worker will extend from the nominal six weeks during summer to around six months, which we expect from winter bees. In addition because the workers are still feeding on pollen, their fat bodies will develop and their hypopharyngeal glands will remain plump with brood food. This is good news for the bees, but if they are diseased, the disease will progress during their longer lifetime and could be passed onto the larvae they feed the following spring, potentially resulting in their demise before they mature into adults. Of course, if a disease is fatal the affected bees will die in less than six months and the colony could reduce and diminish to an unsustainable size in winter.

Our job is to make sure that the winter bees are as healthy as possible and are very well nourished. The best food for a colony of bees is normally the food that they collect. Nectar is not just a sugar solution; it contains a number of useful minerals. However, if, after taking off the honey from your colony, the weather turns bad and the bees are unable to collect sufficient for the winter (about 20 kg) then the earlier they are fed the better. While temperatures are relatively high bees are able to process sugar syrup into a honey substitute for storage. If you can gain access to partially enzyme inverted feed for bees (such as Ambrosia) this is accepted readily and can be processed easily. If your preferred hive is large enough for the bees you keep then it should be possible for this amount of stores to be held in the brood chamber and still give the colony enough

space to continue rearing new bees. In my area of south west England, most colonies overwintered in a British National hive require a super to hold sufficient stores.

Ensuring your bees are in peak health

There are many articles about the management of varroa and the principle here is to ensure the number of mites in any colony is kept low. Using the mite drop method will give a rough estimate of the number of mites and the Fera website (<https://secure.fera.defra.gov.uk/beebase/public/BeeDiseases/varroaCalculator.cfm>) provides an excellent indicator of whether it is necessary to treat.



Inspecting for brood disease. Photo by Dr Bee.

There are other conditions that can affect the viability of the colony through winter. In particular nosema can be a problem and this is an ideal time of year to find out if your bees are infected. *Nosema ceranae* is widespread in this country and it does not show itself in the same way as *Nosema apis* does, which is often associated with dysentery. It is good practice to test for nosema and the common way is to collect thirty of the older bees, kill these, then crush the abdomens and add about one millilitre of water to this. A small drop of the liquefied abdomens is then placed under a microscope and when viewed at 400x plenty of spores will be evident if nosema is present. The spores look a bit like rice grains and are easy to see at this magnification.

Nosema is passed to the adult bee while cleaning cells. Larvae are not infected, but adult bees that are infected will pass the disease to uninfected bees through faeces or by dying inside the colony. Also, infected bees crushed by beekeepers can provide a source of infection.

If nosema is present the advice in previous years has been to

treat with Fumidil B, an antibiotic that has been formulated especially for treating bees. While it is still possible to use this medicine, it can no longer be purchased once stocks have been exhausted. The best treatment for nosema is to get the bees onto clean frames, but this is very difficult at this



A full colony of bees. Photo by Dr Bee.

time of year. There are treatments on the market that are claimed to be helpful in managing nosema but these do not have the status of a regulated bee medicine. Treatments such as: ApiHerb, Vita Feed Gold, Vita Feed Green, Nozevit and possibly thymol may help. What we are doing in this case is playing a waiting game and gambling on these products providing a respite from the disease until management action can be taken at a more appropriate time in spring.

Plan ahead

A good way to treat nosema is to conduct a Bailey comb change when the colony is building in the spring. There are many variations on Prof. Bailey's approach, but in essence his idea is to get the queen on an old frame into a new brood box with a queen excluder below leaving the old brood box with only frames of brood (remove all the other frames). Add a couple of frames of foundation each side of the frame with the queen on and ensure the entrance to the hive is into the upper brood chamber; then feed the colony. As there is only one frame above the queen excluder it needs to have space for the queen to lay. This may mean selecting an appropriate frame and putting the queen on this. After three weeks remove and destroy all the frames in the lower box and place the frame that the queen was originally on into the lower box, leaving the queen in the upper box. Add more frames of foundation to the upper box and continue feeding. After a further three weeks remove the lower brood chamber and destroy the frame in it. This is typically known as a slow frame change and is right for a colony suffering from nosema as it is already weakened and could not tolerate a rapid frame change like a shook swarm. The vast majority of nosema spores will be removed and the colony should then be able to pick up in summer.

Finally, now is the time to check for foul brood. Remember that the bees must be shaken off the frames (preferably into the brood chamber) before inspecting. If you are not sure what to look for ask your local mentor. We should not rely on our local bee inspector to identify suspicious colonies; they are busy people and we should learn to notice when our colonies are under the weather!

Dr Bee

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Home of the Honey Bee



Feeding Bees

Feeding Bees Sugar

This note provides guidance on feeding sugar to honey bees. In nature this is not necessary but with managed honey bees where there is a dearth of nectar or where honey is removed as a crop it is often necessary to replace the honey or supplement what remains to ensure the bees' survival. When feeding bees:

- ❑ Make up and use feeds of good quality pure sugar. White granulated sugar is the most suitable source.
- ❑ For convenience, especially for larger scale beekeepers, obtain a prepared bee feed from a suitable commercial source.
- ❑ Avoid feeding honey as it carries the risk of spreading bee diseases and the odour increases the likelihood of robbing.
- ❑ Use the right method, time and type of feeder for the task.
- ❑ Avoid spilling or leaving syrup open to bees in the apiary.
- ❑ Take care to avoid robbing.
- ❑ Pollen and water may also need to be supplied.

Bee candy

- ❑ Candy or Bakers' fondant was first used to feed bees in the 18th century because it was the purest form of sugar then available.
- ❑ Today candy is used by many beekeepers to top up honey bee colonies in winter and for use in package bees, queen mating mini-nuclei and queen introduction cages.
- ❑ It is best purchased from a bee supply merchant. If you wish to make your own candy, recipes can be found in relevant text books, but consistency tends to be variable when home made.

Making sugar syrup

- ❑ To make sugar syrup use white granulated sugar. With modern production methods it makes no difference if this was sourced from cane or beet.
- ❑ Do not use brown or raw sugars as they contain impurities.
- ❑ The syrup should be made up in the proportion of 1 kg of white granulated sugar to 630 ml of water or 2 lb sugar to 1 pt of water. There is no need to boil the mixture but using hot or warm water helps. Stir regularly to remove air bubbles and dissolve all crystals. When fully dissolved the mixture is clear and a very pale straw colour.
- ❑ If syrup is stored for any length of time then a scummy black fungal growth may appear. This can be prevented by adding a little thymol. Thymol does not dissolve readily in water but a solution can be made up in a small, sealable bottle. Fill it to one third with thymol crystals and top the bottle up with surgical spirit. Add 2.5 ml of this solution to 4.5 litres of sugar syrup or half a teaspoon to a gallon of syrup.
- ❑ For some feeding, usually in the spring, when it is for immediate use by the colony, thin syrup is used. This contains twice the quantity of water and is best made up for use as required.
- ❑ Sugar syrup can be stored and moved around in suitable clean plastic drums. In the apiary a plastic watering can is a useful device for filling feeders.

Feeders

There are three basic types of feeder used to feed sugar syrup to honey bee colonies:

Pan feeders

Often inappropriately named rapid feeders in the UK, pan feeders comprise a tray which is placed over the hive to which bees have

access from below by means of a hole or slot arranged to stop them drowning. Versions such as Miller or Ashforth are made to the same external dimensions of the hive and are placed on top of the hive in lieu of the crown board. They can feed up to about 10 litres (or just over two gallons) at a time. Smaller plastic versions are available for placing over the crown board feedhole. Pan feeders are ideal for feeding bees in the autumn but are of less use in very cold conditions. When filling rapid feeders a small quantity of syrup is trickled down the side of the hole or slot to create a trail for bees to follow.

Contact feeders

These are plastic buckets of various sizes fitted with a lid having a gauze centre section. In use they are either filled with sugar syrup, or the syrup is mixed in the bucket. The lid is placed on the feeder to seal it up. In the apiary the feeder is inverted over an empty container to catch the small amount of syrup that will pass through the gauze before internal air pressure in the bucket, which holds the syrup in the feeder, drops. It is then placed on the hive with the gauze patch over the crown board feeder hole. An empty brood box, super or eke will be needed to support the hive roof properly. Contact feeders are generally more accessible to bees in cool weather conditions as the feeder is closer to the nest, making them more effective for emergency and spring feeding.

Frame feeders

These are containers that look like a brood frame with a slot at the top, and have a float inside to prevent bees drowning. They are filled by pouring prepared syrup through the slot. Typically they are used to supplement the food and replace a frame within the brood box. In the UK they are mostly used for keeping nuclei 'topped up' and in queen rearing systems.

There are some other types of feeder but these are not in common use.

Feeding sugar can be divided into three types:

Autumn feeding

- ❑ As a rule bees only need feeding because a crop of honey has been removed by the beekeeper. When taking a crop ensure that the bees have sufficient stores left in the hive to prevent starvation.
- ❑ September is generally the time of year chosen to feed sugar syrup as a supplement or substitute to ensure that honey bees have sufficient stores to carry them through the winter. Feeding is done after the honey crop has been removed, while the colony is still strong and while it is warm enough for bees to move up into the feeder to take syrup down, invert it and store it properly in the comb.
- ❑ Earlier feeding tends to be converted into brood so unless there is a risk of starvation wait until September.
- ❑ The amount of stores required by a colony to carry it through the winter varies with the strain of bee. The old British black, *Apis mellifera mellifera*, only required about 10 kg of honey to safely feed it through the winter, but today an average honey bee colony requires about 18–22 kg or 40–50 lb to do so. Larger hives headed by prolific queens may require more. A British Standard brood frame when full of honey contains about 2.2 kg or 5 lb so assess the existing colony stores and feed the required balance using sugar syrup.
- ❑ Feeding at the time of some varroacide applications, usually

those containing essential oils, is discouraged as this may increase robbing risks. Check the varroacide directions.

Emergency feeding

- These procedures are best practiced by avoiding starvation.
- Bees can starve at any time of the year and usually if this happens it is the beekeeper and not the bees who should take the blame. It is the responsibility of the beekeeper to make sure that bees have enough stores.
- Sometimes in winter, bees use up stores on one side of the hive and become marooned away from stores elsewhere. This is known as isolation starvation. Frames of stores can be moved across so they are adjacent to the bee cluster. Do not divide the brood nest.
- If bees are short of stores in the winter and likely to starve then white soft candy (Bakers' fondant) is placed over the crown board feed hole. In the case of small colonies the crown board may need turning in order to position a feed hole over the bee cluster. Bees require water, often taken as condensation within the hive, to make use of candy. Candy is therefore taken slowly and does not excite the colony as much as other feeds. If sugar syrup is offered in a contact feeder, cold temperatures may cause contraction of the container pushing syrup through the mesh and wetting the cluster. Correct autumn feeding prevents this scenario.
- If bees are short of stores at the spring inspection then feed thin sugar syrup using a contact feeder.
- In extreme cases when bees are starving spray them with a thin sugar syrup solution and fill an empty comb with sugar syrup. This can be done by pouring syrup into the cells slowly using a honey jar filled with sugar syrup and closed with a lid having 3 mm holes on opposite sides, or using a squeeze bottle, e.g. a clean washing-up fluid bottle. When filled, place the comb adjacent to the bees.
- Remember March and April are the months when the bees will be using up food reserves fast as the colony expands and produces more brood. It is far better to have fed sufficient stores or left lots of honey in the autumn than to do emergency feeding in the spring. In March and April a colony should have at least 4–5 combs with honey/stores, i.e. 9 kg or 20 lb.

