Beetalk September 2020

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

at

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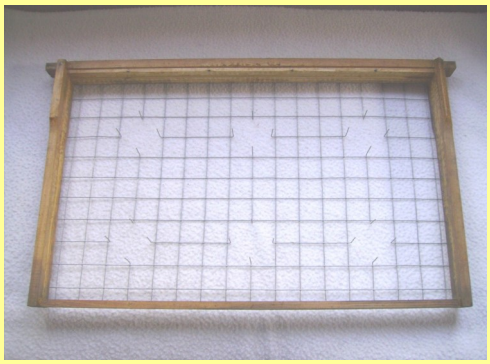
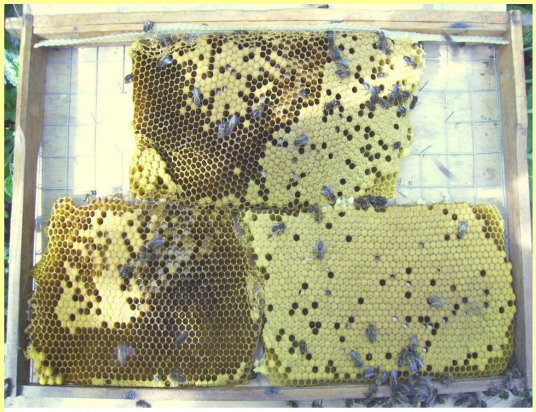
A FRAME FOR RECOVERING NATURALLY BUILT COMB

When a colony has built combs in an undesirable position or a derelict hive it was always a problem to eas-ily rescue the brood combs. This frame device, which I have now been using for five years, enables the comb to be cut out and placed into the frames without the need to secure them in any other way.



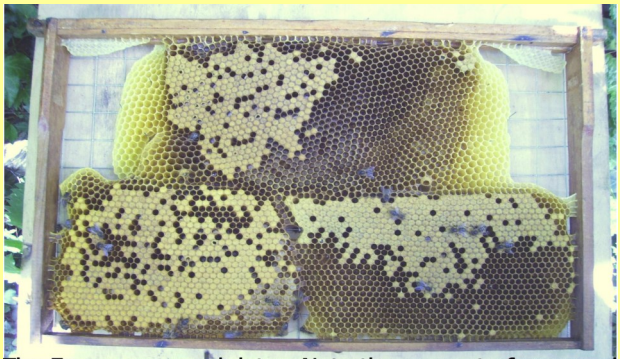
Any size of frame can be used to suit the Beekeepers own hives.
The combs can be fitted in any position but the upper-most combs should, if possible, be touching the top bar. The other pieces of comb are placed close to each other so that the bees can join and secure the whole frame of wax with brace comb.

Within a week the frames of comb will be secure enough to enable the Bee-keeper to manipulate them for inspection.
The brood box can of course be completely filled using extra frames fitted with foundation, which when drawn can be used to replace the mesh frames as required.



The Frame when the comb was first fitted

Also the brace comb built by the bees is usually in drone cells so this can be culled to control the first flush of Varroa Mites in the recovered colo-ny. So beware the Varroa Mite load in these combs can be heavy and will need early treatment.



The Frame one week later. Note the amount of emerged Brood which would be lost without Comb recovery

INCIDENTAL BEE FACTS.

Compound eyes have c 6,900 facets.
Wings beat at c 30 beats per second. Flight speed is c 25kph.
Fur gets a static charge which attracts and holds pollen.
Hexagon gives smallest circumference and gives maximum space for minimum material.
Angle of cells is 13d above the horizontal.
In the waggle dance, the angle to the perpendicular equals the angle to the sun. In that direction is the source being signalled.
A returning forager will also shake a non-forager to excite her. Forager holds the other bee with her two front legs and literally shakes her
In the dance, bees allow 1d west every 4 mins.
Speed of dance shows distance; faster means closer.
If a returning forager cannot find a receiving bee in less than 50 secs, she undertakes a tremble dance.
Bees on forage eat only enough food to reach the source and return.
3,500 bees weigh 1lb.
Natural mite drop / day - Infestation level <1 = low 1-10 = acceptable 11-30 = approaching tolerance threshold > 30 = liable to collapse
In order to find the daily mite drop, check the mite drop/week and divide by seven.
The above figures are arbitrary, there are many variables, some colonies are more mite-tolerant than others.
Average colony collects p a 20 kg of pollen; 120kg of nectar 25ltrs of water and 100g of resin.

