

BBKA News

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



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*Swarms in June.
Photo by Sue Horrex,
Stowmarket BKA*



Flower Power

At last summer has arrived so take a look at our regular garden feature for bee-friendly planting inspiration on page 7.



Small Hive Beetle Monitoring

Beekeeper vigilance is our first line of defence against entry of these pests as explained on page 22.



Study Groups

Study groups are an important part of learning and something supported by the BBKA, see pages 27 and 32 for more details.

International Meeting of Young Beekeepers

Congratulations to the team from England who came fourth out of the fourteen countries who entered this year's competition held in Germany in June. Last year England came sixth.

This is a fantastic result, especially given the relatively small number of young beekeepers in the UK. Other countries had several thousand eligible candidates to choose from in a series of regional and

national heats. Wales came 12th and the Irish team came 13th; the Scots did not send a team this year. At an individual level, from the forty young beekeepers, Elsa Cavill came 10th, Lewis Thomas 14th and Georgia Sellars 18th overall. So well done to team England for an excellent performance.

Simon Cavill, Fleet BKA

Turn to page 15 for more information.





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Chairman's Letter



On 13 June we announced the results of the BBKA Winter Survival Survey and they received much media interest. We reported an overwinter loss for England up from 16.2% in 2011/2012 to 33.8% in 2012/2013 and things were looking gloomy. Then, here in East Yorkshire we have had some reasonable weather, and with forage crops coming on stream colonies have expanded

very quickly yielding some nice honey; colony splits have been made as part of the swarm management programme and new queens raised. Things are now looking much rosier. However, this is not the case over all the country and even on a local basis beekeeper experiences can vary.

Honey bees seem to be regarded as a sentinel species, their status at any one time being taken to be representative of pollinators in general. However, this is too simple and a misleading assumption. Certainly, honey bee colonies and their natural history show them to be very resilient and able to cope with a wide range of adverse conditions, but they also have the help of the beekeeper. Other pollinating insects are less fortunate and their plight is significantly worse than that of the honey bee. Despite this, honey bees are still vulnerable to pests and their associated diseases. We still have an important task to develop new biotechnical- and chemical-based solutions to such problems and must incorporate these into our beekeeping practices to further increase the chances of colony and species survival against pests such as varroa.

The newly launched BBKA 'Friends of the Honey Bee' specifically commits to using some of the money it receives for developing solutions to control varroa and draws the attention of the subscriber to this fact. In addition some money will go towards the work being done to encourage land managers to facilitate the planting and maintenance of pollen- and nectar-rich plants, which will benefit honey bees and other vulnerable insect pollinators. Monies received from subscribers will be ploughed back into these activities; it will make a real difference to the health of honey bees and give beekeepers better tools to manage and control varroa. There are other organisations competing for the money which the public wishes to contribute to help the bees, but none are as focussed and specific as 'Friends of the Honey Bee' so please find out more about the scheme and promote it wherever you can; see July BBKA News or www.bbka.org.uk.

I started my letter talking about the Winter Survival Survey, and at a recent 'Talk Science' event at the British Library at which I was a Panel Member, I was asked about my views for the future of beekeeping. I said I was optimistic, and so should we all be for the sake of our bees. There are problems to be overcome, but we can minimise their impact on our bees if we think before we act and plan ahead, taking into account our bees' needs not just in the short term but for the next six to nine months, and then organise our beekeeping accordingly.

David Aston, NDB, BBKA Chairman

Cover photos: Main image: Sue Horrex; Top right: David Aston; Middle: Courtesy of the Food and Environment Research Agency (Fera); Bottom: Christine Knott.

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In the Apiary

Usually in August the summer flowers are coming to the end of their life and the nectar flow is finishing. However, if you are, as I am, in an area where there is abundant Himalayan balsam or if you are going to the heather then things will be different. For most beekeepers though, the season is finishing and the honey is safely stored in food grade containers awaiting the final stages of straining and bottling.

As a result of the reduction in forage the queen will be reducing her rate of laying because the workers will be restricting her diet. The area of brood will become smaller and, as the young workers emerge, the empty cells will be filled with nectar as the colony starts to build up its winter stores. Foragers will still be bringing in pollen even though there are fewer larvae to feed.

As we all know worker bees live for approximately six weeks in the summer but for much longer in the winter. Actually there is no real physiological difference between summer bees and winter bees but, the fact is that bees age in a different way to us. We age regardless of the life we lead. Even if we lead a life of indolent luxury we still age; bees do not age in the same way. They usually go through a series of age-related tasks and, as their glands change, their role changes. These tasks include cleaning the cells so the queen can lay in them, feeding the young larvae and foraging.

In the summer young bees eat a lot of pollen and this means that they can produce brood food from their hypopharyngeal glands. We call them nurse bees or house bees. With increasing age, the glands change and the bees' tasks change. The wax glands develop as does the sting and the hypopharyngeal glands start to produce the enzyme invertase, which acts upon nectar. Eventually they become forager bees. These summer bees simply work themselves to death and often die in the field when out foraging.

Winter bees are different. They have fewer larvae to feed so they may not be needed as nurse bees at all. Their hypopharyngeal glands stay full of pollen or brood food ready for the spring rush of brood. During winter they do not pass to the next stage and therefore stay almost suspended at a young age. They only become foragers when they have passed through the other developmental stages which will happen in the early spring. These winter bees are therefore very important because, as you can see, the survival of the hive during that critical time in early spring is entirely dependent on them. They must survive for the six months of winter and in order to do that they must be well fed, healthy and free of varroa mites and the viruses they bring.

Why is this so important in August?

In most of our colonies the eggs that the queen is laying in mid- to late August will develop into these important winter bees. Remember that it takes twenty-one days for a worker bee to develop from the day the egg is laid. So it is vital that the young larvae being fed in August are as disease free as possible.

For this reason towards the end of August is a good time to carry out a full disease check just as we did in the spring. Shake all the bees off each frame and inspect the cells for signs of abnormality. Look for healthy brood. If in doubt ask an experienced beekeeper to help. Take a sample of thirty older bees from the front of the hive and get them checked for nosema and acarine. Perhaps you have a branch microscopist who will help.

As soon as the honey has been removed we must check the mite drop of each colony and if necessary, apply authorised varroa treatments. The Fera booklet, *Managing Varroa*, provides excellent guidance and can easily be downloaded from the BeeBase website. But whatever treatment you use please remember to read and follow the manufacturer's instructions.

It is also necessary for us to record all treatments that are used on our colonies. We must keep a record of where we obtained the medicine, the batch number, details of the treatment, and date of application. The BBKA produces a special record card but details can be kept with the hive records. We must also dispose of the medicines in line with the manufacturer's instructions.

Remember that once we have removed the honey we have, in effect, robbed the colony of its winter stores and we will certainly need to feed the bees soon.

I hope that you and your bees have had a good summer and that you have a large store of honey as a reward for your bees' labours.

Margaret Murdin,
Master Beekeeper, Ormskirk and Croston BKA

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Winter Feeding

We are getting to that time of the year when we should begin preparing our colonies for winter. Honey bees collect nectar in the warm months and put it into long-term storage as honey in order to have stores for the winter. These stores are used both to survive on, as food, and as fuel for keeping the colony warm as it clusters to pass the cold winter months. Bees eat the diluted honey and use their powerful wing muscles to generate heat thus converting the sugars into energy and keeping the winter cluster warm. It is imperative therefore that we, as beekeepers managing colonies for our own use, ensure that each colony has sufficient honey to last until next spring when the bees can begin to collect fresh nectar again.

What is considered to be 'enough' honey stores in our northern temperate climate?

As in all things to do with bees, the answer is, it depends. Some races of bees are frugal but others eat lots in the winter. For the average colony, around 20 kg (45 lbs) of stores are required although larger colonies of more prolific races such as the Italian bee, *Apis mellifera ligustica*, may need more and our native black bee, *Apis mellifera mellifera*, will consume less. Go by how much space the colony needs during the summer; take 20Kg (45 lbs) of stores as an average requirement for a colony which is comfortable with the queen laying in a single brood box, but allow 25 kg (55 lbs) if the colony is on brood and a half.

To assess the amount of stores in a colony going into winter, it is useful to know that a British Standard brood frame holds just over 2 kg or around 5 lbs, so nine full frames of honey will be needed. For a Langstroth, this comes out at around 3 kg per frame, so assess accordingly. It now depends mainly on the beekeeper. If it has been a bad year for the honey crop and a colony does not have sufficient stores according to assessment, or if the beekeeper takes as much honey as possible leaving insufficient for the bees, then they must be given a supplement. Of course commercial honey farmers have to maximise their yields in order to make a living, but for the amateur beekeeper, consider leaving a super of the colony's own honey, which one feels instinctively must be best. Remove the queen excluder until spring so that the cluster can move into the super easily as it will not leave the queen behind. There is a view that putting the super below the brood box is the best way; both options have their merits.

The substitute or top-up that we give our bees is sugar syrup. Feeding honey should be avoided as there is a risk of spreading disease and the odour of honey increases the likelihood of robbing. Syrup is odourless. Ready prepared feed is available commercially and very convenient for bee farmers, but most of us make up our own feed from white granulated sugar, which is pure sucrose and one of the three main component sugars of nectar. Never use raw or brown sugar. This may sound counter-intuitive when we consider that these less processed (usually) sugars may be thought to be more natural than the white stuff, but the impurities in it are harmful to bees. Icing sugar often contains additives as well as being more expensive than granulated sugar.

Before going into the detail of how to make up the syrup some issues need to be addressed. The strength of syrup is often quoted as 'light syrup, spring feed, 1:1' or 'heavy syrup, winter feed, 2:1' which without units is meaningless. In the days when we in the UK used

mainly Imperial measures, these proportions meant respectively 1 lb of sugar to 1 pint of water, and 2 lbs to 1 pint. However, now that we have moved to metric measures, we need to understand exactly what these figures mean as they do not translate to 1 kg sugar in 1 litre of water, etc. So, here follows the maths.

Sugar should be fed as syrup expressed as a percentage, and for winter feed this is a little over 60%. Research at Rothamsted has shown that the optimum concentration for bees to process syrup fastest and store most is 60%, with greater concentrations becoming progressively less interesting to bees. Take our 2 lb of sugar to a pint of water as an example:

2 lb of sugar weighs 2×16 ounces i.e. 32 oz.

1 pint of water is 20 fluid oz.

The total weight of this mixture is then $32 + 20 = 52$ oz.

The percentage of sugar it contains is $32/52 \times 100\% = 61.5\%$.

Since 1 litre of water weighs 1 kg, if we metricate our '2:1' example for 2 kg sugar dissolved in 1 litre of water we get:

Total weight of mixture = $2 + 1 = 3$ kg.

The percentage of sugar it contains is $2/3 \times 100\% = 66.6\%$.

However, for 2 kg sugar dissolved in 1.25 litres of water:

Total weight of mixture = $2 + 1.25 = 3.25$ kg.

The percentage of sugar it contains is $2/3.25 \times 100\% = 61.5\%$

Halve these numbers and you get 1 kg sugar in 625 ml of water. Although here we are not concerned with light syrup, similar calculations will give 1 lb sugar in 1 pint of water as 44% but 1 kg sugar in 1 litre of water is 50%. To make up 44% in metric measures, we need 1 kg sugar in 1.25 litres of water ($1/2.25 \times 100 = 44\%$). Therefore do be careful when quoting 1:1 or 2:1!

Now to calculate the amount of syrup to offer. In approximate terms, 10 kg of sugar made into heavy syrup gives a volume of about 25 litres and weighs about 16 kg, providing 15kg of stores and being equivalent to 12 kg of honey (16 lbs of sugar made into heavy syrup gives about 23–24 lbs of stores and is equivalent to 20 lbs of honey). To make up the syrup, mix the required amount of sugar with hot water and mix as quickly as possible until all the sugar has dissolved to give a clear solution, which has a pale cream tint. Do not boil the mixture in an attempt to dissolve it all because this can break down the sugar and produce the organic molecule hydroxymethylfurfural (HMF) which is toxic to bees. Cool it down before adding to the feeder. At this strength the syrup can be stored, but keeps best if a little thymol is dissolved in surgical spirit and mixed with the sugar solution.

Note:

Thymol crystals are hardly soluble in water but dissolve easily in alcohol, so according to a recipe adapted from Rob Manley's original:

- Careful handling of thymol crystals is essential, as they are harmful to the skin.
- Dissolve 30 g thymol in 150 ml surgical spirit (1 tsp in 5 fl oz) to make a stock solution.
- Add 5 ml stock solution to 13.5 litres syrup (1 tsp to 3 gallons).

When should we give our colonies this syrup in order to supplement their winter stores?