- When removing a honey crop always check that sufficient stores remain to prevent bees starving. Feed immediately if needed.

Spring or stimulative feeding

- Many beekeepers feed a thin syrup solution to encourage brood rearing, but providing the colony has sufficient stores, as stated previously, this is pointless.
- It is a good plan to breed bees for the honey flows rather than breeding bees on the honey flow.
- To rear brood, bees need to be fed on a mix of honey or sugar, water and pollen. Therefore, to encourage brood rearing:
 - ◆ Ensure that the colonies are close to pollen crops or fed pollen.
 - ◆ Ensure that the colonies have sufficient honey and/or sugar syrup stores. If not feed a thin syrup.
 - ◆ Ensure that the bees have access to a clean water supply. If necessary use a water feeder.

Robbing

- Feeding syrup excites bees and is usually done when there is no, or little, nectar flow. As a result care should be taken to prevent robbing.
- Especially when feeding in autumn, supply the feed to all colonies in the late evening as night will help quell bee activity. Reduce the hive entrance with an entrance block.
- Watch for signs of robbing: bees fighting, erratic flight and bees trying to enter a hive without meeting the guards. Strong colonies invariably rob weaker ones.
- If robbing starts reduce the entrance to one bee space in all directions using an entrance block and/or grass. This enables guard bees to protect the colony more efficiently. Placing a sheet of glass in front of the hive entrance so that bees have to go around the sides for access to the entrance can also help.
- The best cure to a robbing event is to move the besieged colony to another apiary.
- If a robbing event commences during inspections close up the colonies, reduce entrances and leave the apiary.

National Bee Unit, Best Practice Guideline

Feeding Bees Water

Water is essential for honey bee colonies to process stores, make brood food, maintain humidity to ensure that eggs hatch etc. and for cooling the colony in hot weather. It is not stored in the hive, although 'reservoir bees' will be carrying it in their honey sacs.

- It is notable that feral honey bee colonies tend to follow water courses when they swarm indicating the importance of water to them.
- Apiary sites need to be assessed for the availability of suitable water. Many public complaints are made because of bees obtaining water from swimming pools, garden ponds, drying washing etc., especially during dry periods.
- If bees do not have adequate natural supplies then provide a supply by using a water feeder. Entrance type feeders available from equipment suppliers can be adapted, but a communal site away from the immediate apiary may be more suitable. It will be necessary to make your own, and instructions can be found in some beekeeping text books and on the internet.
- If making your own water feeder, remember that it is the natural inclination of bees to suck up moisture from a wet surface such as soil, sand or brick rather than from an open

water surface. An area of about 75 cm² or 12 in² per colony is required at times of dearth. Do not permit the moisture to become stagnant. The landing area needs to be greater than the watering area.

- Bees have a preference for water that is warmer than 18°C and also for urine to which, like other insects, they are attracted by the salts it contains.
- When first supplying water add a little salt to encourage the bees to use it.
- If bees are using an open water source, such as a water butt, put floats on the surface for the bees to use so as to prevent bees drowning.
- If bees are contained in hives for long distance transport or during crop spraying in hot conditions they may require a supply of water to prevent overheating. A contact feeder filled with water and placed over a feed hole can provide this.

National Bee Unit, Best Practice Guideline

Erratum: In the Disease Recognition NBU Guideline (June BBKA News) the captions for light microscope views of *Nosema ceranae* and *N. apis* were swapped inadvertently. The editors apologise for this error.

Garden or Orchard Trees for Bees

If we have a fairly sheltered spot, free draining, ideally sloping gently south, and if it is not producing anything else, is not a frost pocket or landfill site, what are we waiting for? Plant a few trees for bees! Better still, plant some fruit trees. Trees enhance any piece of land, providing shelter, habitat and shade, some fixing nitrogen in the soil which benefits adjacent plants and, of course, flowers. Cue bees. It is at this point we need to know a little about 'pollination groups' of fruit tree cultivars in order that we have compatible flowers of two, sometimes three, different cultivars in bloom at the same time to enable pollination, thus producing fruit. Some trees and most plants are 'self fertile' (meaning they can effectively be pollinated with their own pollen). Most fruit tree cultivars are not.

Plums are some of the earliest flowering (early to mid spring). They need a warm, sheltered, sunny and frost-free site so the flowers are not damaged. There are few fruits more delicious than a succulent, ripe, home grown greengage or Victoria plum. The good news is that many plums are self-fertile, though all cultivars benefit from cross-pollination.

Pears also flower in early to mid spring, again needing a frost-free site. Their pollination is a little more complicated; most are 'diploid' needing a different cultivar in the same flowering group and some are 'triploid' needing a diploid for pollination, and another diploid to pollinate that diploid. Get advice from your local tree nursery!

Sweet cherries tend to flower in mid spring, after plums and pears. Their growth is vigorous so 'rootstocks' (the cultivar is grafted to a tree species rootstock, which dictates the final size of the tree), usually Colt (semi-vigorous), are used for cherries. Pollination can be very complicated, so it is a good idea to make sure you choose self-fertile cultivars of cherry unless you have a lot of space for several compatible cultivars.

Apples flower from mid to late spring. You can choose later cultivars for frost-prone sites. Almost all apples need compatible cultivars. Most are diploid, some are triploid. Probably more cultivars have existed for apples (with scores of heritage varieties) than any other fruit. They are all neatly pigeon-holed in pollination groups ranging from one to six, so it is an exciting task choosing compatible cultivars in each or adjacent groups to plant nearby. Just thinking of the fruit, with quaint names, such as 'Devonshire Quarrenden', first recorded in 1678, when planning an orchard, is enough to make any mouth water. Their rootstocks (M25, MM106 or M9) were developed in East Malling, UK, mainly between WW1 and WW2. This work now benefits worldwide apple production.

Acid cherries flower from mid to late spring, and most are grown on Colt (semi-vigorous) rootstock; these have the advantage that all are self-fertile, so only one tree is needed for a good crop. They do not need full sun, but pruning is important, particularly as they bear most fruit on the previous year's wood. The aim is to remove some of the fruited wood to encourage new wood (never

do this in the dormant season, due to risk of infections of silver leaf and bacterial canker); prune instead, early spring and summer (as you would all stone fruits).

Nitrogen fixing trees increase orchard productivity

Elaeagnus angustifolia (Oleaster or Wild Olive), is a member of a remarkable genus of trees, which have symbiosis with soil bacteria to produce root nodules capable of fixing atmospheric nitrogen. This feeds both the host tree and adjacent plants, and it has been estimated that companion planting this tree in an orchard increases fruit yields by about 10%. This ideal garden subject also produces fruit which is not only edible (raw or cooked), but packed with vitamins A,C,E, flavanoids and essential fatty acids, and is now being investigated as a food capable of preventing, halting or reversing the growth of cancer. That is not all; the sweetly perfumed, small yellow flowers appear in June (in the June gap dearth) and are loved and pollinated by bees. Growing to about 7m it tolerates maritime exposure, even growing in very poor, alkaline or saline soils. And it is self-fertile. What a hero!



Elaeagnus angustifolia. Photo licensed under the Creative Commons attribution-share alike 3.0 unported license.

Crataegus monogyna, Hawthorn

If you are still not sure what to plant in your garden or orchard, or still have a space which is not ear-marked, spare a thought for our humble king-of-the-hedge which deserves far more than being just a hedge. It also makes a beautiful and productive garden specimen that supports not only bees in years when the nectar flow is good but a host of other beneficial wildlife. And this tree cannot be mentioned without referring to its berries

which are a food elixir par excellence (for the cardiovascular system and used as such for thousands of years, from a time gone by when humans had healthy instincts).

Jobs for August

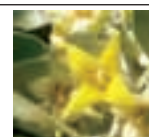
- ❑ Before you reach for slug pellets grab a bucket with a little water and a torch, and collect slugs and snails after dark. Deposit them at the back of your compost heap as they love potato peelings, orange skins, mouldy lettuce, fruit etc and soon they will attract and feed beetles, birds, frogs, hedgehogs and slow worms.
- ❑ Feed container shrubs and trees with high potassium fertilizer which encourages green stems to ripen into wood; helping them survive a cold winter.

Sarah Holdsworth, sarahs.beegarden@btinternet.com



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Some Useful Temperatures for Beekeepers

There is no doubt about it, beekeepers are the most generous and helpful people I have ever met. Have all of your queens died? Just ask and somebody will give you some frames of brood to get you started again. Ask five beekeepers the best way to deal with a colony about to swarm and you will readily get six answers. On just about any subject to do with bees you will find beekeepers falling over themselves to help. So why is it so difficult to find out just how much you can heat honey? 'How hot should I heat this bucket of solid oil seed rape honey so that I can filter it and put it in jars?' ...'Well, I usually put mine in my warming cupboard with a 40 watt bulb for 24/48/72 hours'. 'I want to heat these jars of honey to remove granulation and slow down the re-granulation'. 'Well, I use a 60 watt bulb and leave them in the warming cupboard overnight'.

Unfortunately, being an engineer and of an inquisitive frame of mind I find it difficult to live with this pragmatic approach. I want to know within a degree how hot I can make the honey, and to cap it all the different books and articles I have read seem contradictory. A very well known and respected beekeeper and author recommends no more than 45°C, another says it should never go above 49°C. I do not know about you, but when I have tried filtering oil seed rape honey at 45°C it just sat there on top of the filter cloth laughing at me. I had to take it to 52°C before it would even consider clawing its way through the filter.

So I decided it was time to do a bit of research. I was lucky enough to find a couple of sources that were a great help. *Honey Marketing* by Harry Riches is a slim volume published by Bee Books New and Old and is full of useful information about extraction and processing of honey. Table 1 summarises the information I have gathered on temperatures needed for various manipulations. The website www.airborne.co.nz has a great article on HMF (hydroxymethyl-furfuraldehyde) and Airborne has been kind enough to allow me to reproduce the data presented in Table 2. This article can only scratch the surface of this fascinating subject,

Activity	°F	°C	Time
Warming granulated honey to produce soft set honey	90	32	Two to three days
Blending two or more types of honey	100	38	As necessary to reach a uniform temperature
Preparing liquid stored honey for putting in jars	120	49	24 hours
Preparing heather honey for filtration	120	49	As necessary to reach a uniform temperature
Preparing solid stored honey for putting in jars	125	52	Two to three days
Removing granulated honey from comb	125	52	Until all the honey is removed
Postpone granulation in jarred honey before sale	145	63	One hour
To liquefy coarse grained honey prior to seeding (The Dyce Method)	150	66	Until liquid (a close watch needed here)

and I would recommend you get 'on the net' and have look at the site and get hold of a copy of the book. It will tell you much more than just how much heat honey will take. There are of course many other books and Eva Crane has published a large and comprehensive tome, which is well worth studying.

