



Beetalk December 2019

General info and news about bees

Hello and welcome.

Beetalk is a compilation of news from across the bee keeping word.

Its not affiliated to any beekeeping group so you wont get things like the next meeting and what we are doing and such like.

We hope that the articles provided will be useful to anyone interested in the a rewarding hobby and in some way we also hope that you may gain some pleasure in reading some of the article that are included.

Also we intend to include articles that may be helpful to anyone new to this wonderful hobby.

Being based in Lancashire it would be great for any contributions from Beekeepers from the county. But as stated above, please nothing about your association or group.

Hope you enjoy. And to everyone of our readers. Have a great Christmas and all the best wishes for the coming year, both in health, wealth and happiness, and may your beekeeping year be a great one.

Editor

If you have any articles that you think may be useful to have included in Beetalk.

Please e-mail them to the editor

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ELEPHANTS' FEAR OF ANGRY BEES COULD HELP PROTECT THEM .

At a time when encroaching human development in former wildlife areas has compressed African elephants into ever smaller home ranges and increased levels of human-elephant conflict, a study in 'Current

Biology', suggests that strategically placed beehives might offer a low-tech elephant deterrent and conservation measure.

The researchers found that a significant majority of African elephants fled immediately after hearing the sound of bees, providing "strong support" for the idea that bees, and perhaps even their buzz alone, might keep elephants at bay. By contrast, the elephants ignored a control recording of natural white-noise, the authors reported. "We weren't surprised that they responded to the threatening sound of disturbed bees, as elephants are

intelligent animals that are intimately aware of their surroundings, but we were surprised at how quickly they responded to the sounds by running away," said Lucy King of Oxford University. "Almost half of our study herds started to move away within ten seconds of the bee playback." Earlier studies had suggested that elephants prefer to steer clear of bees. For instance, one report showed that elephant damage to acacia trees hosting occupied or empty beehives was significantly less than in trees without hives, the researchers said. In Zimbabwe, scientists have also seen elephants forging new trails in an effort to avoid beehives.

In the new study, the researchers tested the response of several well-known elephant families in Kenya to the digitally recorded buzz of disturbed African bees. Sixteen of the 17 families tested left their resting places under trees within 80 seconds of hearing the bee sound, the researchers reported, and half responded within just 10 seconds. Among elephants hearing the control sound, none had moved after ten seconds and only

four families had moved after 80 seconds. By the end of the 4min sound playback of bee buzz, only one elephant family had failed to move, whereas eight families hearing the control sound had not moved.

This behavioural discovery suggests that bees might very well be a valuable addition to the toolbox of elephant deterrents used by farmers and conservation managers across Kenya, King said. She added that such innovative approaches are sorely needed "to avoid extreme solutions such as shooting problem animals." She cautioned that the use of beehives to shoo elephants away might prove to have limited application and that more research is needed if we are to understand its effectiveness. "But if we could use bees to reduce elephant crop raiding and tree destruction while at the same time enhancing local income through the sale of honey, this could be a significant and valuable step towards sustainable human-elephant coexistence."

AGGRESSION – NURTURE ALTERS NATURE

A new study reveals that changes in gene expression in the brain of the honeybee in response to an immediate threat have much in common with more long-term and even evolutionary differences in honeybee aggression. The findings lend support to the idea that nurture (an organism's environment) may ultimately influence nature (its genetic inheritance).

The study used micro-array analysis to measure changes in gene expression in the brains of European honeybees and the much more aggressive Africanised honeybees. Micro-arrays offer a snapshot of the thousands of genes that are activated at a given point in time. By comparing micro-arrays of bees in different environmental and social conditions, the researchers were able to look for patterns of gene expression that coincided with aggression.

Honeybees respond aggressively only if their hive is disturbed. But when disturbed they mount a vigorous defence – the all too familiar bee sting. The researchers observed that changes that occur in the brain of a European honey bee after it is exposed to alarm pheromone (a chemical signal that the hive is in danger) look a lot like the more gradual changes that occur over the bee's lifetime. (Old bees are more aggressive than young bees.)

Even more striking was the finding of a very similar pattern of brain gene expression in Africanised honeybees. In terms of brain gene expression, Africanised bees "look" like they were just exposed to a whiff of alarm pheromone, even though they weren't.

"Micro-array analysis is revealing large-scale gene expression patterns that are giving us new insights into the relationships between genes and social behaviour," said Gene Robinson, a professor of neuroscience and of entomology at the University of Illinois, who led the study. "Some of the same genes associated with aggression that vary due to heredity also vary due to environment. This shows how nature and nurture both act on the genome, which provides an alternative to the old 'nature versus nurture' dichotomy."

The new findings may begin to explain how the evolutionary diversity of behavioural traits is achieved, he said. "We suggest that the molecular processes underlying environmental effects on aggression – that is, responsiveness to alarm pheromone – could have evolved into molecular processes underlying inherited differences in aggression exhibited by Africanised honey bees and European honey bees – nurture begets nature," the authors wrote.

NECTAR

Nectar, the sweet aqueous solution secreted by floral nectaries has the primary function of attracting and rewarding potential pollinators. While the mechanism of nectar secretion is not fully understood, it is well known that secretion is dependent upon the metabolic activity of the nectary tissue and several possible metabolic pathways have been described.

Nectar is secreted from the cells into the intercellular spaces from which it diffuses through the epidermis or stomata of the nectary. The amount of nectar and sugar content that is secreted is dependent upon the plant itself and the environment. With some species, there is a relationship between the size of the nectary and quantity of nectar secreted. Other plant factors that may affect nectar quantity and quality such as: sex of the flower; position of the flower on the plant; age of the flower; variety.

Nectar secretion often ceases after pollination. When pollination fails to occur, then the length of the secretory period is usually extended. With many species, uncollected nectar may be reabsorbed by the nectary tissue.

The concentration of the nectar as it is secreted by the nectary is highly dependent on the anatomy of the vascular system supplying the nectary and on the sugar concentration in the phloem (food conducting vessels) and/or xylem (water conducting vessels) of the nectary vascular supply. Highly concentrated nectar which is characteristic of several plant species, essentially originates from phloem tissue whereas plants that produce high volumes of dilute nectar have limited phloem tissue and abundant xylem. The quality of the nectar secreted is essentially a function of the carbohydrate (sugar) supply to the nectary and indirectly related to photosynthesis (process by which green plants produce their own food).

Most of the sugar of nectar probably comes from leaves fairly close to the flower. In herbaceous plants, the nectar sugar is likely to be of recent origin, whereas in trees and shrubs, it may also be derived from stored carbohydrates. It is highly probable that any factor which alters the rate of buildup or breakdown of the carbohydrate supply will influence nectar secretion. Sufficient sunlight is of primary importance in supporting a high level of photosynthesis. Flowering is one of the later events in the life history of an annual plant and any factor to which the plant has been exposed prior to this time will, to some degree, influence flowering and nectar production.

In general, conditions which impose no appreciable limitations on growth and which promote a reasonable balance between vegetative and reproductive development seem to support good nectar production.

Throughout the growing season, water is an important factor in the regulation of plant growth. Either a shortage or an overabundance of water may stunt plant growth and lead to poor nectar yields. During the secretory period, a lack of water may reduce the amount of sugar synthesized.