The basic principle is: feed early enough so that the bees can invert the sucrose to fructose and glucose, evaporate the water content to reduce it to around 18% for storage and seal it over as they would for nectar. This is before the weather turns cold, so around the end of August or the first week in September when the colony is still well populated. If this is not achieved then the partially processed syrup might ferment and bees will suffer from dysentery. They do not defecate in the hive under normal circumstances and the rectum of a bee is capable of expansion, so in winter they can retain waste for a long time. However, if forced to defecate in the hive the colony's hygiene is compromised, and if any nosema is present it will be spread rapidly as the house bees attempt to clean up the infected faeces.

Feed too early, though, and they will convert the syrup into brood. As a guide then, after the supers have been extracted and given back to the hives to be cleaned up remove them and make an assessment of requirements. Then feed using a rapid feeder, such as the Miller or Ashforth, in order that the bees can process it quickly. See Paul Smith's article on page 13 for a good account of the various types of feeders that could be used.

As always, we feed bees in the evening, never during the day. The reason for this is that bees can tell each other where a new source of food is to be found using the famous waggle dance. However, when the distance to the source is under 50 metres (some say 100m) they are unable to specify exactly where the source is and so bees go rushing around outside the hive, searching for food and will enter other hives, find their stores and a big robbing situation results! If the colony is fed when the bees are no longer foraging for that day, they will discover their food source within their hive by the next morning and mayhem will be avoided. The entrances should be reduced by inserting the entrance block to help each colony to defend itself more readily from robbers. All colonies in the apiary should be fed at the same time so that all are in the same state of awareness of the food source, which also helps to avoid robbing. It is very important that no syrup is spilled; if it is it must be cleaned up immediately. Do not leave syrup open to bees in the apiary. Once begun, robbing is very hard to stop. If all the syrup is not taken down by the time the cold weather arrives, remove the remains to prevent it fermenting and monitor the hive by hefting, as described below.

We may be faced with a dilemma because this is also the time when we treat colonies against varroa and when preparations involving essential oils are used robbing may occur more easily. Follow the directions on the treatment packet.

Topping up the colony's stores for winter should ensure that they will not starve. Sometimes, however, during a prolonged cold snap the cluster does lose contact with its food and isolation starvation takes place, but that is another story.

It is a good idea to practise what is called 'hefting' a hive in order to estimate its weight and thereby its possible stores in winter. This simply means getting into the habit of lifting the back edge of the hive off the stand before or after an inspection and getting a feel for its weight, coupled with the visual assessment of weight by observing the amount of capped stores in the frames. Then in winter when the hive should not be opened, we can get an idea of whether it is feeling a bit lighter than it should, perhaps indicating that the stores are running short. This is particularly important during the late winter/early spring period when the

colony may have used up its food and is in danger of starving. When unsure use candy, which is available from beekeeping suppliers or there are recipes in many beekeeping books. It does not ferment and may be placed in a plastic bag over a hole in the crownboard without disturbing the colony. Pierce a few holes in the bag and bees will come up to take it when the temperature allows them. They need water to be able to use solid food and this is available as condensation within the hive. However, in an emergency, spray the bees lightly with 44% syrup and give them a frame with the cells filled with syrup.

“ In order to assess the amount of stores there is in a colony going into winter, it is useful to know that a British Standard brood frame holds just over 2 kg or around 5 lbs, so nine full frames of honey will be needed. For a Langstroth, this comes out at around 3 kg per frame, so assess accordingly. ”

In nature colonies store food for the winter. If we take the honey from our managed colonies which they have stored for winter survival we must ensure that we leave them enough to last until foraging begins again in spring or provide them with a substitute to see them through. Without it, they will starve. They also need pollen but they usually store enough to last and we do not normally take this from them.

The National Bee Unit has some excellent advisory leaflets on their website BeeBase at <https://secure.fera.defra.gov.uk/beebase/index.cfm> including more information about feeding bees. Do not forget to sign up to BeeBase while you are there as it is a great resource for beekeepers.

Bridget Beattie, NDB

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Flower Power

In hot sunny years our gardens can look a bit tired by August, but in 2013 the cold wet weather continued until the beginning of June. Looking on the bright side, this resulted in plants flowering later and lasting longer and, according to the Met Office, this



pattern of weather is predicted to last for ten years; at least we have some warning. Whatever the weather, August is always a month of endless weeding and tidying, and possibly there will be more of it as climate change and increased CO₂ causes more luxurious growth.

Currently our gardens are still full of a riot of flowers. Many of those will bloom through several months such as sedums and veronicas. Sedums, also known as stonecrops, can be half hardy but many are hardy perennials that are very easy to grow, need little attention and are not fussy about good soil; what they do not like is wet places. They are succulents, which means that their foliage is adapted to enable them to deal with hot conditions. They vary from grey-green to deep purple, and the star-shaped flowers can be white, yellow pink or purple. The flowers are visited by honey bees and other bees as well as hoverflies and butterflies for the easily accessed nectar; in the sun the flat heads of the flowers can be covered with drowsy insects.

The little flowers of speedwells (*Veronica spp.*) occur both as wild and cultivated plants, all of which are shades of sky blue that bring highlights to our gardens. The tiny *V. chamaedrys* can spread through your lawn and look very pretty if you choose to have small flowers in grass and it is a native plant that attracts several

mining bees for pollen. The genus includes a range of species that bloom from March to September and ones to include in your garden are *V. gentianoides*, which bears powder blue flowers in early summer, *V. fruticans*, a deep blue with a reddish eye (summer to early autumn) and *V. longifolia* with bright blue flowers on long spikes (July to September).

The flowers of most culinary herbs attract bees; hyssop (*Hyssop officinalis*) flowers from June to October providing pollen and nectar for both honey bees and bumblebees. Hyssop leaves can be added to salads and to oil, to produce oil that herbalists use to ease colds, flu, bronchitis, catarrh and burns.



Top left: *Echinops sp.* (Globe thistle); Above: *Sedum sp.* (Stonecrop) and right: Hardy *Geranium hybrid*, 'Phillippe Vapelle'. All photos by David Aston.

A very popular group of plants with all types of bees, hoverflies and wasps is the globe thistle (*Echinops spp.*). There are more than one hundred species in the wild, mainly in Portugal, Spain and eastwards to India. The globe-shaped flower consists of many single flowers each of which secrete nectar at the base of the flower tube; the nectar rises up the tube which consists of split petals making it easily accessible to bees with both short and long tongues. *Echinops* are robust, statuesque, long-lived plants for our gardens and the species *E. bannaticus* and *E. albus* with white blooms are popular, as is the variety veitch's blue.

There are a number of wild cranes-bills (*Geranium spp.*) that can be grown in the garden, in particular meadow cranes-bill (*G. pratense*) which has a large, bright blue flower and is found between June and September in field corners and roadside verges. Cultivated geraniums, usually called hardy geraniums, make beautiful clumps of flowers useful to fill gaps and give you colour over a long period; they come in gorgeous soft colours from white to dark blue and purple. Their open flowers enable the bees to access the nectar which is usually secreted at the base of the stamens. The naturalised dusty cranes-bill (*G. phaeum*) is very popular with honey bees but it spreads very quickly and unless you are a beekeeper you might not want it in your garden.

Finally a plant that can be used to make a statement in the garden is *Gaillardia* with its fiery red and yellow daisy-like flowers, sometimes up to 12cm wide, and its straight stems, making these excellent cut flowers. Generally they are available in hybrid form as hardy, short-lived herbaceous plants that will survive for three to five years in well drained soil. Also called blanket flower, they can be relied upon to flower from June to September and to provide both pollen and nectar to all types of bees.



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Nosema ceranae, a Causative Agent of Nosemosis in the UK

Many beekeepers will be aware of the microsporidia that can infect our native honey bee, *Apis mellifera*. There are currently two species reported, *Nosema apis* and *Nosema ceranae* (Figure 1), that can cause the full blown disease 'Nosemosis'. *Nosema ceranae* is a recent arrival to the UK, first reported in 2007 by the NBU (see January 2008 article on BeeBase <https://secure.fera.defra.gov.uk/beebase/index.cfm?pageid=166>). Inside a vigorous hive, either or both species can exist without causing any apparent symptoms. However, when a colony is stressed by factors such as long confinement, starvation or poor nutrition, then bees' immune systems can be compromised, the host-parasite balance may then be disrupted and signs of disease may emerge. This article concentrates on the most recent arrival, *N. ceranae*.

A brief symptomology

Unlike *N. apis*, *N. ceranae* is reported to cause 'dry' Nosemosis, dysentery only rarely being associated with it. As a result you may not know your colony is infected until you observe its decline and collapse. *Nosema ceranae* suppresses expression of the vitellogenin gene (Vg) in nurse bees which, in healthy bees, paces the onset of foraging, prepares bees for specialised foraging tasks and influences worker longevity. In nurse bees these behaviours are associated with high expression of Vg, while foragers have low Vg expression. As a result, in infected colonies where Vg expression is suppressed, transition time from nurse bee to forager is decreased resulting in a shorter lifespan of the infected bee.

The presence of *Nosema* also influences forager bees' flight behaviour such that they may not return to the colony. In such cases the colony self-regulates, expelling infected individuals from the hive; a process termed 'suicidal pathogen removal'. However, the process of self-regulation and expulsion of infected bees will not cure the disease as many millions of spores will be left on contaminated material. As the population decreases, the colony must then

regenerate itself, but, due to the low Vg levels from continuing infection, available nurse bees will start flying earlier. If the queen cannot compensate for the lost bees, the colony will continue to decline and may, ultimately, through steady attrition, die out.

With the removal of Fumidil B from the market, there are no legal products available to treat *Nosema*. However, there are management options to help beekeepers regulate disease. Important points to bear in mind are:

- ❑ Apiary hygiene is key. Wash hive tools between hives with a solution of one part washing soda and five parts water (e.g. 1 kg of soda dissolved in 5 litres of water).
- ❑ Keep bee suits clean.
- ❑ Regularly change dark combs with foundation and sterilise frames. (Sterilisation advisory sheets: <https://secure.fera.defra.gov.uk/beebase/index.cfm?pageid=167>).
- ❑ In spring, sterilise solid floor boards and brood boxes; use a blow lamp to torch-sterilise wooden material or use washing soda solution to scrub down polystyrene/plastic equipment.
- ❑ Drifting of bees between hives spreads contamination through trophallaxis and can be an important carrier from colony to colony; correct hive positioning is important.
- ❑ Strong colonies can cope with minor levels of infection so keep healthy, well-fed, strong colonies with young queens and plenty of new-born bees coming through.

Detailed information about Nosemosis and other diseases is available from the BeeBase website, www.nationalbeeunit.com. If you suspect your colonies are diseased then please contact your local Bee Inspector. The NBU also offers a chargeable Adult Bee Disease Diagnosis Service (see: <https://secure.fera.defra.gov.uk/beebase/index.cfm?pageid=158>) and many associations now have their own microscopists.

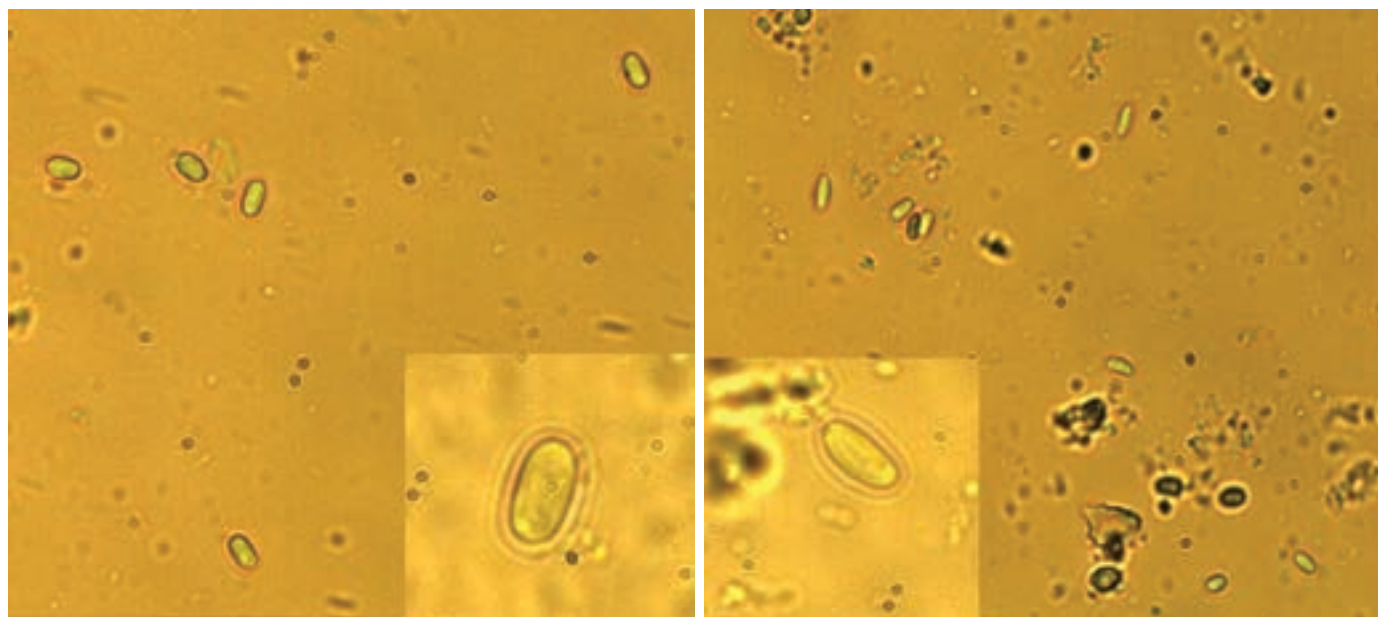


Figure 1. *Nosema apis* (left) and *Nosema ceranae* (right). *Nosema ceranae* is hard to distinguish from *Nosema apis* but can be differentiated by its shape, which resembles a grain of rice. Photos by Jason Learner.