Table 2 is from the Airborne website and is concerned with the relationship between Time, Temperature and the production of HMF. HMF in itself is not considered a danger and marmalade, for example, typically contains much higher HMF levels than is allowed in honey. HMF is used as an indicator of the adulteration of honey or for the excessive use of heat in its processing. The actual levels in any batch of honey are very difficult to quantify but Trading Standards have access to laboratory facilities that can quantify this. You must therefore be careful how much heat you apply; unacceptable HMF levels can be reached long before there is a noticeable deterioration in the quality of the honey.

The time taken to accumulate HMF at varying temperatures has been extensively researched. The most important thing to remember is that this is variable. However, work by White, Kushnir & Subers in 1964 indicated the approximate ranges shown in Table 2 for accumulation of HMF.

Table 2. Time for 30 mg/kg HMF to accumulate (based on three samples)		
30°C	100–300 days	It has been found that honey held at an ambient temperature of 30°C for six months will accumulate more HMF than the same honey flash heated to 70°C for five minutes and then rapidly cooled.
40°C	20–50 days	
50°C	4–10 days	
60°C	1–2.5 days	
70°C	3–5 hours	
80°C	<2 hours	

Why are these temperatures so important?
I originally wrote this article some years ago for the Cambridgeshire newsletter CBKA News. Just recently there have been signs that some Food Standards Officers are getting interested in HMF in honey even for small producers. At least one beekeeper in the Midlands has been asked to do regular tests for HMF in his honey. I felt it was timely to bring this subject to a wider audience.

HMF production in honey is not only caused by excessive heat; it can be found in honey which has been stored for some time at ambient temperatures. It is difficult and expensive for amateur beekeepers to have HMF tests carried out. Also, there is a large margin of test error even at high HMF levels. According to research carried out at the Central Science Laboratories in 2002–2003 the measurement uncertainty at the legal limit of 40mg/kg was calculated as ± 9.0 mg/kg at 95% confidence.

It is obviously important that care is exercised when applying heat to honey, particularly for those selling via retail outlets, Farmers' markets or other public venues. If the HMF level exceeds 40mg/kg honey may only be sold as Bakers' honey at a significant reduction in price.

Bakers' honey: This is defined in the Honey (England) Regulations 2003 as:

- a suitable for industrial uses or as an ingredient in other foodstuffs which are then processed; and
- b may:
 - have a foreign taste or odour
 - have begun to ferment or have fermented, or
 - have been overheated.

John Pollard of the Coventry and District Branch of Warwickshire Beekeepers has recently developed a predictor for HMF in honey based on the work carried out by White, Kushnir & Subers. This suggests that liquefying a 30lb bucket of honey from solid at a temperature of 52°C could add around half of the allowable HMF. If you subsequently had to reheat to remove granulation it would be very easy to exceed the legal limit. Also the amount of heat required to exceed the limit in the first place could vary considerably depending on how long the bucket of honey had been stored. Peter Bray of Airborne Honey tells me that he has discovered that heating, associated with increasing levels of HMF, will cause significant changes in the flavour of honey. The following are his words: 'We implemented a patented drum liquefying plant here in 2003 to replace our 'system' of heating drums in a hot room to liquefy them. When the first drums started coming off the process, we were amazed at the flavour of honey that was up to three years old. Previously it had liquefied with an 'old' honey flavour but with the new plant it was just like new season's honey! HMF accumulation went from an addition of

15–25mg/kg with the old system to 1.8 mg/kg with the new system, i.e. that difference in level of HMF had a significant change in flavour. Now all our finished products leave our premises at under 10mg/kg and over half leave at under 5mg/kg. Beekeepers processes and storage make up most of the rest.'

Beekeeping does not get any easier does it?

**Doug Brown, Cambridgeshire BKA,
Vice Chair of BBKA**

Acknowledgements

I wish to thank John Kinross of Bee Books New and Old, Peter Bray of Airborne Honey, Leeston near Christchurch, New Zealand and John Pollard who has recently been carrying out some independent research into the subject of HMF in honey and supplied some of the references.

References

Honey Marketing by Harry Riches. Published by Bee Books New and Old; ISBN: 01981-540907 Price £7.35.
www.airborne.co.nz the website of Airborne Honey Ltd of Canterbury, New Zealand. Lots of good information on this site.
White, Kushnir & Subers papers; <http://www.honey.com/white/pdf/white135-quality-evaluation.pdf>
Food Standards Agency <http://www.food.gov.uk/science/research/supportingresearch/methodsofanalysisresearch/e01projlist/e01054>.



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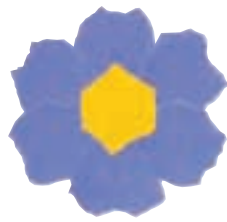
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Beginners: Autumn Beekeeping



The cool, wet and sometimes windy weather continues. Flooding has occurred on in many parts of the country, there has been a starvation warning from the NBU and no end is in sight to the bad weather. Will we ever get a 'proper' summer?

By now you will know the answer to the question above, but now I am here to talk to you about closing down for the winter. By the beginning or middle of August you will have harvested your main crop of honey. The swarming season should be over and once you have completed your harvest it is time to start thinking about tucking your bees up for the winter and doing your best to make sure they come out the other end of it with a fighting chance. This work will continue through August, September and beyond.

Inside the hive

Autumn is on its way and the queen will be slowing down her laying. You will probably notice the dwindling numbers when you open the hive. The new brood produced and nurtured in August and September will provide the core of your winter bees. Workers who appear at this time will have less to do on the nursing front and, not being so worn out, will live longer than the hardworking summer bees. They will feed themselves up on pollen to build up the 'fat bodies' in their abdomens. They need to survive for around seven months (instead of the summer bees' six to eight weeks) and may need your help to do so. You will also notice in August that the poor old drones are being pushed out of the hive by the workers who do not need them hanging round any longer. This could be called a harbinger of winter if I had not seen it happening in May; a lot of bees staggering around below the hive caused me a moment of concern, but on closer look I could see they were all ejected drones and more were following from the hive entrance, being bullied and chewed a little by the workers as they went. Maybe the bees are as confused as we are by this year's weather.

Varroa

Please do not just assume that you have no varroa problem. (I have met people who are in denial about this.) The varroa mite is globally endemic and is not just a threat on its own account. First the mites feed on brood and weaken it and second they are vectors, transferring adult bee viruses to the developing bees. If you do not believe me just read the first page of the DEFRA pamphlet *Managing Varroa* which I am sure you have got somewhere.

A varroa count is recommended four times per year, and one of these is around harvest time. Assuming that you have open mesh floors it is not difficult to perform the 'Natural Mite Mortality Method' of assessment, as follows:

- ❑ Insert your debris collection tray for five to ten days.
- ❑ Remove and count the number of mites. An easy way to do this is to scrape your debris into a shallow bowl of methylated spirit. Ordinary debris will sink to the bottom, but the dead varroa mites will rise to the top to be counted.
- ❑ Calculate your average daily mite drop by dividing this number by your number of collection days.
- ❑ A colony with an average daily mite drop of greater than two in winter or spring is likely to collapse by the end of the season if it has no treatment.

Apiguard is an approved varroacide and is based on thymol (a natural extract). Previously used were chemical-based Bayvarol

and Apistan to which the mites quickly developed resistance making them ineffective? Some beekeepers still use them occasionally. Follow the manufacturer's instructions or a trusted local beekeeper on the dates of application and removal of Apiguard. Timing is crucial here and the following points need to be considered:

- ❑ The fumes from thymol-based products are strong and can taint any honey that has not been harvested.
- ❑ Apiguard works best in warm weather (daytime temperatures no lower than 15°C). The treatment lasts at least four weeks so do not leave it too late.
- ❑ It is also recommended not to feed the bees while using thymol, in case of robbing.
- ❑ Since the fumes are heavier than air, open mesh floors will need to have the monitoring tray inserted or be sealed in some way.

So, your August timetable should go as follows:

- ❑ Remove supers for extraction and storage.
- ❑ In a smaller colony, to encourage the queen to continue laying, it is useful to feed it on syrup for a few days before inserting Apiguard. In a strong colony insert a tray of Apiguard immediately, and add second tray after two weeks. Follow instructions on removal.
- ❑ After that, feed bees if necessary to top up the stores in the box to around 18 kg / 40 lbs. See below.

You can also treat against varroa in December when there is no brood about using oxalic acid (available in the correct strength from the beekeeping equipment outlets) and drizzling between the frames with a hypodermic, but preferably when the ambient temperature is above 8–10°C.

Nosema

Nosema can be identified with the aid of a microscope. Ask at your local branch if there is someone who can help you check your bees, or see if there is course you can go on in a laboratory. If necessary, nosema treatment can be mixed in with syrup.

Are your bees well fed?

After you have harvested the honey and treated for varroa, you can feed your bees on syrup. Make sure there is ample space in the brood box to accommodate more stores. Check the amount of stores already in the brood box. Each full National brood frame holds approximately 2 kg / 5lbs of honey and it is quite likely that there will be four outer frames full of stores making around 8 kg / 20lbs. The rest of the frames will be a mixture of honey, pollen and brood. You can roughly calculate the total honey stored, and work out the volume of sugar you will need to feed.

Heavy syrup feed is generally recommended at this time of year. Opinions of quantities of sugar to water vary but 1 kg of granulated sugar to 630ml of hot water seems to be a common recipe. Always use white granulated (brown sugar is not good for bees) and add the sugar to the water gradually stirring it in. I never could get my sugar to dissolve properly in the water until I

remembered my mother's trick for making jam, of heating the bags of sugar in a slow oven (not to the point of changing its consistency or colour) before adding it to the water. I now have no problem with dissolving it.

Robbers and other intruders

Robber bees

This is a classic time of year for robbing and prevention is easier than cure. As a general rule:

- ❑ Keep a clean and tidy apiary by carrying a lidded bucket on your visits to collect any debris you may remove from the hive. Do not leave tools etc., lying around.
- ❑ Cut the size of hive entrances by putting in entrance blocks especially when taking off honey and returning your empty super combs for cleaning.
- ❑ Do any feeding and return the empty supers at dusk, when most of the bees are indoors.
- ❑ Are you sure your hives are bee-tight and wasp-tight?

If there are any gaps in your supers, brood box or roof (sometimes knots in the wood leave holes) plug them. I used a wedge of beeswax mixed with propolis to fill a hole three years ago and it is still functioning now.

Mice love a warm hive in the winter, so make sure you add a mouse guard to your entrances in October. Also, green woodpeckers are known to enjoy the easy feast afforded by an unguarded hive. If you live in the country a small mesh chicken wire surround will prevent them making holes and eating your bees (I understand that other varieties of woodpecker do not indulge in this behaviour).

Combining weaker hives

If at the end of the summer season you have two smaller colonies, it is important to establish whether the colonies are just small or whether this is because they are weak. If they are small because they have been recently developed under a new queen, then they should probably be retained. If they are weak because of disease you may be jeopardising a healthy colony by introducing an unhealthy one to it.

If it makes good sense to combine them, having ensured that neither is weak because of disease, the easiest way is probably the newspaper method.