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A step forward or back?

A recent piece in the BBKA news, "Old comb versus new comb" has triggered me into sharing some of my thoughts on comb. My background is in deep level mining and in that environment one learns quickly to accept nothing at face value. It seems as though this may be the reason why I've become cynical about much of the equipment that is currently hawked to the 21st century bee keeper. There appears to be plenty of evidence to suggest that current pesticide and varroacide practices lead to an unhealthy build up of unnatural substances in beeswax. Therefore, I find it entirely logical that brood comb should be regularly removed. The question is what to replace it with.

The policy of recycling wax in foundation must compound the issue of contaminant buildup. I also feel that the uniform pattern of foundation is an unnatural demand to enforce on our bees. Bees draw worker cells of differing sizes when allowed to. They are also happy to expend valuable resources on producing a much larger ratio of drones, than foundation framed bee keeping allows. Although the reasons for this are not yet understood I am sure that after 120 million years the bees have very good reason to do so. My other aversion to
foundation is the size of the embossed pattern. A well known supplier is currently selling foundation with a cell width of 5.7 mm. I transferred a nucleus of bees from such foundation into a top bar hive this summer. The cell size in this hive has already regressed to an average worker cell size of 5.3 mm. Others have reported cell size variation as small as 4.8 mm. The imposed larger cell size is not only unnatural, but also has an impact on the laying space available to the queen, reducing it by as much as 35% and potentially leading to increased swarming.

I would prefer my bees to have clean wax and a cell size and drone ratio of their choosing. This may well reduce my honey harvest, but I am sure the bees will be far healthier and contented. I find horizontal top bar hives time consuming in terms of returning the bars after inspection without any “fatals” and also the large lugs are cumbersome, so I decided to experiment on a National hive. In deciding to dispense with the foundation I found that, with sensible frame handling, I no longer needed wire or fishing line support within a frame. Dispensing with wire then allowed me to dispense with expensive and overcomplicated frames, as no allowance is needed for wire expansion at the bottom of the frame.

I placed a narrow cedar top bar on one side of the brood nest and a frame of foundation on the other. The bees drew a perfect rectangular comb, which I could easily remove, and ignored the foundation. I repeated the process by introducing another cedar bar on the other side of the brood nest and again the bees showed their preference over the foundation. Although I found no issue with comb being attached to the side of the brood box, I think this was luck and so in the new year I will use a simple top bar with 10 cm
short sides.

This will give me combs which can still be easily examined, enable vibration communication, are drawn as the bees desire and are a lot cheaper! I intend to have a simple framed hive next to a traditional framed hive at several apiaries and look forward to reporting on results in terms of bee health, varroa numbers, cell size and honey produced. The next steps will be to assess appropriate frame spacing and also produce drone foundation for the supers, from the fresh wax I have recovered this year.

Please note that these are my own personal views. I would welcome any thoughts.

What makes a nurse bee a forager?

How does a bee know what job to perform and when to perform it?

Honey bee division of labour is characterised by a process in which bees do different tasks as they age, some three weeks as a nurse and some three weeks as a forager, a forager may revert to being a nurse be, but generally it is a one-way street.
I've always been interested in this behavioural switch point, the casual mechanism of forage initiation

In 2002 scientists from the University of Illinois published the first data to identify a causal role in foraging behaviour. The cause, it turns out, is a gene. Although the bee genome is one tenth that of homo sapiens, sifting through genes to find a master switch was a molecular tour de force.

The team streamlined the process by taking inspiration from the fruit fly*, Drosophila melanogaster*. Drosophila foraging behaviour comes in two forms; searchers over a large area (rovers) and searchers over a small area (sitters). These two behavioural forms, phenotypes, are determined by the fly's possession of one of two genotypic forms called genotypes.

Neither form is 'better' than the other. Patchy food distribution favours rovers even if there is a higher cost of predation; but in habitats where food is evenly distributed, or when population levels are low, sitters do better. Drosophila has evolved two genetic forms of a gene; these two forms code for two different foraging behaviours, and these two behaviours are useful for two different ecological situations.