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Winter Losses: What Does it Mean?

Once again, the annual BBKA Winter Survival Survey has been published and has caused 'Shock, Horror' headlines in the press together with quotes from such notable authorities on honey bees as Friends of the Earth! The survey reports losses averaging 33.8%, more than double last year's figure, with the worrying suggestion in the accompanying press statement that: 'it is feared that the situation may have worsened since the survey closed at the end of March given the on-going poor weather and the late arrival of spring'. Reports from the Bee Farmers' Association indicate that many of their members have experienced losses in excess of 50%. Certainly a regrettable situation, but I want to spend a few moments reflecting on the survey, to look at the causes of the losses, our attitude towards them, our responsibilities and finally, to ponder the effects on the bee stock in the UK.

There appear to be three main 'causes' of these losses, starvation, disease and the poor prevailing weather. Bad weather is something about which we can do nothing and, in any case is not a cause, *per se*, of colony death; it is merely an enabling mechanism which allows one of the other causes to more easily have an effect. This leaves just two causes to consider, and in both cases, the beekeeper has some element of control over their occurrence and their impact. Good bee husbandry and hygiene are at the root of disease avoidance and maybe we have to learn to improve in this area. Perhaps, for new beekeepers, it would be best to thoroughly understand and practice good husbandry and hygiene before moving on to issues such as queen rearing? It may be that some losses resulted from colonies which attempted to re-queen last year but were unable to achieve an effective mating due to poor weather. But surely such situations should have been identified and dealt with during the autumn, because, if you have identified the colony as having a drone-laying queen, only if you believe in miracles is there any point in persevering with it.

In the case of starvation, it seems that it is not so much the amount of feed which is given to a colony but where it is in the hive that matters. Many colonies appear to have starved because of isolation starvation probably because of the configuration of the boxes over winter. Again, new (and many established) beekeepers could beneficially learn much about the dynamics of colonies during the winter. I have often seen colonies where the bees have remained in one brood box while another holds significant stores; beekeepers must understand stores are consumed from bottom to top (i.e. upwards) rather than from side to side and in days gone by, colonies were configured for the winter with this in mind.

So, how do you feel if you have lost colonies? The range of feelings seems to run from absolute devastation to 'where do I get another colony from?' But whatever your own particular feelings, it is probable that you take some comfort in not being alone at having lost colonies. However, I would rather turn this around; the comfort should come from having managed your colonies in such a way as to have avoided losses. As beekeepers we are managers of livestock and we should be proactive in that management. In the climate and environment in which we live, we must actively work to minimise the varroa loading and that does not necessarily

mean using chemicals; biotechnical methods are among the most effective available and we should be doing all that we can to ensure a clean and healthy environment for our bees through regular comb changing and brood inspection. Let-alone beekeeping will completely fail to meet these criteria and cannot be relied upon as an effective management approach. I have already heard beekeepers saying that they have lost colonies but that it was not surprising given that colony losses [in general] were so high. It should always be a surprise to the beekeeper when a colony is lost. It should be a shock that stays with them, and that they learn from for the rest of their beekeeping career. The responsibility lies with the beekeeper, not with the poor weather or the fact that there are viruses and diseases around.

Lastly, let us look at the effects that these winter losses may have on the UK bee stock. The first one is obvious; there will, initially, be fewer colonies around to forage and that, if we are to believe what we are hearing from some sources, may be a good thing. I learnt many years ago that four healthy colonies in an apiary can match ten struggling ones in terms of honey production. The media reaction to the losses will certainly mean that beekeeping will remain in the public conscience for a little longer, though that in itself is something of a poisoned chalice as so much time has to be spent explaining the reality of the situation to non-beekeepers.

The real silver lining to this situation is that many of the colonies which will have been lost are those that were small or weak and struggling to survive anyway; the sort of colonies which absorb significant beekeeper time and effort to keep them alive yet they never reach a strength that is able to provide a crop. I applaud the BBKA Examinations Board in its efforts to raise the standard of stocks in this respect by requiring colonies upon which the Basic Assessment is taken to have bees on eight frames and with six frames of brood. The strong colonies which have made it through the winter have fared very well during what we have laughingly called spring and summer this year and, with a little bit of input from beekeepers to manage them effectively, should easily make up the numbers to replace the lost colonies. Perhaps the real message from The BBKA Winter Survival Survey is that we should aim to manage not only healthy colonies but strong ones as well; they are the colonies which will have the greatest resilience.

The Forager

The BBKA Winter Survival Survey findings are reported on page 18.



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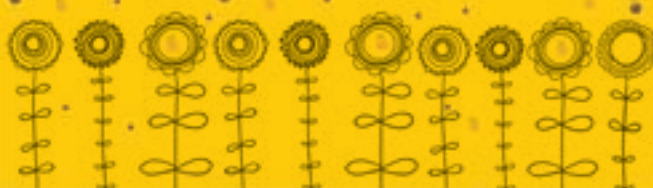
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A Plethora of Feeders

Feeding honey bees sugar syrup is an essential part of today's beekeeping. The choice of feeder can at first glance be rather daunting. All the feeders on the market have one aim: to dispense the feed to the bees as efficiently as possible, without stress, robbing, drowning or you getting stung!

Since the advent of the movable frame hive in the mid 19th century, there has been a huge variety of designs, capacities and theories on bee feeders, based primarily on making feed available as close to the brood nest as possible and with as little disturbance of the colony as possible. One of the earliest was the Boardman Feeder. Developed in the USA and used at the entrance of the hive, its advantages were obvious: the hive was not disturbed, the beekeeper could see at a glance how much syrup was being consumed and they were relatively secure against robbers. They were also adjustable so the beekeeper could alter the flow of syrup, especially if wanting more comb-building. In the UK, Taylors of Welwyn referred to them as 'Perfection Feeders'. Their disadvantages included a small capacity and they were not suitable if a cold snap was likely. They are simply referred to now as entrance feeders.

Large capacity feeders were preferred by many beekeepers, the best known being the Miller Feeder. There were numerous models available and all had the same principle of a central passageway directly over the brood nest. The bees entered the passage, went over a dummy wall and took syrup from the other side. Their advantages, beside greatly increased capacity, were their ability to feed a lot of bees quickly and that very little disturbance was caused to the colony if it needed replenishing. They were prone to leaks, however, and could encourage robbing. Bees drowning in syrup was also quite common. Harrison Ashforth developed and improved the Miller pattern further by having the passageway at one end. Thus, if the hive was tilted slightly all syrup would be taken up. Miller and Ashforth feeders are still available today with an approximate capacity of ten litres.



Ashforth feeder. All photos by Paul Smith.

Miller-type feeders always have the problem of the syrup being a little remote from the brood nest. The development of the Friction-top pail feeder, as it was called, improved on this, making syrup available right on top of the frames. This was basically a large



Contact feeder.

capacity tin with holes punched in the lid. We know them better now as contact feeders, usually made in plastic in a variety of sizes with phosphor-bronze mesh as the medium through which the bees take the syrup. Once filled with syrup, the lid of the pail is replaced securely and the feeder inverted quickly over the holes in the crown board. Initially a little syrup will run out, but this will soon stop as the vacuum develops. The advantages of this type of feeder are price, availability and ease of use. However, they can attract robbers if syrup does run through the hive and their replenishment will disturb the colony. If you select this type of feeder do remember that the lid should be recessed to allow as many bees to feed as possible at any one time.

Towards the end of the 19th century tin-ware became more and more popular and readily available with mass production techniques. This was not lost on Thomas Bates Blow (founder of what was to become Taylors of Welwyn) who developed the 'New Rapid Tin Feeder'. Today this is still one of the most popular feeders you can buy, though not in tin! It was a circular feeder with a slightly abrasive central tube over which was placed a glass-topped cube of perforated tin plate. Today they are still circular, moulded in plastic with a capacity of 2.5 litres. There are numerous shapes



Rapid feeder.



Frame feeder.

and sizes of this feeder design now on the market, but all have the same principle of a central feeding gallery where the bees gather on a non-slip surface. They are very easy to use, easy to refill without disturbing the bees and generally quite reliable. Be aware, however, if you do not locate the central cone correctly you may find a few dead bees. This Rapid Feeder became known in other parts of the world as an English Feeder and is available as such in a much larger capacity of six litres. This design is also often known as a Brother Adam Feeder. I do not believe it can be attributed to him in any way; he just made a very economical wooden version with a wooden cone and clear

cover. The bees walked down the cone, often made from roughly turned timber, to the syrup in the chamber. This type of feeder made in timber/plywood is susceptible to leaks unless thoroughly sealed. Rapid feeders that have lids are also useful for feeding pollen or pollen substitute and cleaning up bits of comb or cappings. Simply place the food in the chamber of the feeder; remove the central plastic cover and let the bees forage in the feeder. Make sure the chamber is covered.

Frame feeders are very useful pieces of equipment as they make the syrup available in the brood box and close to the main nest. Originally in timber/plywood they are now predominantly plastic and hold about 1.5 litres. There must be a float of some type in place to prevent bees from drowning. Replenishment of such feeders will, however, greatly disturb the colony. They are best used in early spring for stimulative feeding.



Entrance feeder.

Jar attachment feeders are great little devices; they are very easy to use on an observation hive or struggling nuc. Ideally the feeder mesh should be recessed to allow as many bees as possible to feed at once. You can see at a glance how much syrup has been taken. They are also very easy to refill, although capacity is limited for obvious reasons. The mesh is usually a very fine gauge phosphor-bronze.

Bees, like humans, can suffer from dehydration and need a good, regular supply of water. In normal circumstances this is not usually a problem due, of course, to our weather, which clearly keeps ponds, bird baths and puddles nicely topped up! However, during drought conditions bees can struggle with instances of stressed and dying colonies resulting from lack of water. A source of clean,

but not necessarily pure, water is therefore very important. This little water feeder is quick and easy to use, takes virtually all sizes of compact water bottles found on supermarket shelves and can also be used for feeding a thin syrup. The hive is not disturbed during replenishment and it reaches some distance into the hive, which means that bees do not have to venture too far if weather conditions are poor. It is worth remembering that during the winter, if fondant is being fed to the bees or they have stores of granulated honey, water will almost certainly be required before the bees can assimilate the stores. During the productive season it is also worth remembering that the bees need water to dilute honey, regulate the temperature in the hive and rear brood.

At the end of the day the choice is yours, but always remember no matter what month of the year, your bees might need feeding.



Water feeder.

Paul Smith,
EH Thorne Beehives Ltd

4th International Meeting of Young Beekeepers: England's team returns

I was privileged to be asked to be the Team Manager and chaperone for England's 2013 international young beekeeping team going to Munster, in Germany. We have just returned having had the most enjoyable few days mixing with like-minded people from fourteen different countries.

Elsa Cavill from Hampshire, Georgia Sellars from Lincolnshire and Lewis Thomas from Berkshire were chosen, after an intensive selection process at the National Beekeeping Centre in April and May, as the team to represent England. Having all passed their 'Basic Assessment' this meant they were at a suitable standard to compete in this international competition and were ably coached by the BBKA Trustees, Julian Routh and Peter Sutcliffe, who both provided invaluable support, assisted by Simon Cavill from Fleet BKA, who was working in the background.

Despite the delays in our flights caused by severe thunderstorms in Northern Europe, we eventually got to our location and were met by the local organisers from the German Beekeepers' Association (Deutscher Imkerbund E.V) who were our hosts for the event. Immediately after we arrived, Elsa, Georgia and Lewis began mixing with their counterparts from the other teams, exchanging their beekeeping experiences and Facebook details with each other as they settled down into the event. This consisted of a number of social events and entertainment mixed with a number of different skill-based tasks such as honey tasting, botany, and bee anatomy, as well as basic bee handling and drone marking. It was very noticeable how the bees were all kept in standard-sized polystyrene hives and were incredibly docile. Despite being opened repeatedly and sometimes in the rain, the bees remained calm during the practical exercises without a single sting to the participants who were all in T-shirts and simple veils for protection.