- ❑ First, out of the two colonies, choose the queen you want to keep.
- ❑ Move the other colony closer to her hive; a metre a day until they are less than a metre apart.
- ❑ On a warm day find the queen you do not want to keep and put her in a queen cage with a few workers and a little fondant, as insurance against losing the other.
- ❑ Move the first colony off its floor and put the queenless colony in its place.
- ❑ Put a sheet of newspaper over the brood box (unless you have an extra pair of hands, it helps to have something nearby to weigh it down with in case of a gust of wind). Then place a queen excluder over the paper.
- ❑ Make five or six slits in the paper.
- ❑ Put the second brood box on top, covered by another queen excluder and any supers you have on the go.
- ❑ After 24 hours the bees should have chewed through the newspaper to make a single colony.
- ❑ Another 24 hours later look in and check that the queen is

happily in residence. If not, put your insurance queen in a Butler cage and reintroduce her.

- ❑ Rearrange the two brood boxes into one by removing any old frames without brood.

Hive cleaning and maintenance of equipment

Cleaning empty supers and avoiding wax moth

Now you have harvested and extracted your honey you can put your empty supers back above the hole in the crown board for the bees to clean off the last slicks of honey and add them to their stores below. Do this late in the evening when most of the bees have settled for the night to prevent intrusion by robber bees, wasps, etc. Minimise your hive entrance and in three days or so and they should be clean and dry. You can then treat your frames with Certan, make sure they are dry, store them in an empty super, double bag them and sellotape them well into large polythene bin bags and pile them up outside or in a cool shed to overwinter. This should avoid the wax moth problem. Last winter I successfully stored seven supers in a pile on top of four bricks to allow air to circulate, and with a queen excluder below and above and brick or two on top. Just check every so often that rain water is not getting in and mice have not moved in.



Scorching hive components. Photo by David Wootton.



25th August 2012

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www.exmoorhoneyfest.co.uk; info@exmoorhoneyfest.co.uk

Scorching

A plumber's blow torch is just the job for keeping your equipment pest and disease free. Before you store it, before you use it and any other time you feel the need, scorch your wooden hive parts, i.e., brood boxes, supers, queen excluders, crown boards, roofs, etc. thoroughly inside and out with especial attention to joints, cracks and corners where insects or eggs or diseases may be lurking. Just a toasting, no burning of the equipment is needed! Then store them in your shed or other dry place.

Soda crystals

A solution of soda crystals (aka washing soda, available from supermarkets) is effective in cleaning and sterilising all other equipment such as hive tools, bee brushes and smokers, and is also useful in the washing machine for dirty/stained bee suits and gloves. It is excellent for removing propolis and can also be used to clean floors etc.



*A peaceful winter job — making frames.
Photo by David Wootton.*

Winter activities

Planning for next year Winter gives you time to ponder on what direction you want your beekeeping to take in the spring. Do you want to expand or try to stay the same? Have you thought about swarm control and how you would go about it? What spare equipment will you need?

Frames You can never make too many frames. It can be a pleasant activity on a winter afternoon. Maybe you can rope another member of the family in to help. And it saves time in the summer when they are needed in a hurry. .

Courses There will probably be a variety of courses you can take in your area in winter; check the details and sign yourself up.

Maggy Hendry, Kent BKA

Beekeeping Bio-security: A Review of the Basics

Bio-security is a crucial element of maintaining a healthy apiary and an area that is often undervalued until there is a disease breakout. Bees, unlike other forms of livestock are free to travel through the countryside as they please and as such there are components that cannot be controlled as bees can bring back a number of pathogens from their daily visits. What is important to remember is that the bulk of micro-organisms that are brought back to the hive are in fact harmless to the bee, and your hive is much more likely to contract a disease from another colony than from daily foraging. The following points reinforce simple measures that can be taken to help limit the chances of disease spreading to your apiary.

When choosing a site for your apiary, always remember to think about your neighbouring beekeepers. Once you get to know them you will then be 'in the know' if any disease breakouts occur in the area. When arranging your hives in the apiary it can be beneficial to arrange them in a 'U' shape to reduce the number of bees 'drifting' between hives.

Beekeeping equipment needs to be cleaned thoroughly between inspections

to prevent the build up of potentially harmful micro-organisms, and especially if it is stored over winter. There are a range of disinfectants available and remember to always dry the equipment after cleaning. Almost all micro-organisms, bacteria, viruses, protozoa, require a somewhat wet/humid environment for reproduction. Thus when you clean equipment drying it afterwards will limit this growth greatly. When it comes to second-hand equipment, it is imperative to make sure you trust the source and that you clean it before use. When dealing with hive parts, scorching is useful.

Given the recent unpredictable weather and later before winter sets in, beekeepers will be feeding their bees, using a variety of food sources with sugar syrup and Bakers' fondant being the most popular. Some beekeepers choose to give some of their weaker colonies honey from a stronger colony or alternatively buy honey in to feed. This is generally not recommended. Although honey has potential antibacterial properties, it may still harbour harmful pathogens to bees. Also when feeding, be careful not to spill the feed around the hive as this may prompt 'robbing' by nearby bees.



*Bees drifting between closely housed hives.
Photo by Jon Arul.*

If you are visiting other apiaries it would be advisable to wear a pair of disposable gloves on top of regular bee proof ones as this keeps your bee clothing cleaner for use at your own apiary. If you plan to bring your own equipment, proper cleaning is essential before reuse.

Lastly, when buying in bees, purchase them from a reputable source, potentially with a declaration of their good health. If possible the new bees should be quarantined for a period of six months.

Even with such measures in place disease outbreaks do occur, but with proper management and awareness the likelihood of them occurring is greatly reduced.

Jon Arul, Bee Vets

Taking it all in ...

Observing a colony working one day recently, it suddenly occurred to me that over the two or three minutes that I had been watching the colony (I take things easy these days!) I had not seen a single grain of pollen going in despite the furious activity of the colony. It was a very hot day and there were a huge number of foragers in action but every single one was bringing in nectar. Of course it turned my mind to thinking, why?

On another occasion a month or so back, I was talking with an old friend one day in early spring, watching his bees going about their business gently foraging but happened to notice that the fish pond which we were standing by was also being visited by his bees to collect water. Again, the question arose as to why?

And then we come to a classic question often asked by early year's beekeepers. Why did my bees appear to be swarming this afternoon and now they all seem to have gone back into the hive again quite happily?

The answers to all of these questions are there to be read from the colony if only we take enough notice of all of the available information. But it is important to read, mark, learn and inwardly digest it all, cogitate (now there is a lovely word one does not often have cause to use these days) and, if you still cannot make sense of it, take the time to think a little longer over a cup of tea. For each situation, one by one, eliminate the reasons that do not fit the facts and whatever is left, no matter how unlikely, is often the answer to the question. But do be sure to assess the evidence impartially — there are instances of beekeepers adding two and two and coming up with seven because that is the answer they wanted it to be.

Over the years, I have often heard people using the term 'reading the colony'. I feel very comfortable with that term as it is exactly what I am advocating here. Rather than rushing in and reacting on the very first piece of information you find, take it all in before deciding what to do. We have all been through this learning process; after all, most of us at some time in our early beekeeping years knocked down every queen cell that has suddenly appeared since the last inspection, only to discover that the colony has actually swarmed and we have left them with no means of re-queening? Hopefully, we learn from that experience and do not do it again.

... and then making sense of it!

Sometimes, to make sense of it all, we need to ask more questions. In the first case above, you will need to know firstly that the weather had been very hot for a number of days and the nectar flow had been outstanding leading to a substantial reduction in the queen's egg laying rate (nowhere for the eggs to be laid!). Secondly the colony had been split a week earlier with the brood having been moved away in another brood box and the queen and flying bees left behind. Both of these issues contributed to a situation in

which there was virtually no brood which needed feeding, resulting in no immediate demand for pollen and the colony was therefore virtually acting as a swarm with maximum nectar foraging occurring.

There are only two circumstances in which bees need to collect water, to help cool the colony or to dissolve stores so, in the second case, additional information is also needed to decide which of the two situations prevails. Although the bees were foraging and bringing in both nectar and pollen, the temperature was quite low at around 12°C so it is very unlikely that there was a need to cool the colony. This leads to a conclusion that, despite bringing in fresh nectar it was insufficient for the bees to carry out their foraging tasks and they were uncapping and using stores. This hypothesis was confirmed on inspection of the monitoring tray under the colony where there was evidence of recent uncapping.

The third situation also ideally needs some additional information, again regarding weather conditions. We already know that the event occurred during the afternoon but was it during a sudden hot sunny period (ten minutes of hot sun is sometimes enough). If it was, we can reasonably conclude that what the beekeeper had seen was the first, simultaneous, orientation flights of a large number of foragers. Often these are not noted as a few bees flying out

backwards and looking at their hive entrance will not be noticed among everything else going on. But when a sudden sunny spell brings them out in their hundreds it can be quite spectacular.

There are many situations in which we would all make better decisions if we had all of the facts to hand; taking the time to gather those facts will help us to become better beekeepers. I will refrain from using the phrase 'slow beekeeping' but why not look, listen and cogitate and become a 'thoughtful beekeeper'?

The Forager



!Signs of swarming activity ...? Orientation flights? Keep looking and thinking and you should be able to find out Photo by The Forager.

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Photo © John Phipps

Microscopy for Beekeepers

For many years the BBKA has provided an assessment in microscopy for beekeepers to encourage the use of microscopes for disease diagnosis and pollen analysis. The recent Bee Health Strategy promoted by the Government has recognised that we all need to become better beekeepers and in particular that we must promote and support the role of microscopist in our branches and associations. These people can be extremely helpful in performing front line analysis and at the same time provide another source of fascinating information about honey bees and beekeeping.

The Examinations Board has decided to revise the syllabus and content of the microscopy assessment to support the role of the association and branch microscopist so that once this assessment has been passed the microscopist will be able to take on this role in the full knowledge that they have shown that they are able to provide all the services needed. However, the assessment is not only meeting this requirement; it also allows any beekeeper interested in the use of microscopes in beekeeping to learn the skills necessary and then assure that they have met the standards expected.

The assessment now requires the candidate to undertake and pass eight tasks as follows:

- ❑ Discuss microscopes and be able to show an understanding of how the two types of microscopes used (dissecting and compound) work.
- ❑ Dissect an adult honey bee and expose the thoracic trachea in order to diagnose acarine.
- ❑ Prepare a slide for the detection of nosema and view this using a microscope.
- ❑ Discuss adult and brood diseases and be able to identify a couple of non-notifiable diseases from prepared slides, specimens or images.
- ❑ Conduct an abdominal dissection of an adult honey bee.
- ❑ Bring along prepared slides showing anatomical features of a honey bee and some of its pests (a list is available in the syllabus).
- ❑ Bring along a number of pollen slides that have been prepared (again a list is available in the syllabus).
- ❑ Discuss slide preparation to determine the floral source of honey and how to detect honeydew honey and safe working conditions when preparing samples for microscopic analysis.

This may sound daunting at first reading but the production of slides for the assessment normally takes one year as the plant samples required flower at various times throughout the year. The techniques for preparing slides of pollen or anatomical features of the honey bee can be learnt from books or reading on the internet but there is nothing better than having an expert show how it is

done. There are now a number of courses available on microscopy from the ones specifically on pollen to those like the National Diploma in Beekeeping (NDB) short courses that are designed as

preparation for this assessment. These courses are advertised in the beekeeping press and are well worth attending. Alternatively it is possible to set up a local study group where the members can help each other with understanding and techniques and invite experts to help where necessary.