Could honey bees do something similar?
The catch, of course, is that all bees at different times in their lives may be either a bee-rover or a bee-sitter, so it cannot be that there are two different genetic forms in the same bee. In Drosophila foraging behaviour is determined by which genetic form the fly carries, in honey bees it is determined by how hard the gene is working.

The gene is made at different levels and this determines foraging likelihood. Foragers possess two to ten times more of the gene product than nurses. But what if this is simply a function of age?

The researchers created bee colonies with a manipulated social structure. They removed all workers that were more than 21 days old, essentially removing the forager force. In the absence of foragers, some young workers began precociously foraging two weeks early. This meant that some colonies had foragers that were just one week old: the normal control colonies possessed age matched nurses that were just one week old. A huge increase in gene expression was occurring in the one week old foragers. Clearly this increase in gene expression is independent of age; but is it The Main Cause of foraging behaviour? Causal factors must satisfy the criteria of sufficient and necessary.

For something to be necessary, when it is taken away, the behaviour ceases. For something to be sufficient, it is enough to cause the behaviour.

The scientists tackled this issue by giving the equivalent of a molecular cocktail of the stuff that the gene is encoded to make, and young nurse bees began precociously foraging in a dose dependent way; the more cocktail, the more they forage. So they concluded that this gene—specifically the amount of gene being currently produced - causally affects the transition to foraging.

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How lovely

Ragwort.

There was an interesting article in the Weekend Telegraph, back in August, about the spread of ragwort (*Senecio jacobaea*) throughout the country. Ragwort is unpalatable but toxic to animals, particularly in its dried state, in hay, therefore it is generally fairly well controlled on livestock farms. It is not a threat on odd corners of arable farms, or on council roadsides where it can flourish mightily. The trouble is, it spreads to where it is not wanted. In the 'old days', ragwort was automatically pulled up whenever a country person saw it, but no longer, it seems.

The active ingredients are pyrrolizadine alkaloids, (PAs) which accumulatively cause irreversible liver damage.
Other plants also contain this substance, notably Vipers Bugloss *Echium vulgare* . This is a real problem in Australia, as it is drought resistant and often the only green food around. For livestock. They call it Pattersons curse.

Honeybees do work ragwort, so is the honey likely to be toxic? This question of pyrrolizidine alkaloids was raised several years age, and there still seems to be no definitive answer.

A leading authority on ragwort toxins from Liverpool university will not eat honey from ragwort infested areas,(but how do you know, without doing a centrifuge test for pollen, whether your honey has this substance in it?). The article claimed that the food standards agency had no data on toxins in honey, but they have since issued a statement that as the levels of Pa's in honey are so low they pose no threat to health. I was never worried anyway!

As beekeepers, we have the advantage of eating our own honey and knowing fairly well what goes into it. Supermarket honey might be a different matter.

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Pyrrolizidine alkaloids in honey and bee pollen