In addition to the pure bee-related exercises, each team had to do a short presentation and provide a simple gift to the other delegates. Elsa, Georgia and Lewis chose 'The English Rose' as the subject of their presentation explaining how it became the national flower in the Middle Ages. It is a real challenge to present a subject to a

group of non-English speakers, but the team did themselves proud. We were very fortunate in that we were supported by Vita Europe who supplied us with their excellent Swarm Attractant Wipes as a gift to be given to each delegate, and these seem to have been highly appreciated!

At the end of the event, Austria was judged to have won the overall competition this year with Germany coming second, the Czech Republic third and the England team fourth, although apparently it was a very close-run thing.



The organisation and enthusiasm within the International Meeting of Young Beekeepers (IMYB) was a pleasure to be a part of over the four days. We have all returned after this amazing experience with new knowledge within our hobby but most of all with new-found friends from so many different countries, all with a common interest. I see this event as such a positive experience for young beekeepers; their local associations and their members are to be praised for their mentoring and nurturing, which would be welcomed from all across the country in order that this young generation might continue and grow with this hobby.

Georgia commented: "I thoroughly enjoyed the opportunity to meet other young beekeepers and see the future of beekeeping with others of my age from all over the world. I've been interested in becoming a commercial bee farmer for some time and think the IMYB is a fantastic opportunity to meet others in the same position. I think that other young beekeepers should put themselves forward and have a go; they won't regret it!"



Above: Georgia handling bees;
Left: The team with their medals, from left to right: Serena, Georgia, Elsa and Lewis.

Lewis said: "This amazing opportunity offers a range of experiences for young beekeepers. It is vital that events like this one are held in order to inspire and instruct future beekeepers; there is always more to learn. I really enjoyed the fantastic event and am very grateful for the opportunity as not only did I learn about beekeeping and other cultures, but I made new friends too."

Elsa added: "I would never normally have the chance to meet so many other young beekeepers of my age from so many countries in one place. It is great that we can all learn from each other and have lots of fun at the same time without having the formal lectures like the normal beekeeping events. I've made lots of friends that I will be keeping in contact with in the future and would hope to meet up with them again some day."

This was the fourth year this event has taken place and it is set to grow bigger in future years as countries from all over the world have been invited to send teams of under-16s to join this important event to be held in Poland next summer. I hope this article sows seed in the minds of readers who will make themselves known and come to the next selection day, and possibly become a member of the 2014 team in Poland and develop their knowledge, skills and friendships even further. As long as you are under 16 on 1 January 2014 and anticipate having your Basic Assessment by the summer of 2014, you should seriously consider putting yourself forward.

Serena Watts, English Team Manager

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Ivy Honey

I should have known better. Once, after I harvested cut comb honey, I put two shallow supers of wet frames on a hive for the bees to clean down, intending to take them off next morning. I did not get back to remove them for a couple of days, and when I tried to lift them they would not budge. They were completely filled with ivy honey. A strong colony can bring in large quantities of ivy nectar, and, because it is highly concentrated there is less ripening than usual, so combs can be filled and sealed very quickly. I did not forget that fact again!

Ivy (*Hedera helix*) is native to western and central Europe, the Mediterranean and western Asia. It is naturally a woodland plant, growing in all but the wettest and most acid soils and at altitudes up to about 2,000 feet in the British Isles. It tolerates heavy shade, and tends to creep horizontally for a short distance before climbing up tree trunks or walls.¹

Ivy has two different types of stem: the vertical climbing stems have aerial roots to grip on available surfaces and palmate leaves with typically three to five lobes, while the horizontal fruiting stems that appear in response to light have no aerial roots and the leaves are oval shaped. Fruiting stems can be killed back by hard frosts, especially in continental winters.¹

Ivy is not harmful to young, vigorous trees or sound walls. However, it competes with its host tree for water and minerals, which is a problem for young, old and unhealthy hosts, and it can aid windthrow by catching the wind. Its aerial roots can penetrate rotten mortar and weaken old walls.

The first spherical umbels of tiny greenish-yellow flowers open in September.² They are strongly scented, with a perfume that reminds me of incense and drying spittle. Flowering continues until stopped by the first air-frost of winter. This varies widely between years and districts; at my home apiary in central Ireland frost has ended flowering as early as the first week in November and as late as mid-January. In general such killing frosts appear earlier inland than near coasts. Height above ground is also a factor; frost builds from the ground up and flowers thirty feet up may be unaffected long after lower flowers are frosted.

Nectar is produced sparingly by newly opened flowers, but in increasing amounts as they age.² Ivy is the most reliable source of winter stores in many areas, with its long flowering season and abundant, concentrated nectar. It is so copious and concentrated that if insects fail to gather it all a sugary crust will form around the base of the flowers.²

Bees also gather pale yellow loads of ivy pollen. I have long felt that the rapid early build up of my colonies in the spring was partly due to the quantity and freshness of the stored pollen.

Ivy honey may often be quite pure, because in some districts little else will be yielding nectar at the same time. Early intakes may overlap with fuchsia where it is common in mild west coast areas, and late gatherings may overlap with laurustinus (*Viburnum tinus*) and other winter flowering plants in urban areas. The honey is greenish in colour and has a strong flavour with a bitter aftertaste which some find unpleasantly rank. It granulates very rapidly in the comb due to its high glucose to fructose ratio.

Time and granulation seem to soften its ranker flavours. Some beekeepers break out the hard cell contents from the comb and eat them like sweets. The remaining liquid between the sugar crystals is lower in sugars and more prone to fermentation, so storing the comb outside the hive needs care. You could extract and blend very fresh ivy honey with milder flavoured honeys such as willow herb, but it often granulates even before the comb is sealed. Combs could be cut out and heated slowly and gently in a water bath or heating cabinet to near the melting point of the wax, which should rise to the top and be skimmed off.³

For most beekeepers the easiest option is to leave it on the hive as winter feed. Some would have concerns about how suitable granulated stores are for bees, and whether they should be diluted by feeding syrup. For a number of years I did not feed syrup to my bees, which overwintered well on ivy honey alone. I lost no



Honey bee foraging on ivy. Photo by David Wootton.

stocks until a winter with an unusually long, unbroken spell of hard weather, too cold for water-gathering and cleansing flights. I can never know when that will happen again, so for my conditions a syrup feed seems a good insurance.

One abiding memory is of the end of an ivy honey season; walking down to my apiary at midnight by the light of a full moon, crunching over the grass frozen solid by that winter's first hard frost to hear the midsummer roar of the fanning bees and smell the plume of warm, moist, ivy-scented air coming out of each hive. No other honey I know could give you that.

Peter Whyte,

Member of Offaly BKA, Republic of Ireland

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Winter Survival Survey

The overwinter survival of honey bee colonies is generally accepted as a composite measure of their fitness and the effects of various factors such as colony nutrition and the skill and experience of the beekeeper. The 2012–2013 Winter Survival Survey was the sixth annual survey carried out using a standardised procedure and set of questions. Survey forms were posted to 2,500 randomly selected BBKA members who were requested to complete it for the period from 1 October 2012 to 31 March 2013 and return it post-paid to the BBKA. A total of 937 forms were returned. Data were collated from 846 returns and the results were collated for England responses. The other forms contained valuable information, but in most instances the respondent did not have any bees at the time of the survey, and included new entrants who were waiting to receive their bees in the coming season.

The overall winter loss figure for England in 2012–2013 was 33.8% compared with 16.2% in the previous year. This reversed a period of relative decline in the rate of honey bee losses seen in the previous years from the height of 30.5% in 2007–2008. The results for the six years of surveys are tabulated below.

Winter	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
% colonies lost overall	30.5	18.7	17.7	13.6	16.2	33.8

Since the end of the survey period the bees experienced continuing cold weather and lack of access to any forage and it may well be that the losses increased until the better weather arrived. The results can also be represented in regions based on those of the National Bee Inspectors as shown in the table below.

Region in England	Actual % loss Winter 2011–2012	Actual % loss Winter 2012–2013	Increased loss over previous year*
Eastern	20.0	29.8	+9.8
North East	15.9	38.2	+22.3
Northern	11.7	46.4	+34.7
South East	19.3	32.4	+12.9
South West	14.7	52.9	+38.2
Southern	15.4	26.9	+11.5
Western	14.5	28.3	+13.8

* This value is the increased loss in percentage points compared with the previous year.

As would be expected respondents gave a range of explanations for their colony losses, but in the main it was considered that poor weather, lack of forage and poorly mated queens contributed to the increased colony losses in 2012–2013.

Forage has been poor with a scarcity of pollen and nectar and the inability of the bees to access it has been compounded by poor weather, which affects flower opening and nectar secretion. Inadequate forage and consequent nutrition in the late summer at the time when the overwintering bees, which are adapted to store proteins that are used early in the season to feed developing brood while there is little forage, also impacted on the colonies.

Poor weather at the time of mating new virgin queens resulted in inadequately mated queens that led to drone-laying queens and

colonies needing to be re-queened or united early in the year when new queens are usually unavailable.

In this year's responses there was increased reference to isolation starvation occurring. This arises when the bees lose contact with their food reserves and cannot migrate to new food in the comb because of weakness or immobility caused by the cold temperatures.

So what lessons can we learn from the past winter?

It seems that more frequent assessment of the food reserves in an overwintering colony is necessary and this means more than just hefting the hive to check its weight. Locating where the cluster is centred and determining whether there is a need to remove the crown board to place fondant should become a routine matter. The use of an eke will accommodate the fondant and the crown board can be placed on top of the eke enabling the roof to be replaced securely and level. Also, there are potential periods of pollen shortage, namely in early spring and then in late summer. It may well be advantageous to feed bees with a fondant containing either pollen or a protein supplement at these times.

Raising well mated queens is a challenge and the changeable weather has increased the risk of poorly mated queens being produced. Queen raising from swarming stocks or rearing queens by other means during the swarming period may well yield greater success as the bees will be most active in response to favourable conditions including weather and forage, and colony status. As well as indicating the state of health of our honey bee colonies the survey gives some indications of the impact of these losses on overall honey bee colony numbers. In good years, lost colonies can be replaced through colony splits including the use of artificial swarming techniques.

There are two figures which can be abstracted from the response forms which enable us to consider the changes in numbers of honey bee colonies managed by beekeepers over the past three years. These are the median and the average (or mean).

Year	Average Value	Median Value
2012–2013	4.68	3
2011–2012	4.15	2
2010–2011	3.5	2

*These average and median values were calculated as at 1 October for the periods indicated.

For the past three years we have seen a slight increase in the numbers of colonies managed by beekeepers on 1 October and the subsequent winter losses have seen these numbers fall. By 1 October 2012 beekeepers were clearly managing more colonies, but by 31 March 2013 the average and the median values had fallen back to 3.09 and 2 respectively.

These data indicate that while there are continuing losses over winter, these losses are recovered to some extent during the summer period and so the total population of honey bee colonies, while it rises and falls during the year as a result of normal beekeeping practices, is remaining relatively stable.

Dr David Aston, NDB,
Chair BBKA Technical and Environmental Committee

Heather Honey

When asked to produce this article I thought it would be a good idea to explain how we organise our year of beekeeping in preparation for two weeks of anticipated good weather in August. If you decide to take bees to the heather sufficient preparation needs to be done to maximise the effort involved.

There are basically two types of heather honey; Bell and Ling. Bell heather (my personal favourite), which flowers from July onwards, is a dark coloured, liquid honey which can be extracted normally. Ling heather flowers later in August and produces thixotropic honey, so getting it from the comb to the jar is not straightforward.

Location considerations

When placing bees on the moors, advance reconnaissance is vital to ensure the hives do not pose any problems to the gamekeepers and beaters, and other people who may use the land, such as walkers and picnickers. Other important site assessments include the amount of shelter from the wind and the chances of flooding.

The location for placing hives on the moors is known as a heather stance. However, an ideal location is difficult to find and co-operation with land-owners is vital. The young shoots that are formed after the last season's heather has been burnt off are the ones which are good for nectar production. A managed moor is therefore essential as long, leggy heather yields very little nectar.

Also consider potential problems arising from local wildlife, such as sheep who could knock hives over or snakes who could pose a risk to beekeepers. Position the hives directly on the ground without hive stands, but with some thin plywood in

Ling heather, Calluna vulgaris. Photo below by Aqwis, and right, close-up of flowers by David Remahl. Both photos are reproduced under the Creative Commons Attribution-Share Alike 3.0 Unported license.



being knocked over. When taking hives off the moors snakes are often found underneath so gloves and care are required. I often see hives positioned near main roads and the bees have to fly over the road where many are hit by passing traffic or literally 'run over', so do give some consideration to road locations.