External factors influencing secretion are those of weather and soil. Weather is a complex of interrelated factors that are often difficult to separate into individual components. Temperature has received more attention than other factors and there is a difference of opinion regarding its importance. Records of daytime temperatures may reflect conditions of sunlight which in themselves cause wide variation in the nectar flow.

Temperature affects many plant processes which are proceeding at the same time. A certain threshold temperature is necessary if secretion is to occur. Within normal limits, temperature variation probably has little influence on the amount of sugar which the plant synthesizes, but it has a very marked effect on the rate at which the sugar is consumed in growth, respiration, and other processes. Flower development is accelerated at high temperatures and the duration of secretory activity is probably shortened. Excessively high temperatures in combination with meager rainfall can lower nectar production by causing a moisture stress in the plant.

Atmospheric humidity does not affect nectar secretion directly, but has a pronounced inverse effect on nectar sugar concentration. As nectar is secreted, it undergoes a regulation of concentration until its vapour pressure comes to equilibrium with that of the atmosphere. Unless the humidity of the atmosphere is very high, the change will be a loss of water molecules to the air and an increase in nectar sugar concentration.

Rates of increase in nectar sugar concentration can be extremely rapid in flowers in which the nectar is exposed. Evaporation is hastened by high temperature and rapid air movement across the nectaries.

BEEKEEPERS ARE THE NEW MICE. Dr. Brasseur, Journal of Experimental Medicine.

Beekeepers are the new, improved mouse model for immune responses to allergens. It's an immunologist's dream.

By the very nature of their activities, unprotected beekeepers are voluntarily and repeatedly injected with high doses of bee antigen—an average of 13 antigen-loaded stings in the first week of the honey-harvesting season alone, according to the study. And in just these seven days, the beekeepers developed an immune tolerance that was noticeable in both skin reactions and T-cell responses. Beekeepers demonstrate immune tolerance, and the researchers suggest that it can be traced to a cytokine switch.

Having recognised the invader, different types of T-cell have different jobs to do. Some send chemical instructions (cytokines) to the rest of the immune system. Your body can then produce the most effective weapons against the invaders, which may be bacteria, viruses or parasites. Other types of T-cells recognise and kill virus-infected cells directly. T-cells that had made mostly IFN- started making more interleukin-10 (IL-10), which tempers immune reactions. IL-10-producing cells curbed the in-vitro proliferation of other Tcells in response to bee antigen.

The cytokine switch, the authors found, was initiated through the histamine pathway. As with many allergens, bee venom induces mast cells to unload histamine. In-vitro experiments with the beekeepers' T-cells revealed histamine induced IL-10 production and T-cell lethargy, both of which required the H2 histamine receptor.

The beekeepers' tolerance was lost within two months of the season's end, unveiling a relatively short lifespan of T-cell suppression. The cycle repeated at the onset of the next season, so beekeepers have little to worry about. But allergy sufferers, who may be defective in this IL-10 response, might be less enthused, because the findings suggest that successful therapies involving allergen-specific immuno-therapy probably require considerable perseverance.

This begs the question: 'Should we all be beekeepers for our allergens?' Probably not, until we figure out if it's an IL-10 problem that causes the allergies. After all, what good would living with, say, 30 cats do if in the end, we'll still be IL-10 deficient with watery eyes and a reputation as a cat hoarder? None. But a sustained release of IL-10 designed with a long half-life in the systemic circulation perhaps may have some value.

SPOT THE QUEEN.

I went beekeeping this morning – began to take off the supers – and then found to my dismay that there was brood in the super frames. For the beginners this can mean that when you took off your queen excluder you either did not:

a. Check to see if the queen was on your excluder –put it the same side down onto the super you had previously taken off instead of reversing it –brood side upwards.

b. Zinc excluder had a tear in the slots

c. Zinc excluder had a bump of wax under and had widened the slot.

I realised that I had to find the queen and put her downstairs. Took off another super and got down to the zinc queen excluder and there she was – good as gold-walking across the queen excluder, just waiting for me to pick her up and return her to the brood box. It is not always like that. Most times you have to check and flick each super frame in turn into the brood box which is quite labour intensive, especially at the moment, with the number of supers being put on the hives.

I then went through the brood box to see if the bees had brought up any queen cells. They had and each frame had to be checked carefully so that the next time I go to the hive I do not find that the colony has swarmed. As far as the bees were concerned the queen was not around. This was the case of having a spare queen excluder to replace the one taken off. That one's slot had stretched. But wasn't I lucky that the queen was so helpful?

This is something that most beekeepers have experienced at one time or another.

PROZAC NOT POLLEN .

More crucial news from the world of science: according to a study from Newcastle University, bees get depressed. From the study, I am not sure if they get depressed only when they are in Newcastle, or if this applies to all bees. But apparently those Geordie bees show their depression by becoming deeply "pessimistic", perhaps grumbling to one another: "I bet they take us to Sunderland next – uh oh, here comes that idiot dressed as a member of the Ku Klux Klan with his bloody smoke gun again. This is a futile existence."

SLEEP DEPRIVED HONEYBEES ARE SLOPPY DANCERS.

Just like humans, sleepy bees suffer at work. For us, a snooze-deprived worker can't concentrate or perform tasks efficiently, but for honeybees a lack of sleep leads to mistakes in a wagging dance they perform. Bees do in fact sleep, contrary to popular belief, and exhibit very similar characteristics to humans when napping. They relax their muscles, their body temperature drops, and they won't move around or react to stimuli very readily. Plus, as a study from the University of Austin reveals, taking forty winks is very important for bees to get enough energy to perform their daily routines.

Researchers kept some bees up throughout the night, while a control group had a snooze. In the morning, the sleep deprived honeybees weren't as able to communicate as well with their fellow insects. Bees use interpretive dance to point out nectar-filled flowers to other bees, wagging their fuzzy bodies in the direction of the food source. But the tired bees had less precise jigs and made more mistakes than their well rested compatriots, which would lead to fewer followers making it to food in the real world.

So how does a scientist go about keeping hundreds of honeybees awake? Late night horror movies? Caffeine? Nope, instead the researchers attach a little metal backpack to each honeybee, and then a wall of magnets passes across the bees. This contraption, called the "Insomniator" jostles the insects awake, at different points throughout the night. Not too pleasant an experience, we imagine. This is, perhaps unsurprisingly, the first ever study of sleep deprivation in bees.

Some stuff from Yester Year.