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A total of 3917 honey samples and 119 _bee pollen' samples (pollen collected by honeybees) were analysed for pyrrolizidine alkaloids (PAs).
Some 0.05M sulphuric acid was used for extraction followed by a clean-up step by means of solid-phase extraction. Separation and detection was achieved by target analysis using an LC-MS/MS system. PAs were found in 66% of the raw honeys (bulk honey not yet packaged in containers for sale in retail outlets) and in 94% of honeys available in supermarkets (retail honey). A total of 60% of the bee pollen samples were PA positive. The PA pattern was used to identify the potential origin of the PAs in honey, which was verified for the genus Echium by relative pollen analysis. The results give an estimate of the impact of PA-containing plants belonging to the genera Echium, Senecio and, to a certain extent, Eupatorium on PA levels in honey and can serve as a decision basis for beekeepers in order to find the most suitable location for the production of honey and bee pollen low in PAs. A total of 94% of the retail honeys contain PAs, but in 88% of the samples the concentrations were below 50 mgkg-1 (including samples below the LOQ). Thus, consumption of one hotel serving of honey (20 g) would still meet the limit for phytopharmaceuticals of 1 mg Pas day-1 (if not consumed for more than 6 weeks). The effect of blending is apparent when comparing PA patterns, concentrations and abundances in raw and retail honey.
Raw honeys (bulk honey not yet packaged in containers for sale in retail outlets) may differ substantially in PA pattern, concentrations and abundances. While the PA pattern of raw honeysfrom Central American countries is very similar, PA patterns in South American raw honeys show great differences due to available plants in the vicinity of the beehives, as couldbe indirectly verified for Echium species by relative pollen analysis (Louveaux et al. 1970). European raw honeys generally contain much lower amounts of PAs and mostly PAs of group 2. Only Italian and Spanish honeys show higher amounts of PAs mostly of group 2, which are typical for Echium species. The presence of Echium pollen in samples with high concentrations of PAs of group 2 was verified by pollen analysis. The amounts of PAs found in some bee pollen samples could lead to negative health effects when these bee pollens are consumed, as consumption of only one teaspoon of bee pollen (about 5 g) may contain up to
189 mg of PAs, which is far beyond the existing German limit of 1 mg day-1 for the consumption of phytopharmaceuticals for not more than 6 weeks. Nevertheless, 40% of the bee pollen samples were PA negative. Still, it needs to be kept in mind that only a limited number of PAs were analysed. Thus, there is the possibility that not all PAs present in honey and bee pollen were detected by using this target analysis. The results thus can be regarded as preliminary values, which are likely to increase with the number of Pas included in the target analysis. If beekeepers avoid placing beehives in areas abundant in the above-mentioned plant generaas much as possible, a substantial reduction of the PA concentrations could be achieved. However, there are other PA-containing plants that may also contribute to the PA pool in honey and which were not considered in this study. The more that PAs are included in the analysis, the better the potential source plant can be identified. This study is just a first step in identifying plants contributing PAs to honey and bee pollen and it can serve as a basis for further studies including a wider range of Pas

From an article aimed at bee farmers, but will be of interest to the chemists among us.
Obviously PAs are taken seriously in Germany. Ed.

DOES KEEPING BEES ON COMB WITH SMALLER CELLS CONTROL VARROA?

The headline question has been debated for over ten years. The answer "yes" appears to have become almost an article of faith among the most convinced. Different research papershave appeared supporting either "yes" or "no", without either side landing a knock out blow.

A very recently published paper in Apidologie "Small-cell comb does not control Varroa mites in colonies of honeybees of European origin" by Thomas D. Seeley and Sean R. Griffin clearly gives its conclusions away in the title. The abstract reads: "We tested the idea that Varroa destructor can be controlled in colonies of the European subspecies of *Apis mellifera* by providing them with combs built of small cells, in which immature mites might have difficulty developing for lack of space. We established seven pairs of equal-size colonies that started out equally infested with mites. In each pair, one hive contained only standard-cell (5.4 mm) comb, and the other contained only small-cell (4.8 mm) comb. We measured the colonies' mite loads at monthly intervals across a summer. No differences arose between the two treatment groups in their mean mite loads (mites per 100 worker bees or mite drop per 48 h). We suggest that providing small-cell combs did not inhibit mite reproduction because the fill factor (thorax width/cell width) was only slightly higher in the small cells than in the standard cells (79% and 73%, respectively)" Is this conclusive? I would judge not. The relatively small number of colonies used , and the phrase "equally infested with mites" both make me a bit doubtful.*What is the "take home" message from this for practical beekeeping in and around North Yorkshire? I do not think that there is one. I would commend the use of registered veterinary medicinal products for the control of varroa plus oxalic acid in mid winter (OK, not a registered product but well researched and shown to give good control with no residues issues). I would avoid "snake oil" products. I worry about the ingredients in some products that declare them and I worry more about the products that don't declare them.*

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Timing It!

In the summer season, forager bees face difficult decisions. The blooming time of various plant species is distributed unevenly over the summer months. While in April and May e.g. rapeseed and fruit trees are in bloom, herbs like thyme and lavender take over later in the season. However, even during a single day, diverse flowers bloom at different times, and the nectar content varies over the day. Honeybees have evolved an accurate time sense to cope with this problem.