Use healthy, robust bees

My beekeeping is based around breeding the dark bee, *Apis mellifera mellifera*, because I believe these to be well-suited to the harsh environment and periods of high work on the heather moors, due to their good productivity at low temperatures. The weather on the moor can change dramatically from warm days to very cold nights, and these bees seem to be able to withstand such temperature variations as well as long periods of confinement and reduced egg-laying which can result. They also show good recovery when taken off the moors, making them a good species to work with.

When best to take bees to the moors

Times do vary, but it is anticipated the heather should yield nectar following 'The Glorious 12th' (of August), the start of the traditional grouse shooting period. Seasonal variations do occur but the aim is to have plenty of foraging bees available for this period. This means plenty of eggs need to be laid six weeks prior to the beginning of August (i.e. mid-June). This period falls right in the middle of the usual 'June gap' so stimulative feeding with 1:1 syrup, i.e. thin



Bell heather, Erica cinerea above and close-up photo of flowers, above right. Both photos by Christine Knott.

front of the hive to prevent grass growing over the entrance and space them about two 'sheep distances' apart. Sheep like to scratch their backs on the corners of hives so if they are placed directly on the ground and strapped up they are less prone to

syrup, is usually needed during June.

Preparing bees for the moors

There is little point in taking small hives to the heather so the aim is to have colonies on a minimum of ten frames of brood. I use brood and a half and no queen excluders and those who know the 'Jefferson way' will realise we vigorously argue the benefits. If your colonies are smaller than this consider uniting the small colonies to get plenty of bees.

Manipulation of brood in early June and before taking the bees to the heather is required to get good heather-gathering colonies. From early June spread the centre of the brood nest and place at least one, more if a strong colony, of empty, drawn comb in the centre to get lots of eggs. The old brood on the outside will ensure any honey is stored in the supers, so no queen excluder is needed. At this stage producing eggs is the major consideration, the stimulative feed should continue and there is likely to be plenty of pollen available during the June gap, if not nectar. During the week prior to moving to the heather stance, the young brood is then moved to the outside (reverse of above) the older brood is now in the centre and this will emerge first while on the moor, the queen will then re-lay in these cells to produce 'winter' bees. The young brood on the outside makes sure the honey goes in the top. The reason for not using queen excluders is that the queen's laying rate will already be reducing at this time of year and every egg produced is likely to be needed for the winter bees.

Prior to moving the bees any sealed summer honey is removed; if any is unsealed it can be placed on other colonies or left on the top of the hives that are going to the moor. Put supers on each hive prior to moving as plenty of space is required for the bees to expand in transit. A general rule is, add one super for every box of brood, so if using a brood and half then add two empty supers. You will give your bees a good start in their honey production if you provide them with drawn super combs. Remember it takes at least 8lb of honey to produce 1lb of beeswax, so drawing out comb on the earlier crops should be

carried out. Drawing out thin super or even starter strips when on the moors, will lose lots of valuable heather honey.

Maintain high levels of insulation while the hives are on the moor due to the cold nights, as it takes less energy for the bees to ventilate and cool the hives than it does to keep them warm. The honey will be ripened and sealed much quicker if top insulation is provided.



Above: Heather loosener, used to enable frames to be spun using a tangential extractor. All photos on pages 20 and 21 are by Tony Jefferson.



A view looking down into a tangential extractor, where two screens can be seen at the lower edge of the photo.

Our floor boards are our own version of the 'heather' floors which were sold by Steele and Brodie. These are flat floors that have a funnel type entrance with the bees entering from below. This has major advantages as the funnel is an internal alighting board so bees do not get blown away and there is room for the bees to cluster in the funnel to aid fanning and ventilation for honey ripening. The major advantage of the funnel is that a foam block is easily inserted for moving the hives.

Transporting the bees

When moving the hives to the heather consider the transport to be used, e.g. a car, van or trailer, as minimum stress is the aim,

and trailers give the bees a very harsh ride.

Strap the boxes together securely; use a couple of straps if unsure. I dislike the spring fastenings and toggles that are available as they are fiddly to operate. Consider moving the hives in the early morning to get them there before 7am. Things do go wrong and contingencies, such as daylight, 50mm 'gaffer' tape and aerosol spray 'smoke', which is available from many suppliers, are useful as the smoker will almost certainly be out. Wear a bee suit as a precaution and have gloves available. For those who have not yet managed to dislodge boxes or drop a hive when moving it, you have done well; it will occur at some stage!

Provided you have given them empty supers, then full top mesh travelling screens are not required for a trip of up to fifty miles. Too much top ventilation can agitate the bees, but make sure they are kept in the dark by placing some hessian sacks over the top. I use a piece of varroa mesh pinned over the porter bee escape hole on the glass quilt, and this is adequate ventilation. On arriving on the moor position the hives directly onto steady ground and leave the bees to settle for around five to ten minutes before removing the foam entrance blocks. I count the foam strips to make sure they are all removed. Leave the straps on so they are protected from wind and sheep.

Maximising the crop

When on the moor and the weather is fine and the heather is flowering well, there is always the temptation to add more supers.

This can be counter-productive as it is far better to get one or two full, capped supers than three or four that are only half-capped. To maximise the crop move the sealed frames to the outside and the unsealed to the middle. At this stage, if the weather is good then, rather than adding a full super, a few sealed frames can be removed and more unsealed frames can be added in the centre.

Prolonged cold and/or wet weather can occur while on the moor and starvation can arise very quickly. So, if the weather has been poor check the hives, because large colonies can starve to death in a matter of a couple of days; feeding on the moor is not unheard of.

Taking off the honey and returning the bees

Assuming a good crop of honey has been gathered then the next stage is to get some of it removed and processed, and the bees back home and set up for winter. Removing large hives full of honey is not easy due to the weight, so it is likely that the supers will need to be removed. The best method is to use clearer boards as robbing by other bees occurs very easily, especially at the end of a flow when the colonies are still strong. Brushing, shaking or blowing off bees to clear frames is to be avoided.

Rapid clearing can be ensured if there is a clear space below and above the Porter bee escape. In a National hive having eleven frames, the Porter escape is in the centre and it is best to remove the centre frame, then clearing in 24 hours will be likely. Remember if there is any brood in the frames to be removed these will not be cleared as the nurse bees will not leave the brood. As expansion space is needed for the trip home, leave a super in place.

Honey processing

Processing the honey has a few options. Traditionally the comb is cut from the frame and pressed out. Presses are difficult to locate and are quite expensive items, but most associations have one available that can be loaned to members. For small



Above: Heather press.

amounts consider scraping back to the foundation so that the foundation is preserved for the following season. The scrapings can go into a vacuum type filter unit; the vacuum soon pulls the honey

through as long as a little-and-often amount is placed in the strainer.



Above: Vacuum strainer tank.

We have a big advantage of having a heather loosener (see photo on page 20) which enables us to spin out the frames using a tangential extractor. The frames must be put in the extractor in the correct way; the bottom bar needs to face the direction of travel. The loosener, although initially expensive, is a brilliant piece of equipment as it saves drawn comb for the next season as well as lots of time in rewaxing frames in the spring. Heather honey is thick (thixotropic) and difficult to fine filter. It is therefore difficult to remove wax pieces when preparing it for showing, unless pressed through fine filter cloth.

Leaving only heather on the hives as a winter food often results in dysentery around Christmas time. If there has been a poor ivy nectar flow, then feeding with thick syrup in the autumn and fondant from the beginning of November assists in providing a more balanced supply of food over the winter.

I am a firm believer that the ambient temperature for varroa control with thymol-based products is not really an issue as long as the hive is reduced to a single brood box before feeding for winter and then applying the varroa treatment directly at the brood area; the heat of the small amount of brood is sufficient for the thymol



Above: A digital temperature controller, which is used to control the temperature accurately in a warming cabinet.

to operate. Our thymol treatment is applied into October as it also knocks down more adult mites.

Winter maintenance

All that is needed over winter is to keep an eye on the hives every two weeks to replenish any jars of fondant that have been used. Meanwhile watch for the first pollen to become available; normally this is the pussy willow catkins and small clumps of snowdrops. Then a floor change is carried out to remove mouse guards. If left in place, they strip the vital incoming pollen off the bees. Then a stimulative, 1:1 feed of syrup (see page 5 for details of how to make up syrup) in contact feeders (old honey jars) is started to make sure the queens start to lay.

In the north our first inspections are never carried out until after Easter. Then we are back to where we started this article, working hard all year round for two weeks of decent weather in August and our



Yorkshire Heather Honey.

honey crop. We often wonder why, but the honey is such a highly prized product that all the effort is worth it when we put lots of thick, high aroma, wonderfully strong tasting honey in jars and buckets ready to go out for sale. However, in 2012 we had to reminisce about this last point, as there was not much to look at.

Tony Jefferson,
Whitby, Yorkshire BKA

The Jefferson Beekeeping Guide was produced by Tony and printed by his local village printer. It was written to capture the methods used in his beekeeping.

It is aimed at a practical level and records the combined 100 years of experience between three members of the same family; Father (Allan), Son (Tony) and Grandson (Richard).

Small Hive Beetle Monitoring in England and Wales



Head of an adult Small Hive Beetle showing distinct clubbed antennae. Photo courtesy of The Food and Environment Research Agency (Fera), Crown Copyright; images supplied by the National Bee Unit at Fera.

Introduction

The small hive beetle (SHB), *Aethina tumida*, is a major threat to the long-term sustainability of UK beekeeping and, as a consequence, to agriculture and the environment through disruption to pollination services, the value of which is estimated at hundreds of millions of pounds annually. The beetle is indigenous to Africa, where it is a minor scavenger pest of honey bee colonies causing comparatively little harm. However, outside its native range within colonies that lack African bees' defences, adult beetles enter hives unchecked causing devastating infestations. Until the late 1990s SHB was thought to be restricted to Africa but in 1998 it was detected in Florida and it is now very widespread throughout the United States including Hawaii, where it was first found in 2010.

The beetle can multiply to huge numbers within infested colonies where it eats brood, honey and pollen, destroys combs and causes fermentation and spoiling of the honey. If beetle infestations are uncontrolled they ultimately destroy the colony. Economic impact on the beekeeping industry in the USA has been severe. Within two years of its discovery, at least 20,000 colonies were destroyed by the beetle, costing many millions of dollars. It has also been found in Manitoba, Canada where it arrived with beeswax imported from the USA and has been reported in Quebec. In October 2002, it was found in New South Wales and Queensland, Australia. The economic consequences to the beekeeping industry in Australia have been serious, jeopardising bee exports, pollination services and honey production. Since 2002 the beetle has spread widely and is now considered endemic in New South Wales, Queensland and Victoria. It has been found in the north east of Western Australia close to Northern Territory and is present in Mexico and in Jamaica. This clearly shows the ability of the beetle to 'hitch a ride' right across the world.

It is not known how the beetle reached either the USA or Australia, although in the USA shipping into the east coast ports is considered the most likely route. By the time the beetle was detected in either country it was already well established, leaving little or no chance of eradication. The remaining options are to attempt to control it and slow down its spread. At the time of writing SHB is not thought to be present in the UK or elsewhere in Europe, but its potential implications for European apiculture are enormous. We must now assume that SHB could spread to Europe and that it is likely to prove as harmful here as it has been in Australia and the USA.

Entry pathways

A pest risk-analysis completed by scientists at the Food and Environment Research Agency (Fera) in 2010 identified the following pathways through which the beetle could be carried:

- Movement of honey bees: queens and package bees (workers) for the purposes of trade.
- Movement of alternative hosts e.g. bumble bees for pollination purposes.
- Trade in hive products e.g. raw beeswax and honey in drums.
- Soil or compost associated with the plant trade from within or outside the EU.
- Fruit imports, in particular avocado, bananas, grapes, grapefruit, kiwi apples, mango, melons and pineapples, as SHB may oviposit on fruit.
- Movement on beekeeping clothing/ equipment.
- Movement on the freight containers and transport vehicles themselves.
- Natural spread of the pest itself by flight, on its own or possibly in association with a host swarm.

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Should SHB enter the UK, then unless it is detected very soon after its arrival, it will rapidly spread into the surrounding honey bee population, making eradication very difficult. For this reason, the National Bee Unit (NBU) undertakes specific monitoring practices to maximise likelihood of early interception.