Microscopy is an important aspect of beekeeping. It may not be for all but we should all have access to a local microscopist that can help when we have problems. Associations and branches should encourage their members to learn the skills and then take this assessment to show that their competence meets the standard required for a branch microscopist.

Dr Ivor Davis, NDB



Above: Dissection practice. Left: Ideal laboratory facilities. Photos by Dr Ivor Davis.



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Tackling the BBKA Microscopy Exam

Passionate about the important role that microscopes could play in scientific efforts to save the honey bee, Steve Mynard worked with the University of Bath to organise a three-part course for beekeeping microscopists.

Following our successful 'An introduction to microscopy for beekeepers' last October (see *BBKA News* Jan 2012) a three-part course was designed to support beekeepers who wished to prepare for the BBKA Microscopy Exam. The course ran over three Saturday afternoons in January, February and March of this year. Beekeepers swarmed in from as far afield as Essex, London, Berkshire, Devon and the Isle of Wight as well as from many local associations much closer to Bath. We had forty participants, which surely shows the value placed by beekeepers on the application of science to their craft.

The science of microscopy

In our first session Pete Jewell, senior technician at the University of Bath, provided us with the technical knowledge we would need in order to understand how microscopes work. The construction and parts of a microscope and the principles and theory of how they work are a significant element of the BBKA examination; it is not enough to simply know that a microscope will make small things bigger! Pete really knows his stuff; he talks about 'making microscopes sing'. Pete has been providing this service for undergraduates for nearly thirty years.

During this first session we learned the relevant names for parts and how the construction of a microscope enhances the image. We also grappled with the physics of light. We learned how to measure microscopical items with eyepiece graticules and stage micrometers which allow accurate measurement of objects down to one thousandth of a millimetre.

Since the syllabus was revised in January 2012 the BBKA exam now includes an additional section on health and safety. Pete is the Health and Safety Officer responsible for the department we were working in and addressed all the parts of this section in a thorough handout.

Identifying bee diseases

Megan Seymour, Seasonal Bee Inspector for the Bath area, led our second session. When I arrived at the university with my daughter, Poppy, and her boyfriend, Finn, to prepare for the afternoon Megan announced that we would need to embed a bee in wax for each participant in preparation for abdominal dissections.

Megan demonstrated the procedure, which involved cutting off legs and wings before melting a small trench in the wax and sinking the bee face down into this. Poppy and Finn volunteered to take on this task and after embedding forty bees they were really quite expert at it.

Megan demonstrated the procedures for dissection to our participants using the excellent facilities of the university, which allowed her to project her workings under the microscope onto a large wall screen for all to see. The first thing we did was a thoracic dissection to see if there were acarine mites in the trachea of any of our samples. Acarine infestation is less of an issue with the widespread use of varroacides, but the procedure is in the syllabus so we had to learn how to do it.



*Above: Pete Jewell taking a class.
Below: Abdominal dissection.
Photos by Steve Mynard.*



The next dissection involved opening up the abdomen and floating the intestines out into alcohol to prevent them drying out. This gave us a fantastic insight into how the honey bee is adapted to its task. We examined all the elements associated with gathering nectar and took a close-up look at the mechanism of the sting. Finally, we mashed lots of bee abdomens and made a smear to look for nosema spores under X400 magnification.

Discovering pollen and mounting bee parts

For our third session participants were invited to bring along samples of flowers including dandelion, hazel and crocus. Megan demonstrated how to prepare slides of pollen for the examination. This involved removing pollen from the stamen, degreasing it in alcohol, staining the pollen deep pink with fuchsin and mounting it in glycerine jelly. This is a tricky procedure and it was good for us to be taught by an experienced beekeeping microscopist.

Jonathan Friend of Wedmore and Cheddar BKA joined Megan for the session. Jonathan took his BBKA Microscopy Examination in the autumn of 2011 and gave us a detailed account of preparing anatomy slides. Examination candidates are required to present three slides they have made from a prescribed list that includes proboscis, antennae, legs, sting and reproductive organs. Mounting bee parts is a delicate process involving many stages over several days. We were glad to have additional support from Helen Murray of Brunel Microscopes. Brunel has supported this project from the outset and is to be recommended as a knowledgeable provider of microscopes and associated equipment.

The examination

Of our forty participants twenty are now preparing for their BBKA Microscopy Exam in October or November. They have certainly received some first class instruction and they are working hard to prepare their specimens. Good luck to them all.

And finally

'A trained microscopist in every division' would be a fitting slogan for our ongoing work. Such a person would, quite simply, have so much to offer a local association and would make a real difference to the future of the honey bee and the craft of beekeeping. Building on the experience gained in running courses we are planning further training opportunities for beekeepers who wish to study microscopy. We have an all-day refresher course on 22 September for anyone who is taking the BBKA Microscopy Examination this autumn. We shall also repeat our taster session on the afternoon of 13 October. Do come along; the world of the very small is an amazing place.

For further details of microscopy courses for beekeepers visit microbees.co.uk or contact steve@microbees.co.uk

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(Ad October 2011)

Learning from Others:

How Will I 'Winter' My Bees this Year?

Last year in *BBKA News*, a new beekeeper asked why his mentor's bees died over winter whereas his, which had a 'thermal jacket' over them, had survived. Although there are many reasons why the fatalities may have occurred, with open mesh floors probably being the standard nowadays I wonder if some of the traditional advice with regard to overwintering on solid floors is incorrect.

How best to insulate a hive?

There seems to be a growing chorus of advocates for insulating the top of the hive and leaving the open mesh floor open; only closing it off when monitoring varroa fall. Ventilation is important, we all agree, and a damp mouldy hive is not desirable, and in my experience the open floor, closed roof practice works admirably. Although I am, relatively, a newcomer to beekeeping — having pursued the craft for six years — for the past four winters I have been using this technique. All colonies have got through the winters — eighteen last winter; even a couple of weak ones I thought would not make it. The only problems have been occasional queen failures. I have noticed no damp and no mouldy comb. The only damp hive was a nuc which had a 50mm mesh opening in the floor and there was damp in the two back corners.

The (old) idea of jacking the roof off a hive late in the year and inserting matchsticks when it is too late for the bees to propolise up the gap seems contrary to nature where the bees would most probably seal up any gaps with propolis if allowed to. The fact that the crown board of a National or WBC hive has lower insulation properties than the sides of the hive would naturally encourage condensation to develop on the cold board above the cluster; maybe the hive design is wrong? How dare a new beekeeper suggest such a thing! Although I have seen old videos where cloth insulation was put over the top of the hive. A natural home of a hollow tree would usually give the bees as least as much insulation above their heads as at the side, thus minimising condensation problems. Maybe the top ventilation was devised as a workaround for the hive design; unless the hive was designed to encourage condensation so the bees could dilute their honey stores? Polystyrene hives have been around in Europe for many years and these all have top insulation, I understand, and the open floor, closed roof practice therefore predominates. Now that there are three suppliers of these modern hives who also supply Nationals in the UK it will be interesting to see if any true comparisons are done; both in term of survivability of bees and spring build-up. I am only aware of anecdotal evidence of an improvement with polystyrene hives; reduced winter fuel consumption and a much better insulation resulting in a more rapid build up in spring. Some say that bees survive despite our best (or worst) efforts and I know that Brother Adam advocated single-walled hives over double-walled variants after tests done many decades ago. However, I do not know the detail of those tests and it is fair to assume that open mesh floors were not used during those tests.

Under-supering during winter

I am an advocate of another winter practice which, although not necessary, goes along with the above; this is under-supering. A National hive, if full, will usually have sufficient stores. An additional super of food will guarantee sufficient stores, but a queen excluder may limit access to the queen if the bees move up with disastrous consequences, and without the queen excluder there is a good

chance that the queen will be laying in the super come April. However, if a hive is not on a double brood, my practice has been to build up stores in a super over the queen excluder in the usual way in the late summer /early autumn with syrup and ivy and then at the last inspection, around early October in East Anglia, I put the super underneath without a queen excluder. This has the following advantages. There is no queen excluder to restrict the bees' movement throughout the hive. Bees are nearer the top of the hive compared to the arrangement with a super over the brood box so it is warmer and consequently will help the spring build up. It also means that the seams of bees can be seen more easily during oxalic acid cleansing in December / January so the correct dose can be administered. The addition of a super of stores under the brood box means that there is no need to worry about winter or spring feeding. It will also reduce draughts around the bottom of the hive during windy weather. In my experience, in nearly all cases the supers are empty in the spring at first inspection so they can be withdrawn without brood ready for use later on. Also there has been no need for feeding in the spring; there being a fair amount of stores available. If there are too many frames of stores, the excess can be removed for use with queen rearing nucs later on. The down side could be that the bees move the honey around once the super has been put underneath, but in early October there is time for them to do this if they so chose. If I am wrong, please shoot me down in flames but the above does work and my winter losses have been much less than the average or what is considered 'normal'.

Adam Darling, Norfolk BKA

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Making Fine-textured Creamed Honey

While being visited by our esteemed Seasonal Bee Inspector last summer I invited him to try some of my honey. Although the hawthorn honey was greatly appreciated he was rather critical of my creamed honey; particularly the crystal size. The word that comes to mind is 'grit'. This was something of a disappointment because I had tried to get it as smooth as possible, obviously with poor results. So I decided to read up and start again. Here are the results.

Background

At ambient temperatures ripe honey is a supersaturated sugar solution, comprising (from floral sources) around 79% sugars, 18% water and 3% magic. Nectar contains very complex sugars but these are simplified by the bees (using the enzyme invertase) into the monosaccharides glucose and fructose with a small 'tail' of other more complex sugars including maltose and sucrose.

Under normal ambient conditions glucose will eventually precipitate out as sugar crystals. The propensity for honey to crystallise depends upon the amount of glucose in it; the more glucose the greater the crystallisation speed. Two good examples are oil-seed rape and blackberry; rape has a high level of glucose and if not taken promptly will crystallise in the comb. Blackberry on the other hand has relatively low glucose levels and will remain in liquid form for many months.

For a given honey, the speed and texture of crystallisation depends upon temperature. Generally an optimum crystallisation temperature is around 13°C. The crystallisation process is reversible. Warming crystallised honey will revert it to liquid form. Given enough warmth honey will become totally free of crystals.

The crystallisation process

As will be seen in the following paragraphs, control of temperature is important in the production of fine-textured creamed honey. In particular, excessive heat over time must not be applied. If it is the honey may be ruined. Excess HMF (caused by breakdown of fructose at high temperature) and reduced diastase (an enzyme destroyed by excessive heat) both have specified limits within the Honey Regulations. Unfortunately, the amateur beekeeper has no means of measuring HMF or diastase so that he (or she) can do no more than minimise temperature and time.

Left to its own devices, liquid honey will precipitate into crystalline form. This can happen in the comb, in buckets or in the jar. The result will be variable but overall the texture is likely to be very coarse. The crystallisation may occur quickly or may take many months. How often have you seen partially granulated honey on the shelves of the local deli?