BEE KIND TO THE BEES

The Rural Canadian, April 1881

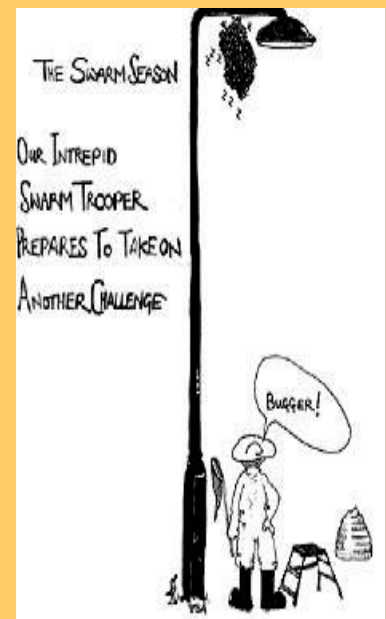
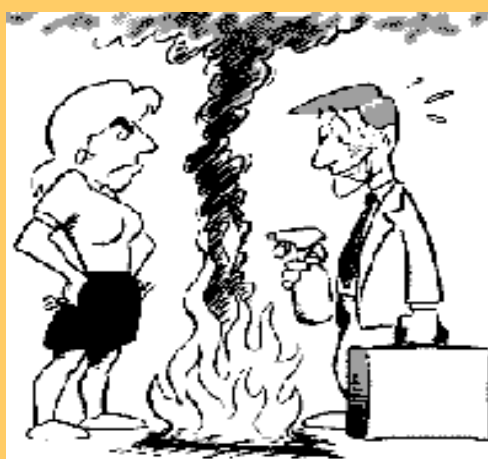
Considering that during the honey season, when we have most occasion to handle bees, their average life is not over three months, there is but little chance to cultivate friendship with them. Besides, the first smell of you they decide whether to treat you as a friend or a foe. No kind treatment that you can give them will ever change their dislike of you into love. Be gentle with them always, but gentleness will not conquer their aversion if they have taken a "sconner" at you. It is people who are bee-loved who should make a life-work of apiculture. The most that others can do is to let the little insects know from the start that they have their master.

DRONES AND ELECTRICITY

F Reiner, Gleanings in Bee Culture 1892

Experiments made years ago in Germany have shown that drones cannot withstand as strong a current of electricity as workers. Would it not be simpler and cheaper, by means of an electrical battery constructed in such a manner that the strength of the current could be changed *ad libitum*, to kill all drones of a colony instantly, than to use drone traps for the purpose?

(Is this a new way of getting rid of Varroa? Ed.)



Hints 'n' Tips.

Another material that I find very useful for beekeeping is polystyrene. The insulating properties of this material are superb. Even if you don't like the idea of using polystyrene hives, I think the use of it for lids could be a real help in a cold winter. I have successfully used packing material, that would otherwise have been thrown out to make a lid to cover my nuc boxes, these are very successful for overwintering nucs and could also be used on full size hives. If you make the covers deep then the hive will get a very good level of insulation. I usually use pva glue and duct tape for joining and then paint with silver or aluminium paint to finish.

Beeswax Polish

2 oz Beeswax
½ pint Pure Turpentine Oil (if you can find any)
¼ oz White Paraffin Wax
1 oz Pure Soap Flakes
5 fl oz Purified Water

Method

Heat together the Beeswax, Paraffin Wax and Turpentine in water bath until melted;
Heat the water and carefully add the soapflakes, stirring until completely dissolved;
Cool both mixtures for at least 5 minutes;
Add the water mixture to the wax mixture and stir continuously until it emulsifies;
Pour into glass pot or tin containers and seal tightly.

Beeswax Dry Skin Cream

1 oz Beeswax
1 oz Pure Lanolin
5 fl oz Almond Oil
30 ml Rosewater
¼ tsp Borax

Method

Heat together the Beeswax, Oil and Lanolin in a water bath until melted;
Heat the Rosewater, add the Borax and stir until completely dissolved;
When both mixtures are just warm, mix together and stir well until fully emulsified;
Pour into pots or jars.

Antibiotic Honey

A couple of weeks ago a girlfriend visited me and my husband, and among many other topics, she was lamenting the fact that she had had a scalp infection for almost a year and a half. An antibiotic-resistant (MRSA) staph infection was causing her a lot of concern and pain – she was spending all kinds of money on doctors and prescriptions, but couldn't get rid of it. She was losing her hair, having to continually wash linens, be careful in public, etc. Remembering my own experience of several years ago where honey got rid of a twelve-day old infection on my knee overnight(!), I recommended she might as well see whether honey could help, and sent her home with a half-used jar. We laughed as we talked about how to apply it to her head! I forgot about the conversation until last week when she emailed me: "Leslie, the honey cured my staph infection, two cultures verify it's gone, gone, gone. I slept with honey in my hair with a plastic shower cap. Wish I had tried it a year ago!" I encourage you to remember this next time you have a wound that doesn't heal right, or any other time you get a cut!

Honeyed Ginger Cake

Time for a really nice cake to brighten up the summer; this one is from our honey show:
6oz butter or margarine 3oz muscovado sugar 3 tablespoons heather honey (available from heather-goers) 2 eggs 4oz chopped crystallized ginger ½ teaspoon powdered ginger 9oz self-raising flour
Beat the butter, sugar and honey together. Add the crystallized ginger. Beat whilst adding the eggs slowly. Fold in the flour and ginger powder. Put in a well-greased tin and bake for 1¼ hours at 150°C

Beeswax Hand Cream

From Ludlow & District BKA Newsletter November 2010 Issue, Courtesy of eBees

1 oz Beeswax
5 fl oz Almond Oil
1 oz Coconut Oil
30 ml Rosewater
¼ tsp Borax

Method

Heat together the Beeswax and Oils in a water bath until melted;
Heat the Rosewater, add the Borax and stir until completely dissolved;
When both mixtures are just warm, mix together and stir well until fully emulsified;
Pour into pots or jars.

Queen Excluders, Supers and Supering.

The modern parallel-wire queen excluder has sturdy spacer straps, is framed and has a bee space on one side only.

If you use a bottom bee space hive, like the National or WBC, the excluder bee space must be underneath and if you use a top bee space hive, like the Smith or Langstroth the excluder bee space must be on top. It is more expensive to buy than the traditional „sheet“ type but with reasonable care it will last a lifetime.

When considering which type of excluder to use, the restriction of hive ventilation must be considered. When nectar is first stored in the supers, it has a high moisture content, which must be reduced during the process of converting it into honey. This process becomes more difficult if the excluder forms a partial barrier to the free flow of air.

The slotted zinc or slotted plastic excluder has many drawbacks. Beekeepers often use it by laying it directly on top of the frames of the brood chamber, where it has to be peeled off during inspections, with the constant risk of distortion. This is not quite so bad if using a bottom bee space hive, where the frame tops are flush with the top edge of the brood chamber, but with a top bee space hive the excluder tends to sag causing brace comb to be constructed both above and below it. This can be avoided to some extent by framing the excluder, but a frame consisting of four edges still allows sagging. At least two additional cross pieces are required to reduce this. If the excluder is merely lying on top of the frames it forms a barrier, both to the bees and the circulation of air, because bees and air can only pass through the slots which lie between the frame tops. The slots which cover the top bars might as well not be there. In addition, only the slots which have their short dimension fully clear of frames will allow worker bees to pass through. To reduce the effects of this the excluder should be placed with the slots at right angles to the frames, if the brood chamber dimensions allows this flexibility, i.e. some brood chambers are not square. Sheet excluders can be purchased „short slot“ or „long slot“. The long slot marginally increases access and ventilation but it does so at the expense of reliability in excluding queens and drones.

Overcrowding of bees is recognised to be a barrier to ventilation and to the distribution of queen substance, thus leading to the onset of swarming. Not every beekeeper can recognise crowding in a colony. If bees are occupying all the space available to them, then they are overcrowded even although they seem to have enough room to move about. They do not need to be thick on the comb in the brood chamber or supers to be overcrowded.

Since temperature, the need for space to „hang nectar out to dry“ and other considerations determine the number of uncrowded bees on a comb face it is not feasible to use the number of bees per unit area as a measure of crowding. Severe overcrowding is obvious but the uncrowded colony can only be distinguished by the presence within it of some unoccupied comb space. Bees will occupy more comb space in hot weather than in cool weather so it is better to give them more room than seems necessary if they are examined on a cool day.