Statutory exotic pest surveillance

Since 2003, the NBU and its inspectors have increased statutory surveillance programmes to monitor for SHB and *Tropilaelaps* spp. mites. These 'exotic pests' inspections now comprise 13% of the annual apiary visits carried out by NBU Inspectors in England and Wales. The intensity of exotic pest surveillance (EPS) has doubled in the last two years, with 635 apiary visits for the purposes of EPS in 2010 versus 1,089 apiary visits in 2012. The NBU uses Geographical Information Systems to prioritise this programme and target apiaries identified as being 'at risk'. For instance, apiaries situated close to civilian and military airports; close to freight depots and ports of entry for fruit and other foodstuffs; apiaries belonging to bee importers and surrounding apiaries, and if SHB is found here, apiaries containing bees moved from declared infested areas. The only chance for eradication will be early interception of exotic pests, so by targeting inspections to these areas we have a better chance of succeeding.

Sentinel apiaries

The Sentinel Apiary programme was initiated in 2010 with the dual purpose of increasing the spread of honey bee exotic pest surveillance in England and Wales and improving beekeeper awareness of exotic pests and their ability to inspect their own colonies (see the article The Sentinel Apiary Programme for

Table 1. Regional distribution of Sentinel Apiary Holders – England and Wales June 2013

Region	No. Sentinel Apiaries
Northern England	22
Western England	13
North East England	16
Eastern England	27
South West England	19
Southern England	17
South East England	16
Wales	15

England and Wales, in *BBKA News*, July 2012). The aim was to have fifteen apiaries in each region designated as Sentinel Apiaries for the current year and to have the beekeepers managing these apiaries instructed on how to inspect colonies for exotic pests and submit samples to the NBU laboratory. At time of writing, in June 2013, we have 145 apiaries across England and Wales where the beekeepers had expressed their willingness to be involved in the programme and where most regions will have additional Sentinel Apiaries near recognised exotic risk points. Many of these apiaries are close to exotic pest risk points but some are purposely not, so providing additional surveillance in areas that would not normally be checked by the Inspectorate. Figure 1 (page 24) maps the current distribution of Sentinel Apiaries and shows how these coincide with risk points. During the 2012 season nearly 50% of Sentinel Apiary holders also took up an additional offer of adapted wasp traps to monitor for the Asian hornet.

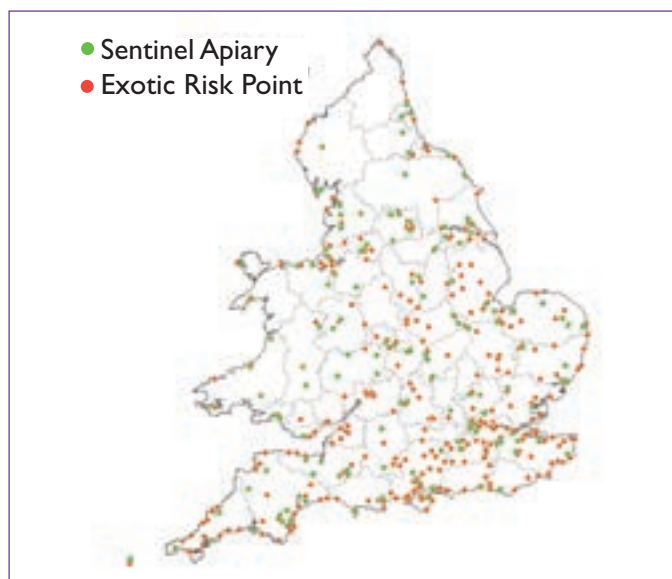


Figure 1. Distribution of sentinel apiaries in relation to exotic risk points 2012–2013.

Results for 2012

The objective was to encourage beekeepers to monitor their colonies for SHB (and also for *Tropilaelaps* mites) during the season using traps and uncapping forks provided by the NBU and to send two floor debris samples for examination to the NBU laboratory. An inspection log-sheet was provided at the beginning of the season with the request that these be returned to the NBU by the end of October to enable an assessment to be made of the efficacy of the programme. The results may be summarised as follows (2011 figures in brackets):

Samples received	141	(115)
SHB traps checked	162	(101)
Log sheets returned	52	(25)

While the low return of log-sheets means that the usage of SHB traps will most likely have been considerably under-reported it is, however, encouraging to see the increase in participation overall despite the very poor season where beekeeper inspections were limited. The Sentinel Apiary Programme is regularly re-evaluated with a view to further increasing participation. Additional beekeeper volunteers are sought in each region to replace those who have not responded in any given season or who have dropped out.

Import controls and screening

SHB is a statutory notifiable pest under both EU and UK legislation. It is permitted to import honey bees from only a very limited number of countries outside the EU. Import regulations are our main defence against the introduction of SHB and other very serious bee pests and diseases from overseas, and it is absolutely essential that all beekeepers abide by them. Contact the NBU, or your appropriate government agriculture department for details of the import regulations. This information is also available on the NBU website www.nationalbeeunit.com. In 2012, just fewer than six-hundred honey bee queens were imported into the UK from outside the EU (New Zealand or Argentina) and many more from within the EU. The NBU laboratory receives all of the attendant workers and cages from such non-EU 'third country' imports for adult bee diagnostic health checks. Once the samples arrive, each cage is carefully examined for any signs of SHB including well hidden eggs. Apart from these checks for SHB the attendant workers are also washed to remove any mites, especially *Tropilaelaps* spp, on the bees' surfaces for subsequent identification via floatation in alcohol.

An adult bee disease diagnosis is also performed on a sub-sample of the attendant workers, typically looking for Acarine, *Amoeba* and *Nosema*.

Beekeeper vigilance

The monitoring regimes described above comprise our first-line defences in terms of catching SHB early should it arrive in the UK. However, even with these safeguards in place we cannot be certain that we will intercept beetles or their immature stages on arrival. It is therefore vital that beekeepers are aware of the huge contribution that they can continue to make in terms of national bee health security. Key responsibilities are summarised as follows:



It is extremely important that all beekeepers register on BeeBase, the NBU's data base. If we do not know where at risk colonies are located, then our chances of effectively monitoring for the arrival of SHB, or achieving control in the event of an invasion are seriously jeopardised. Make sure your details are recorded on BeeBase. This is the responsibility of the beekeeper. To register as a beekeeper, please visit www.nationalbeeunit.com



Make sure you only import bees through the proper channels and with appropriate health certification. Do not be tempted to import bees illegally. See Bees and the Law on BeeBase at <https://secure.fera.defra.gov.uk/beebase/index.cfm?sectionid=79>



Make sure you understand the essential details of the SHB lifecycle, and how to recognise larvae and adult beetles.



Be vigilant. You should keep an eye out for the SHB when you examine your bees. This should be part of routine colony management. If the beetle does enter the UK, early detection will allow control action to be targeted promptly where it is most needed and help reduce the spread of this pest throughout the country.



Aim to stay informed and up-to-date on the spread and emerging biology of SHB and the methods used to control it overseas. If it does enter the UK, you will need to be ready to start to deal with it.



You can read much more about the biology of SHB, how to check your own hives for this pest, how to report suspect sightings and where to find further information in our leaflet *The Small Hive Beetle – A Serious Threat to European Apiculture* (updated 2013). You can download this at no cost from the BeeBase website www.nationalbeeunit.com

Further information

The NBU and Bee Health Policy colleagues have developed a Contingency Plan, which has recently been updated (January 2013). The Plan is an operational document which details the response to an exotic pest and disease outbreak in the UK. Further details of proposed actions are available in the plan, which can be found in full on the NBU's BeeBase website (<https://secure.fera.defra.gov.uk/beebase/index.cfm?pageid=206>). You can also access a number of bee press articles about the biology of the beetle and related Fera information from the publications pages of BeeBase <https://secure.fera.defra.gov.uk/beebase/index.cfm?pageid=166>.

Gay Marris, Mike Brown, Ivor Flatman,
National Bee Unit

Hardwood Stem Cuttings

Continuing this series on Simple Plant Propagation I would like now to focus on hardwood cuttings. The wood is said to be 'ripe' or 'hard' when the stem has finished its growth during autumn and the leaves have fallen.

This is principally a winter activity, when the wood is dormant having no leaves and little transpiration. They are the most robust form of stem cuttings, demanding little in the way of protection and nurturing. This can be a very productive method of raising new plants with little effort.

Leaf fall

Leaf fall is probably the best time for the cutting to begin forming callus and initiating

root formation, before the cold of midwinter stops any further development. This may be important in colder parts of the country, though our part of Devon is generally so mild that hardwood cuttings can be made throughout the winter.

As winter approaches a corky, protective abscission layer will form to seal and protect the stem from water loss where the leaves detach. It is not necessary to wait for the leaves to fall naturally and if, on running a hand down the stem, the leaves fall off easily then the cuttings can be started to advantage without further delay.

Viable rooted cuttings will be available for transplanting in about one year after the



Above: *Rosa 'Rambling Rector'* by Ken Basterfield.

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cutting was taken. For this article I will use, as my example, the rambling rose, 'Rambling Rector' (shown above) to demonstrate the technique. It will grow to about twelve feet in height and a similar width, and for about three weeks in June it is glorious sight; a mass of small white-scented, single flowers, adored by bees. We have an old willow over a pond in the garden over which our specimen grows. Find a spot for one, if only to cover the apiary shed.

Yields

I took about a dozen cuttings in October 2012 and most have rooted. They will be ready for planting out in their permanent positions in late autumn.

Material

The best material for rooting stem cuttings will be from the current year's new vigorous growth. This can be induced by cutting back old wood on the plant in the winter, to force a lot of new stems once growth begins in the spring. The most active area for root development is still the base of the stem.

Timing

September to November is best, when the wood is hardened and the leaves have fallen. Later cuttings will remain quiescent not forming callus until the soil warms a little in spring and consequently are at more risk to fungal and bacterial rot.

Process

Cuttings should be about six inches long, about three or more nodes worth plus the



Above: The rose cuttings taken and planted in November, standing about an inch above the soil, there are buds visible. Right: The cuttings now photographed in the following May with new leaf growth indicating root formation. Both photos are taken by Ken Basterfield.

tip bud. Cut squarely below a bud at the bottom and sloping just above the top bud, this helps to ensure the cutting is not planted upside down. Wounding is usually not necessary except of difficult species.

The leaf buds that are an inch or two below and above the surface are the ones that develop; the lower leaf buds are suppressed by the depth of soil. If you want

a single stem specimen, rub off all buds but the top one. About an inch of stem should stand proud of the soil. Dip the cut ends into rooting powder, just the tip though, since applying root hormone further up the stem is counter productive.

Coarse grit helps with drainage; I have found that using half grit and half peat-based compost is best. Place up to twelve cuttings in a six-inch pot, or you could plant the

cuttings directly into a sheltered part of the garden. Pots should be plunged into the soil to help keep the roots warm. However, a cold frame is ideal, because this gives a little extra warmth to the roots, which helps to keep them developing for longer.

Watering is not usually necessary since at this time of year there is little transpiration. It is

better for the cuttings to be drier than soaked, but of course do not allow them to dry out completely. Look at them in the following March or April; the ones initiating new leaf growth are likely to be rooted. Grow on until the following winter when they can be transplanted to their final home.

Reference

Full details of the stem cutting techniques are given in the RHS Handbook *Plant Propagation* by Philip McMillan-Browse, ISBN 1-85732-903-1.

Ken Basterfield, NDB



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Learning From Others: Study Groups

One of the most popular action items identified by the local Education Coordinators during the BBKA winter workshops was to start study groups for their members. I have been talking with established study group leaders to understand how their groups were set up, how they functioned and how they will continue. Study groups are not a new idea but they are not available everywhere at present. So if you are in a study group 'black hole' this summary will show you how others in the same situation have got things underway. The three leaders I have been talking to each have a different study group model in place to suit the local resources and demand.

In Cheshire Graham Royle started a study group in 2007. At that point he had recently been awarded the National Diploma in Beekeeping (NDB), having built up his own knowledge of beekeeping by distance learning through the BBKA modular correspondence courses. Graham felt he wanted to give something back and the opportunity came when two others from his county, curious to learn more, asked Graham if he would help them with their own modular studies. Following some advertising he became the tutor for a group of twelve trainees who met eight times each winter for a two-hour evening meeting. They had planned to meet at Graham's home but when the numbers grew they moved to the local church hall with the costs being met from the nominal £20 course fee.

Graham led each meeting, preparing lesson plans and exercises based on his own material and the training he had received from attending a PTTLS* Course at his local college. "Although I used the modular syllabus I was keen that the courses appealed to those who wanted to increase their knowledge regardless of whether or not they intended to sit the module exams. At each meeting the students were told what they would cover next week and each individual would use their own resources to investigate the planned topics. Some used the BBKA correspondence course material, others used the recommended books complemented by web-based research. I would then use questions taken from past exam papers to run the meetings as tutorials, encouraging all to participate and putting people on the spot from time to time. I also included exercises, such as assembling a sting mechanism model, for the group to tackle in small groups. I felt it was important to recognise that each of us have our own preferred learning methods and for the group to have fun while learning. These are important motivational factors that I feel kept the team coming back each week and in many cases each year."