As moisture is released from the crystals it will concentrate at the crystal boundaries, thus increasing the threat of fermentation. However, the fermentation process will be inhibited by the physical state of the honey so under normal conditions it should not be a problem, particularly if a short shelf-life is stipulated for the final product.¹ Fermentation can be avoided by pasteurisation, which may be achieved by heating honey to 63°C for 15 minutes.

Precipitation may begin at any discontinuity in the honey; a pollen grain, an air bubble, debris, the side of the container or an existing honey crystal. New crystals will grow to the same size as the first crystals. If we are able to provide ourselves with clean honey in totally liquid form then add to it honey of fine granulation (that is to say, add dislocations of our own choosing) and allow precipitation to commence under controlled conditions, we should end up with lots of fine-grained honey.

The Dyce process

In the late 1920s Prof. Elton Dyce of Cornell University developed a process which enabled soft-set (creamed) honey to be produced to a consistent standard and on an industrial scale.² The process was based upon his observations that if a small quantity of crystallised honey (the 'seed honey') was added to liquid honey (the 'bulk honey') under the right conditions the aggregate would quickly crystallise with grain size identical to the seed. The four critical elements of the Dyce process are:

- The seed should be between 5% and 10% by weight of the bulk honey.
- The bulk honey must be clean and all crystals liquefied.
- The temperature of the bulk honey must be between 16°C and 24°C.
- During the precipitation process the temperature of the aggregate must be around 13°C; the optimum crystallisation temperature.

Application at kitchen scale

My first attempt at producing set honey (many years ago) was to liquefy the honey, put it in a cellar at 13°C and then wait. After a week or so I looked, but nothing had happened, so I waited a bit longer, and I waited and waited. A quick look at Ted Hooper's book¹ resolved the problem; adding some seed honey started the process and I soon had a bucket of set honey. After warming, the honey was poured into a settling tank, creamed and run into jars. The honey was rather coarse, but sellable.

After a year or so I decided to try to refine the grain size, and this I achieved by putting the seed into a bowl and applying my wife's kitchen high speed hand blender to it. This produced a much finer creamed honey of which I was rather proud until the Seasonal Inspector passed judgement. This led me to a further refinement that provided creamed honey with an extremely refined texture.

Recently a beekeeping friend of mine asked me exactly how I produced creamed honey and I thought it might be worthwhile to itemise the process step by step. There are many variations on a theme, so if you have a go yourself then do experiment! The process is based upon a 10 litre (30lb) bucket of honey.

1. Liquefy 30lb of clean honey. Heating to 63°C for 15 minutes will dissolve all crystals and ensure pasteurisation (that is to say, destroy the yeasts). I use a Baby Burco (Fig. 1). Cool quickly (plunge into sink of cold water) to minimise the possibility of heat damage to the honey. If you use a Baby Burco then support a tray above the heating element. The element must not be subject to physical load.

2. Take 2 (nominal) 400g lots of clean honey (in 454g jars) and heat to 63°C for 15 minutes, melting crystals and killing yeasts. Cool quickly (plunge into sink of cold water). Note that if these are taken directly from the bucket in stage 1 above this process should not be required as the honey will already be free of crystals and active yeasts.
3. Take a jar of granulated honey and warm in a Bain Marie until the honey becomes soft, but not melted. Allow to cool.
4. With a mortar and pestle take a tablespoonful of the granulated honey from the jar and grind it into a paste until you have the grain size you desire. Continue until around 40g has been ground (Fig 2). You can achieve a butter-like consistency.
5. Add the mixture to one of the 400g jars of clean honey and stir, avoiding ingress of air. Keep in a cool place, preferably around 13°C.



Figures: 1. Baby Burco, stands and digital thermometer; 2. Mortar and pestle; 3. Fine-grained honey; 4. Warming cabinet; 5. Creamer.
All photos by Roy White.

6. Repeat steps 4 and 5.
7. Stir the two jars of seeded honey once each day until it is no longer possible to do so. If rape honey is used then granulation will be complete in a few days.
8. Wait a few more days, soften with warmth if needed and then add the two jars of freshly granulated honey to the 30lb bucket, stirring as you go. This will equate to around 7% by weight, well within the Dyce criterion. Keep the bucket at a temperature of 13°C or as near as possible (I use a cellar), stirring every few days (say twice a week) until it is no longer possible to do so. If rape honey is used this will occur in a week or so.
9. Leave for a few weeks at which point you have a 30lb bucket of fine-grained set honey. (Fig. 3)
10. Place the bucket in a warming cabinet (Fig. 4) at around 35°C. Keep a close eye on it. My cabinet is heated using two incandescent light bulbs controlled by an external dimmer switch. It has a small fan to circulate the air, a heat-fuse to avoid dangerous overheating and a fixed thermometer.
11. At the point at which the honey has softened and can be run, it can be creamed using a creamer. Avoid adding air. You may

find that the softened honey is partially melted on the outside but quite firm at the centre; creaming will ensure an even consistency and will make pouring into the settling tank easier. This process effectively breaks up the crystal bonds (breaking a 3D jigsaw) making the mixture permanently mobile (or liquid). Pour the creamed honey into a settling/bottling tank.

12. Pour into jars.

13. You will now have 30lb of fine-grained creamed honey. Keep two jars back for the next 30lb batch. You will then need to go through the mortar and pestle exercise only once.

I make 60lb (two buckets) at a time.

Roy White,
Somerton BKA, Somerset

Acknowledgements

My thanks go to Simon Jones and David Charles for constructive criticisms.

References

1. Hooper T. *Guide to Bees and Honey*; ISBN 1-899296-04-2.
2. Calderone NW. *Creamed Honey — Theory*. Dyce Laboratory Cornell University, Updated 2008.





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How the Bee Inspection Service Came into Existence

Foul Brood and the National Bee Unit

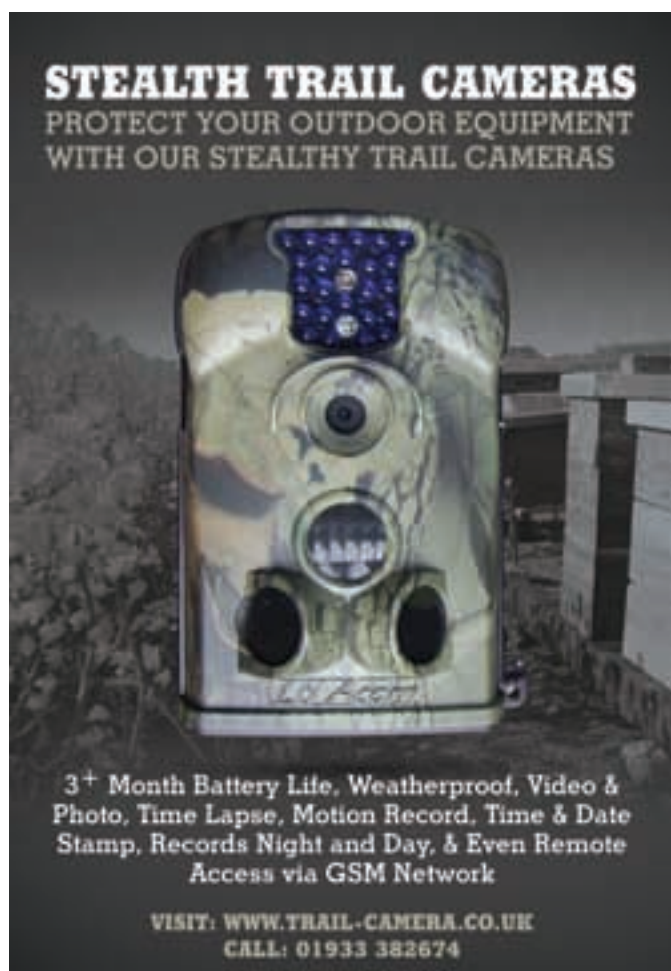
I, along with many other beekeepers, find old beekeeping books fascinating and though many items are not relevant for beekeepers today there is a lot to learn. There is no doubt that we can learn from history to avoid making the same mistakes as our forefathers. I often hear it said that our politicians could benefit by taking this view and I well remember my late father-in-law, when discussing politics, saying: 'I've seen it all before'.

Writing at the end of the 19th century Samuel Simmins, a bee farmer in Sussex, wrote frankly about his experience with foul brood. It was a very serious issue and partly led I believe, to one of his business failures. Maybe writing and publishing his book *A Modern Bee Farm* helped him recover his finances, judging by the number of reprints and the number of copies still in circulation. He certainly bounced back both as a beekeeper and poultry keeper. He reported that in 1897 foul brood was confirmed in three colonies, which were destroyed and in the following year, 1898, he found foul brood in all his colonies. The following are two quotes from his book describing his thoughts at that time: 'I had my first great battle with the dreaded destroyer' and: 'So many beekeepers have been wrecked upon this hitherto dangerous rock'; they certainly give us a heartfelt glimpse of his feelings.

Foul brood disease had been written about for as long as bee books existed but it was not until 1912 that the differences between 'European' and 'American' foul brood were identified. Foul brood was not a reportable disease and was dealt with by the beekeeper with many associations helping to control and monitor the disease. Statistics can often be found in journals and annual reports of the period, and figures for southern counties make disturbing reading when compared with the situation today. To be fair though there were more beekeepers.

In *The British Bee Journal* issued 31 July 1919 there is an advert that is typical of many found in the periodicals of the day: 'Cornish beekeepers APPEAL to OWNERS of DIRTY or INFECTED HIVES to CLEANSE or DESTROY them AT ONCE as such hives are a source of danger to healthy bees and may contaminate the hives of a whole Neighbourhood.'

You might think things do not change, or they had a good understanding of the disease risks of old comb, but in reality this reflected the killing of so many beekeepers in the First World War leaving unknown, abandoned apiaries throughout the country. It was clearly understood at that time how important bees were to food production and in the provision of honey and



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the losses that Britain had made because of the war. As Britain moved into the Second World War known cases of foul brood were running at about 3,000 per annum so the Government fully realising the problem included honey bees in the Agricultural Act of 1941 giving powers which enabled the 'Bee Disease Control Order 1942', creating statutory control of American (AFB) and European (EFB) foul brood, standstill orders, powers of entry for inspectors, etc. Colonies confirmed as being infected with either AFB or EFB were destroyed. This legislation has since been superseded and refined. AFB is now a notifiable or reportable disease in most developed countries.

The legislation led to the Bee Inspection Service, which, in its now developed form, we all know today. In these first years local beekeepers were employed on a part-time seasonal basis to cover their locality. They were based in local Ministry of Agricultural offices. Often they had full-time jobs as well, such as postmen or firemen or were small-scale bee farmers. Reading about railway history I was surprised to find mention of a signaller who became one of these inspectors. His pride for both jobs was very evident. Speaking to some that I have met, they often worked in the early evening and it is clear that the service was very variable depending on the region. However, the service was clearly successful as in the late 1940's cases were averaging a total of over 2,000 yet by the 1970's this fell to less than 500. During this period EFB cases remained static at about seventy per annum so a decision was taken to permit treatment with oxytetracycline for lightly infected colonies.