When a single brood chamber is crammed wall to wall with bees, it is overcrowded. It requires part of another brood chamber or, at the very least, a super to be added. The number one purpose of a super is for accommodating bees. Supers are needed whether or not there is any surplus honey. The bees are programmed to appreciate if extra space is available should it be required. If that extra space is not available the seeds of swarming will be sown.

Honey supers can consist of boxes having the same sized frames as those in the brood chamber or, more usually, shallower frames. In the use of National or Smith hives, these shallow supers are capable of holding 11-13kg of honey and are much easier to lift than deep supers.

I would recommend the use of Hoffman self spacing frames in the brood chamber, but these frames in a super are a waste of money, the spacing projections on the sides of the frames are a hindrance when uncapping and they do not easily allow a wider spacing to be employed. I would also recommend that brood chamber frames are of the DN5 type consisting of a 26mm wide top bar which reduces the incidence of brace comb being built between the frames. I use the excellent SN1 shallow frames, which are made of 22.5mm wide wood, in my supers. The frames, when newly fitted with wired wax foundation, are set apart using narrow plastic spacers 36.5mm wide. A National super holds eleven of these frames.

If frames with foundation are spaced more than 41mm apart, there is a likelihood that the bees will draw combs between some of the sheets and make a hopeless mess. When correctly spaced, the bees will draw the foundation into perfect combs which will, hopefully, be filled with honey and capped. These frames are then extracted, given back to the bees to clean up, and stored in their supers for future use. In subsequent years the plastic spacers can be removed and the frames put on to „wide spacing“ using nine-slot castellated spacers.

Castellated spacers should never be used in the brood chamber as they prevent frames being slid along the hive runners. Full supers containing nine combs will contain more honey than those containing eleven because there are only ten passage ways between the combs instead of twelve. The combs will be fatter, heavier and easier to uncap. If you have 100 supers to extract you will have only to handle 900 frames instead of 1100, which is a saving in cost and time for beekeepers with a large number of hives.

The first super should be added, above a queen excluder, when the bees are starting to occupy the inside face of the outside combs in the brood chamber. If a wire excluder is in use and the first super consists of drawn comb, I have not experienced any difficulty in getting bees to enter the super. When the bees (not necessarily honey) are occupying two thirds of the first super, a second should be given. This second super can be of foundation. If it is, it should be placed below the first where the bees are forced to pass into it to reach the super in which they are already working. Also, the direct heat from the brood chamber will assist in getting the foundation drawn. One of the aims of supering is to relieve congestion in the brood nest. Bottom supering helps to do that because bees will occupy the new super faster than they might if it had been placed on top. Remember that bees only draw foundation when there is a honey flow. If it is given at other times they will tend to chew and make holes in it. The foundation must be fresh from a sealed packet. If it has been on a colony the previous year and stored undrawn, try heating it gently with a hair-drier to remove „blooming“ and raise its aroma.

Bees tend to seal honey from the top downwards. This, together with bottom supering means that the sealed honey will be found in the top super where it can be inspected and removed more easily. It should be remembered that a super full of sealed honey has less room for bees than an empty one, because the inter-comb space has been reduced. If such supers are at the top of the pile, the state of crowding may not be apparent until these supers are taken off as there may only be guard bees in them. If there are a lot of bees in a full and sealed super, the probable reason is that they are overcrowded.

In light of the preceding discussions, plenty of super room should be available in late spring and early summer to reduce the pressure on swarming. Towards the end of the honey season surplus super room is less desirable and should be reduced in order to try to encourage the bees to concentrate, ripen and seal the honey which they have collected. Partially completed frames or supers can be given to stronger hives to complete.

If the beekeeper is likely to be on holiday or at work for an extended period in late spring to early summer, two shallow supers can be given at the same time. If they are given as top supers, a sheet of polythene which has a 30mm space cut all round can be placed between the supers. This will conserve heat and the bees will go around the edges of the polythene if they need to enter the second super. The polythene should be removed at a convenient later date.

Nurturing Nucs and Nuking Wasps

So far my new Buckfast queens have had a 50% success rate. That is to say, there were two of them and now there's only one. The remaining queen and her little entourage are hived in one of those correx nuc boxes with about 80% of its excessively large and numerous ventilation holes covered against the cold and howling gales we've had since the queens first arrived. I also made them little porches out of bricks as the entrances seem awfully exposed.



A week or so ago, while the hedge round the nuc was being trimmed, I heard a strange, high pitched buzz coming from the nuc, in the brief lulls between the long, loud roars of hedge hacking. It was tantis-ing. Once the trimming had finished, I went over for a closer look and found the bees had propolised their entrance closed. The high pitched "distress" note was being generated by bees trying unsuccessfully to force themselves in or out of the half millimetre or so gap they'd left for themselves.

So why would they have sealed themselves into their hive and sealed all their foragers out? Maybe it was the loud buzz of the hedge trimmer that scared them.

Then again, there was a wasp nest not 20 yards away, in the garage where I store and maintain my hives. One of the wasps had stung me that very morning. Perhaps the wasps were terrorising them. There was nothing I could do about the hedge trimming, but I could deal with that wasp nest. I waited until about 8pm, chiselled the nest (a beautiful, delicate thing) out of the rafters with my hive tool, bagged it and then took and lobbed it into a pond, where the fish would enjoy the fat, well-fed larvae. Then I spent the next hour or more swatting the escaped adults with a rolled up newspaper. All very environmentally friendly. No pesticides involved.

They haven't sealed themselves in again, so far...



An epilogue.

That wasp nest I lobbed into the pond... it wasn't quite the end of the wasps. You'll know that bees, wasps and ants are all related – the hymenoptera – and they all have different reproductive strategies. Unlike the honey bees we keep (where the colony is as good as dead if the queen dies when there're no viable eggs, or brood young enough to make a new queen), in some species of bees, wasps and ants, an ordinary worker can be raised to the throne if the queen dies. Her ovaries can develop and she can mate. I wonder if these wasps are of that sort. There were no more than half a dozen remaining after I'd finished splattering the stuffing out of the last few stragglers. But every day since then, I've checked the garage and found this tiny remaining contingent of survivors busy trying to rebuild their nest in the same place – which I've promptly scraped away again. They certainly are persistent. If it weren't for the risk they pose to my bees, I'd be tempted to let them carry on and see how quickly they can build up their colony again. They're big, handsome wasps too... much bigger than most of the tiddlers that dived into my wasp traps last year... almost as big as the hornets that also took the jammy plunge.

Chemical treatment

If you decide that chemical treatment is needed to reduce mite numbers, there are a number of different proprietary products available. I am not going to go into the details of treatment, but be sure to use registered products and use them strictly according to the instructions. The original treatments of Apistan® and Bayvarol® are now largely useless because the mites are resistant to them. Most of the current treatments, including Apiguard® and Apilife Var® contain thymol, which is quite effective provided that it is used properly. It is dependent on temperature and sometimes, particularly if the temperature is high so that it evaporates quickly, bees can be upset by it. Do not be tempted to use unregistered products available in other countries, most contain chemicals to which the mites can quickly become resistant and some are quite unpleasant substances. Many Varroa treatments are absorbed into the wax and can be persistent and can also interact with chemicals from other products that may be used subsequently.