For those people who have gone on to sit the module exams Graham has provided additional support to help them brush up on their exam skills so that they can transfer their recently acquired beekeeping knowledge to answering the exam questions. He believes passing the exam adds satisfaction for the student and gives them a foundation to teach others. With the winter study groups now part of 'business as usual' in Cheshire Graham can see that the demand has increased and there will now be at least two or three study groups in future years. Those who have been students on Graham's courses are well placed to facilitate these sessions and Graham will continue to provide help and support to the next generation of study group leaders.

In 2010 Wendy Maslin, newly appointed as Yorkshire exam secretary, was asked by two of the senior members of the

association to investigate setting up a county study group as a means to help their members improve their beekeeping knowledge. Wendy herself was interested in learning more and could see that the BBKA modular courses gave a structure the group could follow but recognised the need for more experienced people to lead the sessions. She has taken the approach of breaking each course down further and arranging for experienced colleagues to lead specific sessions. "We decided the most important thing was to get started and accepted there would be natural variations in style of the leaders." The group met four or five times between October and March. "With people travelling across Yorkshire, travel considerations dictated we met on Saturday mornings for two or three hours and we would not meet in December or January." Yorkshire BKA recognised the activity as an investment in maintaining the skills necessary to lead future beekeepers and made the courses free at the point of delivery by funding tutor expenses. "There have been a couple of meetings when the tutor was unable to attend at short notice and I have had to step in. I can recommend it as a way of learning for teaching!"

Each meeting is run in the form of a tutorial as opposed to a lecture or presentation. "Although the meeting room could hold more people we deliberately kept the numbers low to encourage the students to join in." As with Graham's group each individual was expected to invest time themselves to prepare for the next meeting. They were strongly encouraged to use the BBKA correspondence course, but this was not mandatory. Wendy believes most people made use of the BBKA reading list with many



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students opting to buy their own copies of books. By citing references the tutors helped the students discover other valuable sources of information.

Wendy thinks that 90% of those who join the tutorials go on to sit the modular exams in the following March. "The knowledge gained and the networking are the primary outcomes; exam passes are a bonus but will help us extend the study groups to reach more members in the future. Yorkshire is a large county and we are now looking to take the scheme to the next stage by establishing three or four local study groups closer to the members and where we feel there is demand. The existing mechanism of multiple tutors should help us here."

Douglas Netherclef is a member of the Shipston branch of Warwickshire BKA. In 2009 he had been working alone on the modular programme believing others would be doing the same across the county. When he sat the module exams he discovered that he was, in fact, one of only two candidates and so he resolved to start a study group himself, having heard of their popularity elsewhere. By means of publicity in newsletters and conversations among his own network he drew together seven like-minded beekeepers. Douglas arranged for the group to meet in his local village hall and the cost of the hire was covered by a £2.50 donation from each member at each meeting. In subsequent years the group has attracted new members and the geographic centre has shifted. They now meet in each other's homes, which has allowed a working mum to join the group. By hosting the meeting she can be on hand for family matters. Without an obvious local experienced leader, Douglas took the chair to start with and broke the BBKA syllabi for Modules 1 and 3 down into ten fortnightly sessions and used the past exam papers as his source of questions for the team to work on. Each person was allocated two questions to research. They shared their written answers by email before each meeting and then reviewed them collectively. As Douglas recalled: "The process of sharing, amending and storing the answers for future use required a lot of manual intervention. This burden was lifted when we adopted the free online Dropbox file-sharing service as our sharing and storage platform. Now each person simply uploads their answer to the shared location three days before the next meeting and any changes that arise from the meeting are made to the single master copy".

Another change the group adopted was to add the support of the correspondence courses. Each year one member of the group enrolls on the correspondence course scheme and using the correspondence course questions as the scheme of work, the group submit one answer to the remote tutor for each paper. The papers are marked and the feedback shared, again through Dropbox. "Our tutor has always given us encouraging constructive comments as well as further reading matter to consult. There is always a sense of anticipation about how well we have done when our 'homework' is returned." The group has gelled very well and they have retained the same correspondence tutor which has helped. The group found it difficult to track down all the recommended texts from the BBKA list. "Warwickshire BKA has a library which holds some of the classic text books but the list contains several that are out of print and therefore expensive. Revised listings would be helpful." The group found a lot of material is now available on the web and Douglas was particularly appreciative of the material the Mid Bucks beekeepers have created and shared on their website, www.blog.mbbka.org.uk

By involving participants from a number of the local associations Douglas has been able to see how the group has

spawned other study groups in Warwickshire. "I think we will have at least four or five groups meeting this winter and I am confident they will all find the experience highly rewarding."

This autumn the BBKA will be running a one day workshop to help tutors put their own study groups in place. On page 32 you will find additional information from Ken Basterfield and would-be tutors can enrol via the BBKA website.

* FERA are offering a subsidy for beekeepers who wish to attend City & Guilds 7303 Award in Preparing to Teach in the Lifelong Learning Sector (PTLLS) training before April 2014. The course is widely available at Colleges of Further Education. Email beehealthinfo@defra.gsi.gov.uk for the subsidy application form.

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

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Harry Riches, MD, FRCP

An Appreciation

Dr Harry Riches who was prominent in the world of beekeeping from the 1970s died, aged 88, on Friday 31 May 2013 at his home in north Devon, with his family around him.

Harry Riches graduated with MBBS (London), MRCS (Eng), LRCP (London) from Guy's Hospital Medical School in 1948. After junior hospital appointments he fulfilled his national service obligation by serving two years in the Royal Navy as a surgeon lieutenant. Returning to a hospital career he subsequently proceeded to higher medical qualifications of MRCP (London), MD (London) and FRCP (London). From 1960 to his retirement in 1988 he was Consultant Physician to Harefield Hospital and Mount Vernon Hospital, Northwood.

Away from his professional life Harry had a lifelong interest in beekeeping which he acquired from his grandfather during his childhood in Norfolk. A member of the Hertfordshire BKA through West Herts division, he became Chairman and President of this association. His daughter Penny remembers: "What started as a small hobby, of course escalated and I remember as a child at one time there were thirteen hives in the garden! I am not too sure what the neighbours thought about that. I also remember coming home from swimming one day and finding him lying flat out, collapsed, in the garden from a reaction to bee stings. My mother, who had been a nurse, saved the day and him, by being able to administer some adrenalin and he recovered. It was this incident which led him to study and become an expert in the de-sensitising of people to bee venom. He was not going to give up his bees, so he had to find a cure to the problem of having such a reaction to being stung! And he did."

In 1981 he was elected to the executive committee of the BBKA where his abilities, judgement and leadership qualities were quickly recognised and he served on several BBKA committees, was chairman of the Publicity, Publications and Public Relations Committee and acted as Press Relations Officer. He quickly rose to be BBKA Chairman and in 1987 he served two years as BBKA President.

He was an expert in bee venom hypersensitivity and author of several beekeeping books. His first, *Beekeeping*,

Foyle's handbook, published in 1976 is worthy of revision for today's beekeepers. *Honey Marketing* from BBNO, 1989, is another useful book though some statutory regulations have now altered. *Medical Aspects of Beekeeping* was published in 2003 by the Central Association of Beekeepers and *Insect Bites and Stings* was published by the International Bee Research Association (IBRA) in 2003. An article by Harry on this topic appeared in *Bee World* in 1982.

A BBKA honey judge himself and specialising in mead, Harry wrote *Mead-making, Exhibiting and Judging* which BBNO published in 1997 with a new edition by Northern Bee Books in 2009. In addition to these books Harry wrote numerous articles and lectured widely throughout the country. His work and writings on bee venom allergy have been acknowledged internationally.



Other organisations too, benefited from Harry's involvement. He was a member of the Central Association of Beekeepers, served a period on their organising committee and in 1989 became their President for many years. He was, at one time, a member of the council of IBRA. He was President and a Director of Bee Craft Ltd and Chairman of the Executive Committee of the National Honey Show and became their President. He was also a Liveryman and Past Master of the Worshipful Company of Wax Chandlers of the City of London for two years in 1993.

Harry continued to keep bees when he moved to Devon to join his daughter. He joined the Holsworthy Beekeepers where his first lecture to the members was on the making of mead, having been a renowned honey and mead judge.



Above: Harry Riches when he was Master of the Wax Chandlers, by John Riches; Below: Harry Riches at home with his dog, photographed by Penny Riches Mills.

His daughter said: "He loved being here in Devon and I believe it was a return to the country life he had so much enjoyed as a boy in rural Norfolk. However, this time, he was able to have his own Dexter cattle, donkeys, chickens as well as cats and, of course, his bees. He greatly enjoyed going to the local agricultural shows in the summer, and it was all we could do to stop him buying llamas when we saw them at one of the shows! He loved animals. He had a life long interest in natural history and took an active interest in encouraging barn owls to the farm. We are now the proud owners of many bird boxes, owl boxes, bat boxes and dormice boxes."

His sudden illness in early May was a shock as he had always enjoyed good health, which sadly deteriorated very quickly. He was laid to rest with his wife, Pamela, in Rickmansworth on Monday 10 June 2013 after a service which was attended by many from the beekeeping world and the Wax Chandlers, as well as medical colleagues, friends and family. He is greatly missed.

Written with information from Harry's daughter, Penny Riches Mills, and David Charles, BBKA Past President.

Harry's family would like to thank all the beekeeping world who so kindly sent get well messages; every one was read to him which he loved. And of course condolence messages from beekeepers all over the UK and abroad; even from people who have said they never met him, but wanted to make contact.

Calling Young Beekeepers

Following the success of the English team at the 4th International Meeting of Young Beekeepers in Germany this year, BBKA would like to start the process of selection and training for the 2014 team somewhat earlier than originally planned. Entries are normally required in March, so, in fact, the selection process has to start early.

I would like to ask all area and local associations to consider if they have any young members who will be aged between 12 and 16 years on 1 January 2014 and who may be interested in taking part. The applicants should normally have passed their Basic Assessment. BBKA will cover the cost of getting to the venue and accommodation is part of the event, so the costs will be limited to travel in the UK to training events and to the event itself.

I will give fuller details in an article in September BBKA News, but if we have a list of all those interested by this autumn, a selection event can be held to have a team in place before the entry date. One or more training events will be organised for the team. I hope to be swamped with interested young beekeepers, which may make selection difficult but it is much better than having too few.

Please contact Julian Routh at julian.routh@bbka.org.uk if you require any more information.

Julian Routh,
Education and Husbandry Committee

Exam Talk BBKA Examinations Board

Examination Dates 2013/14

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

22 March 2014 All Modules 1,2,3,5,6,7,8
(Applications in by 10 February 2014)

8 November 2014 All Modules 1,2,3,5,6,7,8
(Applications in by 30 September 2014)

Advanced Certificate in Beekeeping Husbandry — 14/15 June 2014 and 28/29 June 2014 and other dates as required
(Applications in by 28 February 2014)

General Certificate in Beekeeping Husbandry date by arrangement with the Examinations Board Secretary
(Applications in by 28 February 2014)

Microscopy Certificate — Assessment takes place in October/November 2013
(Applications in by the new deadline of 31 August 2013)

Basic and Junior Certificate date by arrangement with the County Examinations Secretary
(Applications one month before assessment — last assessment 31 August)

All modules now twice per year

Members working on module examinations will be pleased to hear the Exam Board has decided to respond to demand and offer all seven modules in both March and in November from 2014.

A National Pollinator Strategy

On the Radio 4 Today programme on Friday 28 June 2013, Lord de Mauley, Parliamentary Under Secretary of State at Defra, AKA the 'Bees' Minister, announced that the Government will carry out an 'urgent and comprehensive' review of the decline of bees and which will lead to a National Pollinator Strategy. This review had been presaged in a meeting with the Minister and the BBKA in May. The review will bring together all the initiatives already underway, including the Healthy Bees Plan and will help develop new actions. This follows a great deal of media coverage over the last few months on the challenges facing honey bees and wild pollinators. This has included the heavy lobbying which led to the EU Commission's restrictions on the use of three neonicotinoids, on which we commented last month and of course most recently, the media coverage of the BBKA's Winter Survival Survey, which revealed a 33.8% loss of colonies over the 2012/13 winter.

Later in the day Lord De Mauley attended a 'Bee Summit' organised by Friends of the Earth, with the BBKA present, where some leading lights involved in conservation, agriculture and the food supply industry set out their concerns. The 'Bees' Minister' again set out his plan to consult the key players and interests in developing the Pollinator Strategy. He said: "I do not deny for a moment that it is important to regulate pesticides effectively and to avoid unnecessary pesticide use." But he added: "Changes in

land use, the type of crops grown, alien species, climate change; these all have an impact. The relative importance of these factors and their interactions is not well understood."