Honeybee foragers can determine the time of day with an accuracy of about 15 minutes. An experienced forager has learned when it is worth flying to a certain flower patch, and which flower depending on the time of day – to choose there. Even when the foraging bee discovers a novel patch of flowers, it can recognise the flowers worth visiting according to the time of day.

In order to discriminate between flowers, bees do not only use colour and scent, but also the shape of blossoms and whole plants. Bees can even identify blossoms according to abstract properties like central or axial symmetry [1] and the number of petals [2], and thus categorise them [3]. This ability enables bees to be flower-constant. Flower constancy is not only advantageous for the plant, because it is then fertilised with the correct pollen, but also for the bee, because she gets better in handling the blossom with each visit. Thus the foraging efficiency is increased, because the bee can extract nectar and pollen faster each time it visits. All those cognitive abilities are facilitated by a 1 milligram pinhead sized brain. It permanently integrates visual, olfactory and tactile information, controls flight manoeuvres, navigates accurately over several kilometres and, simultaneously, memorises flower properties and recalls them at the appropriate time of day. The ability to remember a combination of 'what,where and when' is called episodic memory and was, until recently, believed to be restricted to mammals and food-caching birds. Honeybees are, so far, the only invertebrates in which this ability has been shown [4,5].

We are already taking advantage of the honeybee's learning aptitude: beekeepers mark their hive entrances with colours and shapes to help bees find the correct nest when many hives are close together in the same apiary. Behavioural scientists train bees to use colours, shapes and scents to navigate mazes, in order to learn about the bees' cognitive abilities. Not all bees are similar: some individuals are very clever and learn quickly, while others are forgetful and stubborn.

In the Würzburg BEEgroup, among other topics, we try to find out what is wrong with those oblivious bees.

There's More To Beekeeping Than Meets the Eye!

I was one of the 2010 crop of new beekeepers. After completing an enjoyable course with HRBKA and having got my nucleus hive home from Harlow Carr in July 2010, I was feeling quietly confident. However, it didn't take long before I was perhaps feeling a bit too confident and holding forth on the ins and outs of beekeeping to friends and family – I think they were impressed at the time! And it wasn't long before my new found skills and confidencewere being put to the test.

In October 2010 I received a telephone call from the manager of a local care home to ask if I could remove a swarm of bees that had been found hanging from a tree by their grounds contractor– she said someone had given her my number! Well, I may be be a novice I thought, but might as well get stuck in. I was duly shown a large cluster of bees hanging from a branch, about 12ft from the ground. Not wanting to show my inexperience I said no problem and that I would be back shortly Half an hour later I returned with a large cardboard box, a roll of tape, pruning saw, smoker & fuel, long pair of stepladders, bee suit, and my somewhat trepidatious wife also with bee suit.

With step ladder in place firmly held by my wife (not sure if she was gripping it in fear or with concern for my safety) I ascended with box and pruning saw in hand. I slowly cut along the underside of the branch from which the swarm was suspended with one hand, while holding the box below the swarm with the other – the intention being for the swarm just to drop in the box once I had cut it from the branch. Everything went to plan, the swarm dropped neatly into the box; only problem was it kept on going – straight through the bottom of the box. What I hadn't realised was that most of the 'globe' hanging from the branch was made up of comb filled with honey with bees clustered around the outside. It weighed a bit more than I was expecting! Also, unfortunately, by this time we had attracted an audience of elderly ladies. Ego a bit flat by this point!

There were bees everywhere, and they were none too happy at being disturbed. We got as many as possible into the box (with the bottom now firmly taped up) and left it on its sidewith a flap open for about an hour for any remaining bees to join their brethren. Given thatby now it was pouring down with rain I think they were happy to oblige. But had we got a living queen?? We drove home still dressed in our bee suits (bit worried about possible escapees) hoping the police would not be parked in their usual position on the roundabout on the by-pass.

Fortunately I had the parts for making a second hive so hastily constructed floor, brood chamber and roof. But how to get the bees and the comb they had produced (felt I had to put in the chunks of comb as it was October and little chance of them producing more) into the brood box? In the end I decided to tip all the contents from the cardboard box into the broodbox and onto the mesh floor and hope for the best. Placed the hive in the garden and started to feed with sugar syrup. I also placed shallow frames with foundation in the top part of the brood box and above the 'heap' of bees and comb in the hope that they would build some comb on these and fill with the sugar syrup*.