Was this a good thing? Probably not as in 2000 there were

over 1,000 cases of EFB in England and Wales. However, a move away from using antibiotics has been made and greater emphasis made on replacing comb. In 2011, there were only 695 cases of EFB reported in the same area. There is no doubt that the control of AFB has been very effective but our understanding of, and control methods for, EFB must improve.

With the fragmented service that had been in place since the Second World War it was inevitable that it would be integrated. This occurred in 1994 when the regional MAFF relinquished control of their local inspectors to a newly formed body known as the National Bee Unit (NBU) uniting diagnostics, research and inspections into one body. After nearly twenty years of existence it is clear that there is an effective targeted inspection service along with good research facilities and education activities. Independent review suggests that the NBU is the best beekeeper support service anywhere in the world.

You might wonder what this rambling is about, especially as foul brood disease is not the biggest problem beekeepers face — that accolade is probably reserved for varroa — but foul brood is, and will remain, a problem. History tells us that beekeepers were not efficient at controlling foul brood, which is noticeable when visiting foreign countries, with or without controls. We have effectively trained inspectors who gain experience and become expert by dealing with foul brood outbreaks. In the future we must look at history and fully support and develop the NBU to maintain this jewel in the UK beekeeping crown.

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Winter Survival Survey

Increased winter losses for 2011/12

The results of the BBKA member survey of the 2011 to 2012 winter survival of honey bee colonies show an overall reduction in honey bee colony numbers for the period from 1 October 2011 to 1 April 2012 for England of 16.2%, up from 13.6% in 2010–11.

The four previous years had shown an encouraging steady reduction in percentage colony losses from the high point of 30.5% in 2007–8.

	2007–8	2008–9	2009–10	2010–11	2011–12
England	30.5%	18.7%	17.7%	13.6%	16.2%

Regional variations were reported with greater colony losses than the previous year reported in Western, South East and Eastern regions while losses were reduced in the Northern, North East and South West regions.

There is no single explanation for the continuing reduction in colony numbers over winter. However, in the survey beekeepers are asked about the factors they believe may have contributed to their colony losses. Among those mentioned in addition to known factors such as Varroa, viruses and Nosema infection this year were:

- ❑ Queen-related problems, such as drone laying queens or queenlessness.
- ❑ Starvation through lack of food (available forage) or the bee clusters dying being unable to reach food reserves in the colony.
- ❑ Weather-related impacts such as cold spells affecting colony development and queen mating.
- ❑ Increased wasp activity affecting colonies much later in 2011 possibly due to the mild autumn.

In summary the unusual weather patterns of a mild autumn and unseasonably mild February and March 2012 over the winter of 2011–2012 are likely to have played a significant role in non-disease related losses. However, the data-gathering for the survey only covers the situation to 1 April and therefore does not take full account of the combined impact of unusually mild weather in the first months of 2012 followed by a poor and exceptionally wet April and May that continued into June. This is likely to lead to further colony losses at a time when honey bee numbers would normally be rapidly increasing. In a 'normal' year colonies will begin to build up population numbers in March and April as daylight is longer and temperatures rise.

The mild weather in the first three months of the year meant that many colonies began the spring build up earlier than normal only to be confined to their hives by poor weather preventing foraging subsequently. As honey bees do not forage in very cold or wet weather, their winter stores were used up by the larger number of brood in hives. Some colonies may have since been lost simply by running out of stores.

Survey methodology and results

The overwinter survival of honey bee colonies is a composite measure of their fitness and the effect of various factors, such as colony nutrition and the skill and experience of the beekeeper.

Method

Survey forms were posted to 2,500 randomly selected BBKA Registered Members who were requested to complete it with data to 31 March 2012 and return to the BBKA by 30 April 2012.

Results

A total of 957 forms were returned with data from 934 analysed. The difference in the numbers was mainly due to the respondent not having kept any bees during the survey period. The following tables contain an analysis of the change in numbers on the basis of the regional areas used by Defra Regional Bee Inspectors. They also contain historical data collected using the same sampling methodology for the past five years.

Percentage loss of total number of colonies in England by region

Region	2007–8 %	2008–9 %	2009–10 %	2010–11 %	2011–12 %	** + worse - better
Overall (England)	30.5	18.7	17.7	13.6	16.2	+2.6pp
Northern	37.0	32.1	24.4	16.6	11.7	-4.9pp
Western	40.0	14.2	18.7	9.9	14.5	+5.5pp
North East	43.0	18.9	16.9	17.1	15.9	-1.2pp
Eastern	30.0	12.8	17.2	14.1	20.0	+5.9pp
South East	26.0	18.7	17.9	14.0	19.3	+5.3pp
South West	33.0	15.6	12.8	16.8	14.7	-2.1pp
Southern	28.0	28.0	23.6	15.3	15.4	+0.1pp

**Last column compares the data for 2011–12 with that for 2010–11, emphasising where the situation was worse with red highlighted percentage point (pp) figures.

Survey detail

	2007–08	2008–09	2009–10	2010–11	2011–12
No. of responses	593	1150	1026	899	934
No. of colonies at start of survey	4611	6567	4848	3697	3898
Mean no. of colonies per beekeeper at 1 October	7.8	5.7	4.7	4.1	4.2

This survey could not have taken place without your support in returning your forms and for the help of Margaret Anderson in collating the survey responses and preparing the database.

We plan to repeat the survey this year and we look forward to your continuing support.

Dr David Aston,
BBKA Chairman

Business Corner

From the Boardroom

The main theme of the June Executive Meeting concerned the public understanding of role of the BBKA and the presentation of information, its policies and its responses to questions whether they are from the media or other interested parties.

There are many ways to communicate such information, including the printed word, websites and social media such as Facebook and Twitter. The Executive listened to a presentation on Social Media from a consultancy which gave a broad overview of the benefits and pitfalls of such media and the strategies and safeguards which organisations should have in place when using them. Factors to bear in mind in choosing the most appropriate medium and having an understanding of the resources of time and money needed were discussed. The Operations and Membership Services team have been asked to consider the topic in more detail and to make recommendations.

The meeting also reviewed the first six months of its activities. This included progress made with the development of new ways of working so as to effectively manage the diversity of activities of the BBKA on behalf of its members, and how well it fulfils its charitable obligations to the public.

The July issue of *BBKA News* contained a number of items on pesticides. The Executive reviewed its communications and its position and demands to seek assurance that the use of pesticides in crop protection, horticulture and gardening does not pose a risk to honey bees.

Dr David Aston, BBKA Chairman

BBKA Written Exam Results

Module 5: Peter William Sunderland, Norwich, Norfolk.
Basic Assessment 2011: Sophie Axford, Bramley, Hampshire.

Congratulations to both successful candidates,

Val Francis, BBKA Exam Board Secretary

We Need Your Help!

We have a working relationship with the Garden of Wales, National Botanic Garden and we have offered to assist them in their research into the study of 'Plants for Health'. They are asking beekeepers throughout the UK to supply them with a sample of their honey so that they can test its anti-microbial properties. A selection of samples will be DNA bar-coded to find out what plants the bees visited. If you would like to help they need:

- A 200g sample of honey
- Name of the supplier
- Contact details
- Location of hives
- Type of habitat the hives are found in
- Main plants used for foraging.
- Date collected.

We would like to sample honey at different times of year so please let us know when the honey was collected. Please send samples to: Jenny Hawkins, School of Pharmacy and Pharmaceutical Sciences, Cardiff University, Redwood Building, King Edward VII Avenue, Cardiff, CF10 3NB. Email: HawkinsJ6@cardiff.ac.uk.

For further information please visit <http://www.gardenofwales.org.uk/science/plants-for-health/>

Julian Rees, Business Manager, IBRA

Honoured by the Queen

Geoffrey Hopkinson, aged 84, of Stafford, was awarded a British Empire Medal in the Queen's Birthday Honours for 'services to beekeeping'. These include many years of voluntary work for county level beekeeping associations, building membership at times when practical beekeeping was dying, and over forty years service as an examiner for both the BBKA and the National Diploma in Beekeeping (NDB). In the late 1970s, with the late Ted Hooper MBE, he rewrote the syllabuses for the BBKA examinations at all levels, followed by a similar revision of the NDB syllabus in 1983, which has served that



Geoffrey Hopkinson.

organisation with only minor changes to the present day. Geoff has written prolifically on bees and beekeeping, from one of the first beekeeping leaflets for the BBKA in 1978, to the popular *Trees, Shrubs and Bees* in 2000, and numerous magazine articles. He served as an expert witness for Greenpeace on the role of bees in spreading genetically modified maize pollen. In the 'day job' as a teacher and schools inspector, he was a pioneer in both rural studies and environmental education, bringing bees into schools and students out to the countryside.

His lifelong contributions were recognised by the BBKA in 2007 with honorary life membership, and by the NDB in 2009, by his appointment as their first President. In the publicity surrounding the BEM, Geoff acknowledged the support of his wife of 58 years, Mary, without whom he could not have achieved what he has. Today he displays the same level of passion and desire to educate and promote beekeeping as he did as a young lad from Maltby, South Yorkshire.

Ken Basterfield, NDB

Diary of Events

2012

25 August. Exmoor Honeyfest 2012, see p14. Information from: www.exmoorhoneyfest.co.uk.

8-9 September. Bristol Honey Festival, see p29. Download a schedule and entry form at <http://www.bristolhoneyshow.org.uk>

8-9 September. Birmingham & District Beekeepers' Association Annual Honey Show and Competition, see p29.

22 September. Preparing for the BBKA Microscopy Exam: an all-day refresher course, see p18; visit www.microbees.co.uk.

13 October. Beekeepers and Microscopes afternoon taster session, see p18; further information www.microbees.co.uk.

25 October. Central Association of Beekeepers' Social Evening: 'Bringing Science to Beekeepers', National Honey Show. Contact Pat Allen: 01708 220897; pat.allen@btconnect.com; www.cabk.org.uk

25-27 October. National Honey Show, see p16.

23-25 November. Central Association of Beekeepers' Stratford Conference: Speakers and dinner. Contact Pat Allen tel: 01708 220897, Email: pat.allen@btconnect.com, web: www.cabk.org.uk

2013

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

An Introduction to BBKA's Strategic Plan

The Trustee body of BBKA is known as the Executive Committee (EC). It is made up of twelve 'regular' Trustees and the President, who is also a Trustee. This year, half of the Trustee were new. Soon after their induction the Trustees as a whole agreed to schedule an additional EC meeting dedicated to clarifying BBKA's strategy and work plan, separate to the demands of the annual meeting cycle.

It is important to recognise that BBKA is not 'just' a charity. It is an organisation which requires the same application of diligence and commitment as any small business or company. It works within the framework of charity law and reporting requirements, which rest entirely on the shoulders of its Trustees, and yet Trustees are volunteers. Taking into account legal responsibilities, Trustees' personal commitments and the value of work undertaken on behalf of its members, there is an absolute need for BBKA to be clear about its activities and what it sets out to achieve. This includes understanding and organising the evolving role for the paid staff of the charity so that we make BBKA the most effective organisation we can with the resources to hand.