Following any treatment it makes sense to monitor the mite numbers again to ensure that the treatment has been successful. Ensuring that your Varroa counts are really low will help the winter bees to survive so that the colony gets off to a good start in the spring.

Finally, The National Bee Unit produces an excellent booklet called 'Managing Varroa'. This contains an enormous amount of information and can be downloaded from the Bee Base website. If you don't already have a copy, make sure you get hold of one – and then read it.

Next month we will look at that other essential to successfully overwintering your bees – provision of adequate food.

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The Role of the Swarm Co-ordinator

Ideally, the swarm coordinator would be available at home 24 hours a day during the swarming season, with access to telephone and the internet. It is a distinct advantage if his/her telephone contract is one with free outgoing calls at any time!

Before the swarming season, the coordinator makes contact with the Local Authority, the Police, Fire and Ambulance Services, both at local stations and their respective headquarters, to inform them of the services we provide for the removal of swarms, giving contact details. At the same time the swarm removal service is publicised in prominent places, such as doctors' and dentists' surgeries, free public advertising sites in supermarkets and the like.

The press are also asked to publish information about the Association giving details about bees, swarming, and who to contact. As the public generally are unable to differentiate between bees and wasps we indicate that we are willing to give advice. This information appears twice, once at the start of the swarm season and again a couple of weeks later if possible (a jar of local honey works wonders). Another useful contact is using the local freecycle groups internet site to advertise our work.

So far as the members are concerned, a list is made of those requiring swarms. This includes names and locations, telephone numbers, distance willing to travel to collect a swarm and whether or not assistance is required for their first swarm. **Members putting their names on the list should ensure that they have the facility and equipment required to collect a swarm.** A cardboard box perhaps? And a hive to put the bees in at the apiary or home?

On report of a swarm the first person on the list in that area is telephoned and given the available details of the swarm together with names and telephone number of the person reporting. They can then get any further information from the source such as the requirement for special equipment - a ladder may be required or detailed directions by mobile phone. It would be nice, but not essential, to receive a return call on the completion of the collection: it is essential to get a return call if the person going has a change of mind and decides not to go for any reason. This enables the call to be passed down to the next person on the list. A phone call is essential, not an email as the computer is not manned 24/7. If you find that you no longer need a swarm please let the coordinator know as soon as possible to save unnecessary phone calls.

It is an required skill to be able to fend off calls diplomatically without bringing the Association into disrepute. Numerous calls are received from householders who say they have a swarm, but in reality have a wasps nest. Some are genuinely worried not knowing the difference between bees and wasps, and just want advice and reassurance, but others are just trying to get the wasps removed for free, as the local authority and pest controllers charge heavily for this service.

You have to be prepared to receive calls into the night, like one I received from a vicar at 11-30 p.m. who wanted, nay, demanded, that we do something immediately with the masonry bees that were allegedly eating his church. Fortunately his church was in Shropshire so he was provided with the telephone number of the bee keepers association.

Another late one was from a lady who also demanded that we removed four bees that were threatening to sting her children. When asked where the four bees were she replied that they were in the window. She was advised to open the window. You meet a lot of nice people doing the job, mainly on the phone and it is nice to be able to help

HIMALAYAN BALSAM - PROS AND CONS

Himalayan Balsam is a plant, which has invited more controversy and argument between Beekeepers and Conservationist than anything else. According to the Environment Agency it is on the same scale as Japanese Knotweed and Ragwort and should be eradicated. Conservation bodies such as Wildlife Trusts are busily organising working parties to pull it out and get rid of this invasive weed. Some of you no doubt and including myself for that matter may be members of some of these Conservation Organisations which are supporting the eradication of Himalayan Balsam. Being a conservationist I would support eradicating non-indigenous plant species every time including Himalayan Balsam, apart from the fact that honeybees love it.

Himalayan Balsam is a native of the Western Himalayas resulting in its colloquial name of, "Kiss me on the Mountain". The pink hooded shaped flowers take on the appearance of a policeman's helmet hence its alternative common name. It was introduced to Kew Gardens in 1839 as a greenhouse plant, from there it escaped into the wild. It is now naturalised in the British Isles and many other countries. It spreads along river banks and its dense areas suffocate other indigenous plant species: plant species that other wildlife such as birds and small mammals rely on. It bungs up water courses and causes flooding and when it dies down in the winter, it leaves bare patches along river banks leading to soil erosion. Its spread rate in the UK is estimated at 645 km sq per year and an extensive stand of Himalayan Balsam may reduce species richness by 25%. Its high nectar yield attracts pollinating insects in preference to native plants. Little wonder why Conservation Bodies want to get rid of it. Black spherical seeds germinate around February/March time and the plant grows very quickly reaching a height of two metres or more. It flowers from July until early frost. During the autumn green seed pods start to form and explode when disturbed releasing the seeds. Medium sized plants produce on average 700 to 800 seeds which can be ejected up to seven metres from the parent plant. The flowers produce 47% more nectar than any other native plant therefore a major attraction for honeybees and other pollinating insects. In some areas the honey flow season can be extended for up to two months well up to the end of September. With the queen excluders removed at the beginning of August a reasonable colony of bees can easily realise two more supers of honey. However we cannot get away from the fact that Himalayan Balsam is an invasive weed. It is an offence under the Wildlife and Countryside act schedule nine to deliberately propagate and encourage it. Yet our bees pollinate it to ensure fertile seeds to germinate next year. Technically moving hives into an area where there is a large concentration of Himalayan Balsam to catch the honey flow, we could be flouting the law. However proving any such contravening case would be difficult especially if the beekeeper always moves his hives into a certain apiary every year to over winter. Strange it should just so happen that there is a large area of Himalayan Balsam within a close proximity of that apiary. The extended season has led to strong well fed colonies entering the winter and colonies winter well on the forage from this invasive weed. So it is a balance between the conservation of some native species and maintaining the environment by eradicating Himalayan Balsam or ensuring that more honeybee colonies survive the winter through an extended honey flow season allowing the bees to have more natural stores on board. Please remember honeybees pollinate a third of our food source and one can argue that their interests need to be high on the agenda in preference to conservation. Personally I think Himalayan Balsam should be controlled, not eradicated. Careful management of the plant can realise a balance between the interests of the beekeeper and native species conservation. Controlled where there are issues of rare native plant species and in specific nature reserves and woodland areas where it should not be present. Himalayan Balsam fortunately and unfortunately is here to stay, totally eradicating it is virtually impossible - like the grey squirrel in preference to the red - it cannot be done. However there is one thing I can say in favour of the plant, the honey is just great.

Editors Comments on this one.

And then the comment: Whatever the arguments for and against Himalayan Balsam, all I can say that here in the North West of the UK, if we did not have it, along with Rosebay Willow Herb, our bees would be in trouble. With the summers we have now, due to global warming or whatever, its more or less the only crop we get and is very important to us. Also when you talk about eradication, its like closing the stable doors when the horses have all bolted. It escaped from Kew Gardens in 1939, now it's 2010; that to my way of thinking is 71 years ago. So why bother? It will cost millions do very little good apart from making the pesticide companies rich, filling the country with more unwanted pesticides and depriving our bees of food which is becoming more and more hard to get.

I HAVE HEARD OF SCALE HIVES - BUT A SCALE BOAT?