In the meantime I still had the nucleus from Harlow Carr which was doing quite nicely with a bit of help from feeding sugar syrup.

Spring arrived and both colonies had survived the winter – much to my surprise as far as the second hive was concerned. By March my first colony seemed to be doing really well so, being ever hopeful, I decided to put on a super. Roll on the honey!

By the end of April I was getting worried about the strength of the first colony and the possibility of swarming later in the year, so I added a second brood box.

By the beginning of June the second brood box was also in full swing and I extracted 26lbs of honey from the super (confidence rising again and beginning to feel that this beekeeping is a doddle really). The honey was clear and quite liquid and so, after filtering and running into a plastic tank with a tap at the bottom, I filled 5 jars with honey and left the rest in the tank. Big mistake, it went solid! No doubt a fair proportion of the honey had come from oil seed rape, but, although it was solid, it was not at all crystalline. Crystalline or not, how to get it out and into jars? As the tank is quite large it was difficult to sit it in a reasonably large volume of hot water to soften it. Hair dryer? In the end, after softening it a little, I resorted to an ice cream scoop to get it into the jars – hence no urge to exhibit any honey this year! By this time it was also clear that I had a laying queen in the second (swarm) hive and there was much activity at the hive entrance so I took it that my swarm was now a fully operational colony (another confidence booster!). That is until I opened up the hive. They were clearly not following instructions. Instead of producing brood on the shallow frames they were just filling up the space between the frames and mesh floor with comb. I removed some of the shallow frames and replaced them with full sized brood frames where there was still space to do so, but basically the hive is a mess. And for all their activity they do not seem to be building up their winter stores very much so far. Perhaps they think I am going to feed them lots of sugar syrup all autumn! On the plus side they do not appear to have a problem with varroa.

On most occasions when I have had the varroa screen in, there has not been a single mite on it when removed and inspected. Back to my first hive. By early July, and with two brood boxes and two supers, the colonywas rocking. Of course it was too good to be true, disaster! The little blighters decided to swarm. And it wasn't a little swarm! I was in the garden at the time and witnessed it first hand; a large swarm is quite a sight. After swirling around for a while and gathering up more and more bees they headed for a tree in my neighbour's garden. Oh good I thought, at least I will be able to get them back again. So, following my previous experience at swarm collection, I was determined to be better prepared this time, or at least have a better cardboard box. This was perhaps unfortunate; I took too long in getting ready. Just I was about ready to go, including having smoothed the way with my neighbour with promises of honey, the swarm took off again disappearing across the housetops further up the village never to be seen again.

Back to square one, or more likely back to square one minus a queen!** Although I had been looking through the hive reasonably regularly I had clearly missed the production of queen cells – a double brood box does not make for easy inspection. Following the loss of the swarm, I opened up the hive to find quite a few sealed queen cells. But what to do now? I know, I'll hedge my bets by going into mass production. Two more hives built (this is getting expensive) and a nuc box later I divided up the frames from my original double brood box hive so that each of the three new hives had a queen cell on a frame, plus a frame of sealed brood, plus a frame of stores plus some of the remaining bees. The original hive was left with a queen cell and the remaining frames and bees. And the outcome? I now have three hives all with laying queens and my neighbour's, who supplied the nuc box, now also has a thriving colony as well.

September. After all of the previous months activity I was hoping for a quiet autumn but by early September the varroa count for my original hive went through the roof so I had to remove the supers and treat with Apiguard. The colony is still very strong – double brood box, so I hope it doesn't collapse later this year. The honey in the supers was a combination of sealed and unsealed but I have extracted it all and will try and use it over the next few months as I don't expect it will keep.

October. All seems well except for last year's 'swarm' hive which still looks a bit weak even after feeding sugar syrup. That said, they didn't seem very strong at this time last year but they survived the winter. However they never went on to produce any honey for me to extract this year and so I'm uncertain whether to continue with this hive or not.

Yes, there is more to successful bee keeping than meets the eye, but I definitely intend to keep going !

WHERE DO HONEYBEES GO TO IN THE WINTER?