The starting point was the charity's Objects as set out in the Constitution and agreed by the Charity Commission. Three questions arise: 'Does every activity we undertake hang directly from these?'; 'If not, why is it being done?' and: 'Is every appropriate activity of significant value to the BBKA and its members?' The Trustees set about answering these questions. The result is a strategy document which describes our work in terms of high level strategic aims and objectives, followed by actions consequent to them in such a way that every level of activity is linked directly to the next.

There are three strategic aims, the first two of which are the stated Objects in the Constitution:

- To promote and further the craft of beekeeping.
- To advance the education of the public in the importance of bees in the environment.

These two strategic aims break down into four key strategic objectives, to:

- Improve honey bee husbandry and the quality of honey bee stock.
- Support the work of the BBKA in all technical and environmental matters concerning the honey bee, beekeeping and honey bee products; to include research, scientific, pesticide, biocide, GM and ecological matters.
- Provide high quality membership services and support.
- Improve the awareness, understanding and support of the general public.

A third strategic aim, to ensure cost-effective and efficient processes, is intended to keep our eyes focussed on resources by administering BBKA activities efficiently and effectively, and achieving financial growth while exercising effective and prudent financial management.

How does this work in practice?

From the strategic objectives flow specific high level actions. These have been allocated to 'lead' Trustees who are responsible for developing work plans identified within their sphere of responsibility, e.g. Education and Husbandry (E&H). These will be signed off by the Trustees. In this way, the Trustees have a complete picture of all activities at any time. It also ensures that where responsibilities are shared, appropriate communications are put into place. The following is an example of the linearity of this approach.

Strategic Aim (one of three):

To promote and further the craft of beekeeping.

Strategic Objective (one of three):

To improve honey bee husbandry and the quality of honey bee stock.

Actions:

Encourage and support continuing development of beekeeping knowledge and skills (E&H).

Initiate and support practical and theoretical programmes of beekeeping education (E&H).

Develop and improve resources that are available (E&H).

Participation in the delivery of the Healthy Bee Plan (Chairman lead).

From the above, Julian Routh as Lead Trustee for E&H, and David Aston as Chairman, assume direct responsibility for these actions and are currently leading the

process of devising work plans to prioritise and achieve them.

This can seem dry old stuff. However, by introducing the manner in which your elected Trustees are organising the work of BBKA the intention is to increase the confidence of members by informing them of the scope and nature of its activities. The strategy will be published more fully on the BBKA website.

Dawn Girling,
BBKA Trustee, on behalf of the EC

Trustee recruitment — seeking nominations for ADM 2013

Nominations for election are sought from interested and enthusiastic individuals to undertake the role of Trustee to manage the activities of BBKA on behalf of its members. Information is available to ensure that expectations of the role and time commitment are fully understood by prospective nominees prior to nominations being confirmed. As stated above, BBKA, as a charity, requires the same application of diligence and commitment as any small business as it works within the framework of charity law and reporting requirements. The Charity Commission advises that to operate effectively, a Trustee Board, needs a diverse mix of skills, backgrounds and experiences. Therefore, it encourages us to present a 'wish list' of the type of skills that would be desirable for a prospective Trustee to have in order to better inform decisions to support candidates who will contribute to the effectiveness of BBKA. As a result of a skills gap analysis, the EC has identified that BBKA would be strengthened by the election or co-option of members with professional experience in financial or legal services. This is no less significant when considering the expected turnover of Trustees at the 2014 ADM.

Vacancies will arise at the Annual Delegates' Meeting 2013 when three Trustees complete their first term. These are: Julian Routh, lead Trustee for Education and Husbandry; Dawn Girling, lead Trustee for Governance and Peter Sutcliffe, elected for a one-year term. While all are eligible for re-election, new candidates are encouraged to submit their nominations. The deadline for receipt of nominations is 20 October 2012.

Solitary Bees: Flower-bees

The *Anthophora* bees (sometimes known as Flower-bees, although this is a rather stupid name as all bees come to flowers for nectar and



Male *Anthophora bimaculata*. Photo by Jeremy Early.

pollen) are robust, hairy and very territorial; only five species occur in Britain. The males have yellowish-marked faces and often hover in front of people to guard their territory; the females nest in holes in the ground.

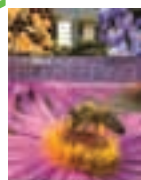
One species, *Anthophora plumipes*, is a common garden bee in the spring; the female is all black but the male is brownish grey. *Anthophora*

bimaculata (a male shown here) is much the smallest of the five British species and flies in July and August on sandy heaths and dry grassland in southern England; both male and female have yellow faces and startling green eyes. They make a very audible high-pitched hum and are usually heard before they are seen. They often nest in large aggregations on south-facing sandy banks.

David Baldock,

Bees, Wasps and Ants Recording Society www.bwars.com

The BBKA Guide to Beekeeping



Oh no, not another new beekeeping book! But this one is different. It is the first book to be endorsed by the BBKA; written by Dr Ivor Davis, NDB, with Roger Cullum-Kenyon, who has created an excellent layout and copious illustrations, the book will be published by Bloomsbury in mid-August. The authors have generously ceded their royalty rights to the BBKA after initial costs are covered, so not only does the BBKA have an excellent book to offer those in the early stages of their beekeeping careers, but one that will generate a modest income over the years for the charity.

Roger and Ivor were the progenitors of the first Course in a Case (CiC) directed at beginners and novices. *The BBKA Guide to Beekeeping* can be used as a companion work for those following the course, but will be of great use to all newcomers to the craft. It will be available through the BBKA web shop and BBKA intends to offer beneficial terms to associations buying in quantity (further details from the National Beekeeping Centre at Stoneleigh). A review of the book is planned for September BBKA News.

Tim Lovett, BBKA Executive

Your Letters



Neonicotinoids

We must thank David Aston for writing to the Chemicals Regulation Directorate (CRD) on our behalf, expressing concern over recently published papers about neonicotinoids and bees (BBKA News, July). In printing the reply from the CRD, David expresses the hope that UK beekeepers will be reassured. Well, I for one am not.

I expected that David, as BBKA Chairman, would deserve a more detailed reply regarding the recent science, not the blanket statement: 'The body of evidence assessed so far supports the conclusion that neonicotinoids do not threaten honey bee populations'. Is that all the CRD is prepared to tell us about the fifteen papers they have evaluated? Do they imply that all these papers are so flawed that they can be dismissed as having little value and are therefore of no concern to us?

The BBKA should insist on an evaluation of each of these papers from the CRD.

John Hoar BSc MSc, Fareham BKA, Hampshire

Air Traffic Control

One of my hives has an entrance block with a restricted slot in the middle to help the bees defend it against robbing by wasps and other bees. They were flying strongly and there was a lot of crowding at the entrance, so I cut a second slot at the side of the block. The bees immediately began to use this slot as an exit, and the middle slot as an entrance, thus reducing the queuing and mid air collisions at the front of the hive. I resisted the temptation to mark the slots 'IN' and 'OUT', since the bees have already adopted the one way system without prompting.

Joe Bleasdale, Somerset BKA

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For further information contact the Show Secretary on
Tel. 0117 9445741 or Email: showsec@bristolbeekeepers.org.uk



Bristol Beekeepers

Bristol Branch of Avon Beekeepers Association

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Registered charity number 271717

Imported Bees

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.

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11-20 queens £29 collected

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Your Letters



Dear Ed.

Summer Cold

My apiary is sited in a protected south west position in a large garden which overlooks fields. I have at present six hives. There is a two metre high plastic netting screen about three metres in front of the hives which force the bees to fly up and over so that their flight path is high over the garden. The nearest beehives to mine are two miles away.

On Monday 4 June I was gardening some twenty metres away when I heard very loud buzzing and walked over to the hives to take up my usual observation post behind the screen. I saw the hive that the bees were flying over and down into and assumed that this had been a mating flight from a virgin queen that had hatched on 28 May. Most of the bees appeared to have already gone into the hive so I think she had too because I was not lucky enough to spot her. Within the next fifteen minutes or so the loud buzzing had stopped and the entrance had only a few bees coming and going, as before. It was only 14°C and cloudy, so I was quite surprised that the queen had been out to mate. However, as it had been consistently raining on and off for five days, this was the first dry day in some time, although cold for June.

That evening at dusk as I was putting a feeder onto a nuc, I saw a small group of dead bees on top of the hive from where all the excitement had been earlier in the afternoon. I looked at them closely and found six dead drones, all intact and on their backs, but each one with its genitalia exploded from their abdomens. I did not find any bee body parts such as the odd wing or leg, so I did not think birds were the cause. There was no debris of bees on the floor of the apiary site (flagstones, so bees are easily spotted).

The mating flight usually takes place some distance away and at a height of ten to thirty metres where all the drones congregate together waiting for queens. However, I subsequently read in Clive de Bruyn's book *Practical Beekeeping*¹ that 'not all matings need to take place in drone congregation areas.'

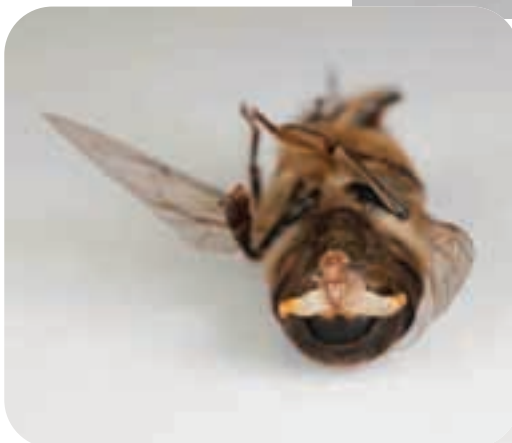
Having shown the bees to Ruth and Ian Homer, who are presently running an Improvers Course at our Branch Apiary, Ruth emailed me the passage below taken from *Queen Bee: Biology, Rearing and Breeding* by David Woodward:²

'The penis consists of an endophallus that is everted during ejaculation. The end of the penis with the bursal cornua protruding is inserted into the sting chamber of the queen.'

'After ejaculation, the drone and queen separate and a popping sound may be heard as the penis snaps in half.'



Drones, photographed at the scene. The drone with its abdomen facing us with the 'bubble' was taken by Ian Homer. The two other photos were taken by David Shale.



The dead drones lying upside down on the hive roof had obviously retained the first half, as the photos clearly show.

It seems likely that the queen mated with all six drones over the hive but at no great height, causing the drones to fall on to the roof after ejaculation. It was a remarkable sight to find them all together, upside down, in the same position.

I inspected the colony last week and have found eggs, so the queen has successfully mated, though of course there may have been more than one mating flight.

My conclusion has been that it must have been the cold temperature that caused the matings to take place just above the hive. It would be interesting to know if other beekeepers have had similar experiences this year.

Katherine Jonas,

East Devon Beekeepers' Association



It's a Mystery!

Or is it. Does anyone know what this antiquity is and what its purpose was?

All will be revealed in September BBKA News. In the meantime, why not have a think about this piece of beekeeping equipment and see if you can work it out.



References

- 1 de Bruyn C. *Practical Beekeeping*, p29, 1997, Crowood Press, UK.
- 2 Woodward D. *Queen Bee: Biology, Rearing and Breeding*, p17, 2007, Balclutha press, New Zealand.



Colony Strength...Naturally
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