Much of the concern around pollinators indeed relates to loss of habitat. Participants at the meeting raised a number of actions which might be taken to improve matters, ranging from motorway and roadside verge management, urban planting, pollinator-friendly planning approvals plus, of course, land use and methods in agriculture. There is no doubt that we, as beekeepers, should welcome the joining together of a wide range of organisations which is needed to drive habitat improvement at the landscape level. The BBKA has been invited to participate in a steering group comprising a range of key players to help achieve these objectives. However, as expected, the BBKA will continue to press for actions which will improve the lot of honey bees and express our wish to see more research into bee disease and possible solutions, plus make continued investment in the area of training and education. The Minister starts the process of consulting with the key players after the summer break and we look forward to contributing on behalf of beekeeping.

Tim Lovett,
BBKA Director of Public Relations

From the Boardroom

The June Executive meeting agenda contained a mixture of strategic and organisational performance topics. In October this year the Forum will take the form of a Chairman's Day, and the meeting considered a number of the items which are planned for discussion at the Chairman's Day. The ability of the BBKA to satisfy the needs of its members and their aspirations for the BBKA is crucial.

Planning and charting a course for the BBKA in the next five to ten years is an important role of the Executive as this affects the organisation and the activities of the BBKA. The BBKA is seen as a responsible body by Government and other organisations, and we are keen to ensure that this reputation continues. Through this planning process we can identify the skills and the resources which will be required by members in the future. More about this in September *BBKA News*.

The scope and reach of the activities of the BBKA continue to increase and we need to ensure we have the financial resources to continue to deliver, and if required to expand, our profile. Clearly finance is vital and the Executive meeting discussed an initial budget for next year; the ideas and proposals contained in a draft document will be discussed at the Chairman's Day.

Personnel changes and the challenges to the office staff of responding to the large volume of calls, at more than three hundred in a day, from the public regarding bees and insects of all kinds were also discussed.

Dr David Aston, NDB

BBKA Discussion Forum

The BBKA website and forum have had a few changes recently which give it a fresher look and it is now better for such things as iPads and android devices. Remember that if you are a member of the BBKA you are already a member of the forum and there is someone on hand to answer a question; however daft you think it is!

As you might expect, swarming and how to control it has been a regular topic at this time of year, and it is quite apparent that bees do not read books and an artificial swarm does not always go to plan as many books might suggest. Books often give good instructions but do not always give advice when, say, your queen has managed to get into the supers where she is not supposed to be! As usual with beekeeping one question does not result in a chorus of identical answers and no one answer is always 100% right. My own view is that the 90% rule applies; the remaining 10% of the time bees will do something that you do not really expect them to do!

An interesting subject came up recently concerning the introduction of queens. Many of us tend to use a queen cage, however there is a more reliable method according to a scientific paper discovered by one of the contributors which is discussed in the 'queen rearing' section. Take a look at www.bbka.org.uk

Once supers are off we should be thinking about varroa control. There are always questions and answers on this topic so if anyone is unsure about what to do then do have a look and ask away! And finally, a warm welcome to the new beekeepers who have joined recently and asked questions.

Adam Darling, Discussion Forum Moderator

Bee Diseases Insurance (BDI): New Website



BDI has set up its own website to provide members with relevant and up-to-date information about the insurance provided by this volunteer-run company, for beekeepers to cover against equipment losses incurred as a result of destruction following an outbreak of a notifiable disease in their apiary. The new site includes information on:

- ❑ Top tips on keeping your bees disease free.
- ❑ How members can make a claim.
- ❑ How associations can join BDI, together with premium levels.
- ❑ Snapshot profiles of the Directors who run the company on behalf of the members.
- ❑ The latest information on the research projects that BDI has provided seed funding for. These projects, focused on American and European foul brood, are contributing towards our better understanding of these diseases and thereby to reducing their incidence.

The new website can be found at:
www.beediseasesinsurance.co.uk

Martin Smith, BDI President

National Honey Show 2013

- ❑ If you have not received a copy of the Schedule, please get in touch with me at showsec@zbee.com or at 1 Baldric Road, Folkestone CT20 2NR.
- ❑ If you are not delivering your exhibits yourself you may send them by courier/post to: The National Honey Show, c/o St George's College, Addlestone, Weybridge KT15 2QS, to arrive after Wednesday 16 October and before noon on Wednesday 23 October 2013.
- ❑ Once again, Northern Bee Books and EH Thorne have most generously offered to transport entries to the Show. Please contact them for details.
- ❑ Please let me know if you are an aspiring judge, and I will try to have you appointed as a Judge's Steward. This experience is invaluable.

Rev Francis Capener, National Honey Show Secretary

BBKA Office News

Julie Marples, the Administration Manager, has left the BBKA and Jan Alcock, who many of you will already know, has moved from her previous role in the BBKA office to be the Office Manager.

Doug Brown, Vice Chairman

Education Co-ordinator's Update

The General Husbandry Training Initiative was published in June BBKA News and I received my first enquiry before my own copy arrived. There has been a steady flow in the two weeks since then and from that demand there are the green shoots of courses appearing around the country. I hope that, as a result of this initiative and the pre-existing courses in other areas everyone who wishes to attend a course to prepare for General Husbandry Assessment has access to one within reasonable proximity.

But who am I talking about? Could it be you? Approximately 2,000 beekeepers passed their Basic Assessment in 2010–2012. If you were one of these then you probably recognise that there is still plenty of room for improvement in your own skills and underlying knowledge. But how do you find out what you need to work at now?

The BBKA have looked at the skills required beyond the Basic Assessment and have produced a simple checklist for you to work to. It is called the General Husbandry syllabus and is available from the BBKA website; www.bbka.org.uk. Furthermore the courses that we are establishing under this initiative could be your

opportunity to get ongoing help/guidance/training on the topics in that checklist. Armed with this you will have an agenda for your next three years of beekeeping and at the end of that journey you may even choose to take the formal assessment, but that will be your decision.

As courses become available they will be added to the listing in the members' area of the BBKA website. There you will find information about the new BBKA Summer School course along with the enrolment forms. Please remember to check with your local education officer what else is happening in your area.

Summer School 2013

We are offering two day courses on '3D Honey Bee Anatomy' and 'Towards Improved Husbandry' at Harper Adams University on 7 and 8 September 2013. Details were in July BBKA News and are in the members' area of the BBKA website. You can book your place through the BBKA online shop.

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

Module Study Group Leaders Training Opportunities



Objective of the day

This training explores effective mechanisms for establishing and running study groups working towards the BBKA modules. It looks at resources that are available, a variety of study methods, and the level of knowledge that is required by candidates.

Who this training is aimed at

- ☐ Experienced beekeepers who wish to become more effective trainers.
- ☐ Those who teach towards the BBKA Modules
- ☐ Those who wish to establish effective Module Study Groups

This training event is part of a national initiative under the Healthy Bees' Plan to increase the number of beekeeper trainers and to provide them with training materials from which they can start to plan and prepare training sessions for study groups. We particularly want to attract trainers who are willing to commit to improving their beekeeping knowledge and teaching skills.

Venue: Warwickshire.

Dates: 29 September 2013; other dates may be arranged depending on take-up.

Format of the day:

9:30 to 16:00. Lunch, tea and coffee will be provided.

Cost: There is no cost to BBKA members for the course and a contribution to travel expenses will be available. Beekeepers not members of the BBKA are welcome to attend, however there may be a charge.

Course in the Case

Attendees will have the opportunity to view the White, Yellow, Red and Green 'Course in the Case' materials.

Trainers

The training will be led by Daniel Basterfield, NDB.

Course programme and application process:

A detailed course programme and application form are available on www.bbka.org.uk or from David Blower, the BBKA Education Coordinator on david.blower@bbka.org.uk

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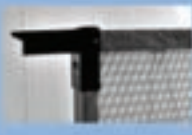
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Imported Bees

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.

Your Letters



Thinking Allowed!

As a fairly new beekeeper (this is my third year) I read with great interest the article 'Thinking Allowed!' by The Forager in the April 2013 BBKA News. I would like to offer a few comments related to this article. It is of relevance to note that I am a sustainable, bee-friendly beekeeper and use top-bar hives, both vertical (Warré) and horizontal (Kenyan).

I would begin my comments by saying that I am in almost complete accord with the general sentiments expressed in what I would describe as a well-reasoned piece, as far as it went. My own formal training was undertaken at a local agricultural college by an experienced beekeeping instructor. My instructor was aware from the outset of my intention to use top-bar hives. We had both classroom and apiary classes. While he made no references to hives and methods other than those that apply to National and Commercial hives he always courteously replied as best he could to any of my questions when I was trying to interpret what he was saying to a top-bar environment. Since I became a beekeeper my instructor has continued to take an interest in my beekeeping activities.

What I would see as a serious omission from 'Thinking Allowed!' was a failure to make any reference to the BBKA Basic Assessment Curriculum. This curriculum quite clearly requires that those submitting to the Basic Assessment use frames. I have no intention to indulge the BBKA by purchasing, and becoming competent in putting together, frames purely for the purposes of passing the Basic Assessment. I take this view even though I am aware that as a consequence I am unable to engage with the more specific Modules.

I accept, of course, the disclaimer that the views expressed by authors may not be in accord with the official views of the BBKA. The Forager's first paragraph comment '... there are so many different ways of keeping bees ...' together with the undeniable fact that top-bar hives exist, and are in use in the UK, suggest to me that the Basic Assessment Curriculum is unnecessarily restrictive. It seems to me that the BBKA could, even should, widen the scope of the Basic Assessment Curriculum in a manner that would enable beekeepers of all responsible styles to submit to the Basic Assessment and, if successful, then continue with more advanced training.

Dr Terry Rogers,
Colchester Division of Essex BKA

In Response

We are quite happy to arrange for any hive to be used for an assessment, but the focus of the Basic Certificate is safe beekeeping; the safety of the beekeeper, the public and the bees. To this end, the main emphasis of the assessment is on careful handling of bees, effective swarm control, knowledge of pests and diseases harmful to bees and their treatments. Any candidate wishing to take the assessment must be prepared to demonstrate their ability in these areas.

BBKA Exam Board

Another Angle on the Pesticide Issue

Although there are mixed views about the withdrawal of three neonicotinoid insecticides from the 1 Jan 2014, little attention seems to be given to the UK Plan for the Sustainable use of Pesticides, which is our national response to an EU Directive (2009/128/EC). This directive makes various actions obligatory on 1 Jan 2014. In any plan for the sustainable use of pesticides, we as beekeepers know that great importance should be given to improving the safety of bees.

The EU directive makes Integrated Pest Management (IPM) obligatory on our farms for crop protection from the date mentioned above, and in IPM as defined by this directive, pests must be monitored in a crop before any treatment is given. This is to allow natural controls such as hoverfly larvae to increase in number, and to avoid unnecessary sprays. Since seed treatment is done before sowing, and makes it impossible to monitor before deciding what, if any, treatment is required, it seems obvious that the main use of neonicotinoids was banned throughout the EU anyway.

As it happens, the implementation of obligatory IPM in the UK seems to be a rather meagre event, despite the protestations of the Chemicals Regulation Directorate (CRD), who for some obscure reason have been charged with managing what one would have expected to be a job for Defra, with co-operation from CRD as required.

Stephen Thomas,
Cheshire BKA

Diary of Events

3–4 August. Stoneleigh Country Show at the National Agricultural Centre, Stoneleigh.

15–18 August. Southport Flower Show at Victoria Park, Southport, with a honey section.

September 2013–March 2014, Manchester BKA. Cover the BBKA Microscopy Certificate, 6 Sats, at Manchester Grammar School. Info: John Charlton 0161 962 2284/ johncharlton151@gmail.com

6–8 September. Midlands and South West Counties Convention. Herefordshire BKA (host). Three Counties Hotel, Hereford. Lectures, workshops, Bishops Palace Garden visit and pollination lecture. Details and booking: www.mswcc.org.uk

7–8 September. Bristol Honey Festival at University of Bristol, Botanic Garden, BS9 1JB. Honey show with 17 classes and prizes. Details: www.bristolhoneyshow.co.uk; e-mail showsec@bristolbeekeepers.org.uk Tel: 0117 9244836.

7 and 8 September. Harper Adams University. Summer School; see page 32 for full details.

29 September. Training sessions for study group leaders. Warwickshire. See page 32 for further details.

24–26 October. 2013 National Honey Show, St George's College, Weybridge. Lectures, workshops, trade and educational exhibition. See <http://www.honeyshow.co.uk> for more.

16 November. Sussex BKA Annual Convention, Uckfield Civic Centre TN22 1AE. £25. Details at www.sbkaconvention.org.uk or Harold Cloutt 01424 838302; email: info@sbkaconvention.org.uk.

4–6 April 2014. BBKA Spring Convention at Harper Adams University, Newport, Shropshire.



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