Henry Thoreau wrote in 1842: Columella tells us," says he, "that the inhabitants of Arabia sent their hives into Attica to benefit by the later-blowing flowers." Annually are the hives, in immense pyramids, carried up the Nile in boats, and suffered to float slowly down the stream by night, resting by day, as the flowers put forth along the banks; and they determine the richness of any locality, and so the profitableness of delay, by the sinking of the boat in the water.

NEW DVD ON FORMIC ACID TREATMENT FOR VARROA.

For those of you brave enough to treat varroa with formic acid, Mite gone have produced a new 90 minute DVD. It is available in the UK from David Lloyd (d.lloyd@blueyonder.co.uk). I have to stress that formic acid can be a very dangerous substance to handle and treatment with it should only be undertaken if you are confident that you understand the risks.

HIVE PRESERVATION.

Last November I told you that the new formulations of Cuprinol (with BP as a suffix) have not been tested for use on hives and should not therefore be used.

I have now had confirmation from Ronseal that their 5 year wood stain is safe and can even be applied to a hive with bees in residence.

Spot the Queen

I went beekeeping this morning – began to take off the supers – and then found to my dismay that there was brood in the super frames. For the beginners this can mean that when you took off your queen excluder you either did not:

a) Check to see if the queen was on your excluder –put it the same side down onto the super you had previously taken off instead of reversing it –brood side upwards.

b) Zinc excluder had a tear in the slots

c) Zinc excluder had a bump of wax under and had widened the slot.

I realised that I had to find the queen and put her downstairs. Took off another super and got down to the zinc queen excluder and there she was –good as gold-walking across the queen excluder, just waiting for me to pick her up and return her to the brood box.

It is not always like that. Most times you have to check and flick each super frame in turn into the brood box which is quite labour intensive, especially at the moment, with the number of supers being put on the hives.

I then went through the brood box to see if the bees had brought up any queen cells. They had and each frame had to be checked carefully so that the next time I go to the hive I do not find that the colony has swarmed. As far as the bees were concerned the queen was not around.

This was the case of having a spare queen excluder to replace the one taken off. That one's slot had stretched. But wasn't I lucky that the queen was so helpful?

This is something that most beekeepers have experienced at one time or another.

NOSEMA AND DYSENTERY

Some readers will remember that Prof. Len Heath was fond of quoting Josh Billings: "The trouble with people is not that they don't know, but that they know so much that ain't so."

I am sure that if Len had seen the report of the Devon Nosema survey then he would have been reminded of that thought. Two more quotations, rather more to the point:

Dr Leslie Bailey, (1981) "A survey of over 100 naturally infected colonies, during a winter when dysentery was prevalent, showed that although it was clearly associated with the death of many of the colonies dysentery was not caused primarily by *N. apis*."

Ingemar Fries, (1997) "No specific clinical symptoms are connected with *N. apis* infections. Heavy infections are often correlated with dysentery, not because Nosema infections cause dysentery, but rather that when dysentery occurs, the disease is aggravated and effectively spread in the honeybee colony."

To summarise: bees may have Nosema without dysentery, or dysentery without Nosema, or they may have both at the same time.

Thus dysentery is not an indication of the presence of Nosema, despite the common and persistent belief that it is; this is another item of "knowledge" which ain't so.

WILL I DIE?

Beginners are often concerned about the effects of bee stings, but it would seem that there is very little to worry about. Browsing through the Office for National Statistics data on deaths for 2009 (as you do!), I found that just 4 people allegedly died from stings by bees, wasps and hornets combined. Compare this with, for example:

5 from dog bites;

33 drowned in their bathtub;

644 falling down stairs or off steps;

2284 from traffic accidents.

Clearly beekeeping is a very safe hobby and poses even less risk than keeping a dog!

HOW DO THE BEES SURVIVE IT???

The following is taken from a scientific paper reporting on research in the U.S. and gives an insight into how one of their largest (if not the largest) beekeeping operation manages its colonies.

‘Standard beekeeping management practices for an operation of this size were employed. Treatment regimes throughout the year were as follows: (1) anti-mite treatment April 2009, just prior re-queening – amitraz; (2) antibacterial treatment May 2009 - oxytetracycline hydrochloride (OTC) (Terramycin™); (3) anti-fungal (*Nosema sp.*) treatment August 25, September 12, and October 13, 2009 - fumagillan; (4) antibacterial treatment late August, early September, 2009 - tylosin tartrate; (5) anti-mite treatment September 12, 2009, after harvesting honey; (6) anti-mite treatment – early November and early December 2009 - essential oils from lemon grass and spearmint (Honey-B-Healthy™).

Honey bees colonies were periodically supplemented with sugar syrup and protein supplement. In April (1 gallon) and October (2 gallons) bees were fed 50% (weight/volume) sucrose; in November all colonies received 3 gallons of a 1:1 mixture of high fructose corn syrup-55 (HFCS-55, 55% fructose, 42% glucose) and sucrose syrup. Additional sugar syrup was given to colonies based on colony weight (<80 lbs - 3 gallons, 80–90 lbs - 2 gallons., 90–100 lbs – none). ‘

Runckel C, Flenniken ML, Engel JC, Ruby JG, Ganem D, et al. (2011) Temporal Analysis of the Honey Bee Microbiome Reveals Four Novel Viruses and Seasonal Prevalence of Known Viruses, Nosema, and Crithidia. PLoS ONE 6(6): e20656. doi:10.1371/journal.pone.0020656

TOPICAL TIPS

We are now at what I consider to be a significant crossroads in the year. The honey gathering season is finished, apart from the odd minor source, and we now have to prepare our bees for the coming winter as a matter of urgency. What we do in August will have a major impact on our overwintering success - or lack of it.

In order to overwinter successfully we need young, disease-free bees, sound hives and suitable feed. Sounds easy, but achieving those conditions does require us to take action at the right time:

We must remove the crop as soon as possible.

We must ensure that our colonies then have sufficient food so that they carry on producing new bees - failure here can be disastrous. We must treat our bees for varroa in **August** in order to produce clean bees to go into winter; delay on this point will leave us with diseased bees that will die during January and February.

At the same time, we must keep a watchful eye on the wasp situation so that our colonies are not severely damaged before winter arrives. Space does not allow great detail, so I am going to list what I hope are some useful tips. If you use the search box on the home page of the website, you will find greater detail on many points that we have covered before.

Removing honey:

Remember that honey does not have to be capped; some cells will not be capped just because they are not full. Hold the combs horizontally and give them a sharp downward shake - if nothing comes out then they are fine to take. Remove the crop in the morning; the bees will then have had all night to ripen any honey gathered the previous day. Use minimal smoke and try not to smoke the supers at all - the ash from smokers is almost impossible to filter out.

Extracting honey:

Make sure that your extracting room is secure or you may have large numbers (**thousands!**) of bees arrive to reclaim, and wasps to steal, the honey. If this happens then you will never make the same mistake again!

When extracting you **will** drop spots of honey and bits of propolis on to the floor. Honey can be removed easily, propolis can not. Cover the floor before you start (sheets of thick cardboard are good, newspaper tends to stick to your shoes). Keep a dedicated pair of shoes to walk on the cardboard and step out of them on to the clean floor when you have finished; that way you may avoid a divorce!

Returning wet supers

This is best done at dusk to prevent robbing. Put the wet supers **under** the crownboard to avoid bees suffocating in the confined space between crownboard and roof; you can move them up when they are clean.

Robbing

Work quickly and keep inspection time down. Robbing has to be seen to be believed and can result in massive losses of bees.

Varroa treatment

Whatever treatment you choose to use, get it started as soon as you have removed your honey.

Feeding

Before you feed, check that the colony is queen right. There is no point in feeding a queenless colony unless you have the means to requeen it; if not, then it will have to be united and the combined colony fed.

Queen cells

Another annual plea: if you find queens cells in a colony now **do not remove them**. The colony is superseding its queen and will not swarm. If you remove the cells it is likely that it will go queenless and die out.

Wasps

Wage war on wasps. Destroy nests, put out well designed traps, and reduce hive entrances as necessary - even down to a single bee space if you have a small colony, e.g. a mating nuc. Block up any small holes in the hive where wasps can get in (they can get through remarkably small cracks); we have found that a simple way is to scrape some wax from the top bars of frames and use this as putty to block entry.

The National Bee Unit has an excellent webpage on preparation for winter - link from here:

<https://secure.fera.defra.gov.uk/beebase/index.cfm?pageid=167>

BANANA, DATE AND HONEY LOAF

2 oz. Clear Honey 7 oz. S.R. Flour Medium ripe banana

3 oz. Caster sugar 2 eggs

6 oz. Margarine. 1 tsp. Mixed spice

3 oz. Chopped dates 1.5 oz Chopped walnuts

Mash the banana well and combine with the beaten eggs. Mix together with the honey, sugar, flour, spices and margarine. When well mixed add the dates and walnuts. Place mixture in a 2 lb loaf tin lined with greaseproof paper. Bake for approximately 1 to 1 1/4 hour or until skewer comes out clean. Time may vary according to the ripeness of the banana.

Suggested oven temp. 320F. 160C. or 140C for fan oven. Gas Mk 3.

Every new endeavour has unintended consequences. I have always curled my lip at gardens that are planted for colour at the expense of structure, form and good taste. Coming from a design background, I had until now believed that these things matter. But although I still do, now I am beginning to see these things from a new perspective. With my new interest in apiculture, every flower that opens, every floral scent carried on the air signifies a new resource to be exploited. The aesthetics have suddenly become a secondary issue. I had a poppy the other day with three bumble bees busy in the same bloom. I realized the urgency of their labour the following morning: The flower was gone. In its place the seed case had already formed after only one night. I do realize that this is the raw enthusiasm of the new recruit: I am puzzled by the honeysuckle that flowers but carries no bees. I was impatient at my lavender hedge that just won't open up. I just want that background hum, that sight of bees at work. And when I do see them among their flowers, I wonder if they are missing some. Their journey from stem to stem seems random and haphazard. Their work seems fuzzy, a dalliance with beauty, although a properly managed observation of their work would no doubt reveal an iron efficiency. My new interest is running far ahead, fuelled by enthusiasm. Perhaps the rational view will catch up. Another consequence of my new interest is my new right of access, and sort of de facto shared ownership of the gardens around. Bees care nothing for property boundaries. They are not communists, not robbers, not conquerors. Just free spirits, outside the hive, at any rate. (Freedoms inside the hive are an entirely different matter.) When my bees finally arrive, when we forge our new partnership, the barriers of ownership will fall away, and the gardens of will be ours.

Controlling Varroa

There is no doubt that Varroa is at the root of most of the troubles that are besetting bees at the moment. Not only do they weaken the bees and shorten their lives, they also depress their immune system so that other infections are more likely to affect the colony. The viruses that are transmitted by Varroa cause the individual bee to die early, sometimes in a matter of days, sometimes longer, but the end result is much the same: bees dying before their time and causing a decline in the strength of the colony. Many bees affected by the viruses show no symptoms and only a small proportion of those with, for example, deformed wing virus, will show the deformed wings and stunted abdomens, many more will just die early. So, given that Varroa is Enemy No 1 how do we tackle it?

Monitoring

The first thing to do is find out how many Varroa mites are in your hives. (*The usual methods are using a monitoring board - as shown on 23 July - or shaking with icing sugar. These methods are all explained elsewhere. If you have more than ten mites per day on the board or 9 mites per 300 bees after the icing sugar test, something must be done urgently.*) If you have been using various control measures during the year, there may not be too many mites in the colonies. Otherwise there may be a large number. They can build at an alarming rate during July and, with diminishing brood in August, they can badly affect developing bees. These bees are the winter bees that will have to survive right through until Spring. It follows therefore that any necessary treatment needs to be done as soon as possible in August, once the honey crop is removed

Chemical treatment

If you decide that chemical treatment is needed to reduce mite numbers, there are a number of different proprietary products available. I am not going to go into the details of treatment, but be sure to use registered products and use them strictly according to the instructions. The original treatments of Apistan® and Bayvarol® are now largely useless because the mites are resistant to them. Most of the current treatments, including Apiguard® and Apilife Var® contain thymol, which is quite effective provided that it is used properly. It is dependent on temperature and sometimes, particularly if the temperature is high so that it evaporates quickly, bees can be upset by it. Do not be tempted to use unregistered products available in other countries, most contain chemicals to which the mites can quickly become resistant and some are quite unpleasant substances. Many Varroa treatments are absorbed into the wax and can be persistent and can also interact with chemicals from other products that may be used subsequently. Following any treatment it makes sense to monitor the mite numbers again to ensure that the treatment has been successful. Ensuring that your Varroa counts are really low will help the winter bees to survive so that the colony gets off to a good start in the spring. Finally, The National Bee Unit produces an excellent booklet called 'Managing Varroa'. This contains an enormous amount of information and can be downloaded from the Bee Base (<https://secure.fera.defra.gov.uk/beebase/ind ex.cfm>) website. If you don't already have a copy, make sure you get hold of one – and then read it.

Honeys and their origins

At last year's excellent Autumn Convention (an event to be repeated in kind this year), the guest speaker, an experienced honey judge, in a wide-ranging and entertaining talk, advised those who have ambitions to win prizes at honey shows to enter dark honey. He claimed it is easier to win the

dark class and demonstrated his reasons for making this assertion. All very well, I thought, but in 37 years of beekeeping, only once did I produce anything remotely dark and nothing approaching the lustrous, bitter chocolate colours with which some of our Association members win prize cards repeatedly.

So where are these very dark honeys originating? Aside from honeydew, Frank Griffiths, to whom I make frequent references in these articles, used to say that hawthorn produces an exquisite dark honey but only if you can persuade the bees to work it, which they seldom do because the

dandelions are usually flowering concurrently. For this reason, fruit growers always clear their orchards of dandelions to ensure the bees seek out the fruit blossom. Frank also said that he obtained more dark honey after he moved from Hartford to Oakmere. This he attributed to plentiful sweet chestnut trees in the vicinity. I can vouch for neither of these claims.

The uncertainties surrounding production of dark honey raise the question as to where any of our honeys actually originate. Given a reasonable spring, I was always euphoric about my anticipated overall yield but I usually went from contemplating a holiday in the Bahamas to thinking myself

fortunate at the prospect of a long weekend in Clacton by the time August came! My honey was always light to medium—possibly because I did not normally grade my combs according to colour prior to extraction and, in any event, apart from seasonal variation, the forage was pretty much the same from year to year, comprising all the usual sources due to the indigenous local flora I was always happy to accept whatever came along, believing that, being away from intensive farming areas, the diversity of forage made for a subtle blend of flavours which I always strove to retain by using gentle methods when extracting and filtering. I was careful to keep the honey as cool as possible consistent with mobility, and not to overfilter the product such that it

became stripped of pollen. Being also away from ornamental woodland with exotic tree species, my main identifiable sources were probably dandelion, sycamore, horse chestnut, rape (usually), blackberry, lime (not every year), willow-herb, ragwort and water balsam.

Whereas until recently I always thought the season was effectively over by the end of July (apart from ling heather), the increasing prevalence of both balsam and ragwort has extended foraging into September in recent years. Incidentally, if your bees work ragwort to any extent you may find your honey has a pungent, even unpalatable, taste. If so, do not despair, keep it until after Christmas by which time it will have mellowed, particularly if it has granulated.

I never thought of holly or ivy as major contributors, and nowadays clover is virtually non-existent. Similarly, field beans, top fruit and raspberries were insufficiently abundant around my static hives to have a significant impact. Far less for example than wild or garden flowers generally.

It would be interesting to know to what extent my mid-Cheshire experience compares with that of others. Why not drop a note to the Editor on the subject giving your location so that regional differences could be assessed?

After the 'basic' – what next?

So you passed your basic. Well done! Your ability to 'read' your bees will continue to develop as you gain experience but you can enhance and enrich your enjoyment of beekeeping by continuing your beekeeping education. So what's on offer? The BBKA have a series of seven written exams (referred to as modules), two practical assessments for those who prefer to be 'hands on' and two stand alone specialist exams.

The Modules

The subjects for the seven modules are:

- 1 Management
- 2 Products and forage
- 3 Pests, diseases and poisoning
- 5 Biology
- 6 Behaviour
- 7 Selection and breeding
- 8 Management, health and history

In the best Monty Python tradition, there is no module 4! Each exam lasts 1½ hours. There are 10 brief questions with one word answers to get you going, 4 more searching questions from a choice of 5 and 1 'in depth' question from a choice of 2.

In 2012 you will be able to take modules 1,2,5 & 7 in March and 1.3.6 & 8 in November. Passing 1, 2 and 3 plus one other (except 8) gets you an **Intermediate Theory Certificate**. Passing all 7 gets you an **Advanced Theory Certificate**. You can take them in any order with the exception that module 8 must be taken last. It will take you a number of years to get through all the exams and module 8 has been re-designed to touch on all the previous papers to make sure you are still up to date. To make life interesting module 8 also covers a lot of extra material.

Practical Assessments

On the practical side you can take the **General Certificate in Beekeeping Husbandry**. This is an assessment in your own apiary. Two assessors will spend around half a day with you. The syllabus says 2 hours. Don't you believe it! You will be expected to have 3 honey producing colonies and some form of simple queen rearing programme. You will be asked to demonstrate techniques such as marking and clipping a queen, artificial swarming, making up a nuc for a specific purpose etc., Your extracting facilities will be scrutinised and you will be asked questions about many aspects of beekeeping in much greater depth than you needed for the basic. Your hive records from the past couple of years will be closely examined and they need to be comprehensive. It is usually suggested that you need to start preparing yourself, your apiary and your equipment at least a year before this assessment. Five Reigate members currently hold the general certificate so there's plenty of advice on hand.

Then there is the **Advanced Certificate in Beekeeping Husbandry**. This is currently held once a year in June at the National Beekeeping Centre at Stoneleigh, Warwickshire. It is aimed at those who intend to teach. You have to give a short lecture, open a hive and perform a variety of tasks as if you were demonstrating to a group of mixed ability beekeepers, discuss queen rearing and demonstrate grafting, discuss microscopy with an examiner and demonstrate adult bee disease diagnosis and finally attend an interview at which you will be asked questions on many aspects of beekeeping. Each of these tasks takes about an hour. Two Reigate members currently hold this certificate so again there is advice on hand.

Once you have your General Certificate in Beekeeping Husbandry and your Intermediate Theory Certificate you will become a **Qualified Beekeeper**. Achieving a pass in the Advanced Certificate in Beekeeping Husbandry and holding the Advanced Theory Certificate will elevate you to the dizzy height of **Master Beekeeper**.

'Stand alone' Exams

The BBKA offer two other 'stand alone' exams. **The Certificate in Microscopy** and the **Show Judge Certificate**. You can apply for the microscopy certificate as long as you have passed the basic but I suggest a few years practice and experience would be a good idea. To apply for the Show Judge Certificate you need to have your General Husbandry Certificate plus modules 1 and 2. You also need a track record of success in national and county level shows. This is as far as the BBKA can take you. If you wish to develop your skills to the highest level you will want to attempt the **National Diploma in Beekeeping**. You will then be able to put the coveted NDB letters after your name.

Page 3

Study Methods

So how do you get started? First stop is the BBKA website where you will find the syllabus for each exam and assessment, a reading list, past exam papers, an application form and the costs and deadlines for application. (Deadlines vary from the middle to the end of February and you send your For the modules there are excellent correspondence courses and I highly recommend these. Enrol by

early autumn and get as much work under your belt as you can by Christmas. For most of us, autumn and Christmas are busy times so you will need January and February to pull all the information together.

Holding module exams in November is a new departure for BBKA. Older members will remember that this used to happen but until now it has been once a year in March for a good few years. At present it is not clear how correspondence courses will work during the summer as most tutors will be busy with their own beekeeping activities. The newly re-vamped BBKA website is headlining the intention to provide internet based study. This is currently in

development so you need to keep an eye on the BBKA website for further information.

Associations will offer courses from time to time so keep an eye on the for information about other divisions.

If there's no course available why not set up a self help group with a few like minded members? For small numbers, meeting at each other's homes to discuss elements of the syllabus has worked well in the past.

For the practical assessments there will also be occasional courses and setting up your own self help groups is again a good idea.

You should also be aware of some excellent 2 day courses run by the National Diploma in Beekeeping board. These are not directly aimed at the BBKA exams but you will learn a great deal from them. You can find details of these on the website www.national-diploma-bees.org.uk

Don't lose sight of the main objective. We are increasing our knowledge in order to better understand our bees and increase our enjoyment of the craft. The object is most definitely not to collect certificates!

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www.beedata.com/beebooks.htm

UK Honey Labelling Regulations

*Below is our simple advice on honey labelling.
For more detailed information - go to the website
of the Food Standards Agency. www.food.gov.uk*

- 1. The Word "HONEY" is required.*
- 2. The weight must be on the label - we will ensure it is the legal size and format.*
- 3. You can specify the area where the honey is produced. For example, Lincolnshire, Forest of Dean, Scottish Borders.*
- 4. You can specify the type of honey. For example, Heather, Borage. The honey must be at least 75% of that particular type.*
- 5. If you are selling the honey, you must have your name and address on the label. It does not need to be complete but you should be able to be found from the information.*
- 6. If you are selling the honey through a third party, you must have a lot number.*
- 7. New for 2003 You must have a best before date on the jar. We suggest 2-5 years from now.*
- 8. New for 2003 You must have a country of origin on the jar. For example - Produce of England, Product of Scotland, Harvested in Wales. Adding the country to the end of your address is not acceptable.*

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