The accepted theory regarding the over-wintering of honeybees in temperate and colder climates, subscribes to the hypothesis that the hive population, especially that part of the population consisting of young beesproduced at the end of the late summer/autumn from the last of the nectar and pollen sources, carries the honeybee colony through the winter dormant period.

I would question this popular concept, and submit the following arguments to substantiate my doubts.

1. In 1950 Anna Maurizio, an Austrian research worker, demonstrated that by feeding pollen to 'typical summer bees' increased their life span from 24 to 36 days. While by feeding "typical winter bees" whose life span had been demonstrated to be 36 days, the pollen had no bearing on their life span, which lived 36 days on their normal diet and 36 days even with supplemental pollen.

2.

2. We beekeepers here in Scotland have invariably good access to ling heather and are able to have young populous colonies going into the winter. Consider beekeepers in other parts of the country or countries which also 'enjoy' temperate climates, where the colonies cease to rear brood in large quantities (i.e. 2000 - 2500/day) relatively early in the season, perhaps even before the end of July. These colonies, by the time the winter cluster is formed, will comprise of primarily older bees, if we subscribe to popular belief.

3. Many prominent beekeepers, among them Farrar, have made the observation that the colonies which perform best in the following spring/ summer are those colonies which consume the most stores during the previous dormant period.

4. In recent years increasing numbers of observations on over-wintering colonies generally have confirmed that at no time in the winter cluster is there a total hiatus in brood rearing. My own experience has confirmed the above observations in my own hives. Many years ago I discovered to my cost the limitations of over-wintering bees in single brood chambers where British Standard equipment is used. The Langstroth frame size is much more suitable for single brood box over-wintering. Over the years I have devised a system of management for a BS. single brood box over-wintering which although is not perfect allows me to 'get away' with the single brood box. This system consists of maintaining a close watch on colony progress during the winter period - by raising the crown board and visually checking the disposition of the cluster. If I notice that the top of the cluster is up level with the frame tops in the brood chamber while the weather is still very cold, this tells me that the bees are hungry and have eaten their way through the normal 'crown' of honey on the frames on which they are clustering. I then remove the outside frames from the brood box (which will be solid with stores!), carefully prise the frames on which the bees are clustering apart and insert at least two good frames of stores right into the heart of the cluster. I also give the colony a 1 kg. bag of sugar solidly crystallised, candy is perhaps a better bet in a case of this kind, or even a frame of honey laid fat on top of the frames. During the manipulation described, which I have had occasion to carry out even in mid December in some years but certainly quite often during very late December and early January - in each case I have seen patches of brood on the combs!

5. In mild winters I consistently noticed that the decrease in hive weight is much less than that over the same period where the winters have been accompanied with long periods of frost and little or no daytime sunshine.

6. I have observed over many years that colonies which at the return from the heather had expanded from a large 4/5 frame nucleus going to the heather to a colony which had filled the brood box with honey out to the outermost combs in the hive, 'and which at the first frost contracts to cover around 7/9 combs, will invariably over-winter better than a hive which went to the heather as a full strength honey gathering unit, which after the removal of the honey supers and even after the first frosts still covers every frame in the brood box which is of course as well filled with stores as the previously mentioned smaller colony. My over-wintering system consists of an empty shallow crate above the single brood box. This is to house the contact feeder. Each colony is fed at least 10 lb of sugar in solution. The crown board is placed on the top of the super leaving an air space the depth of the shallow crate for ventilation. The hive entrance is 3/16" high and full width, winter and summer.

7. Making observations on hives where the queen has been lost during the early part of the winter, Or where the queen becomes a drone layer during the winter period, I have consistently noticed that, regardless of the type of winter, whether hard or mild, by the third week of March, early April, that the populations of these hives have dwindled to virtually nothing - the loss of bees in such a colony once the bees begin to forage around the first week in March is quite dramatic.

8. Observing a queen right hive shows that the population falls quite rapidly during March/April, but at a particular level where the population is averaging perhaps 4/5 frames at say mid April - the population losses stabilise and the colony then begins to expand steadily until around the first week in May, when there is a

'population explosion'. I'll try now to draw all the points made into some logical sequence. If Anna Maurizio is right then a period of not much more than 8/9 weeks elapses between egg laid and dead winter bee, on average. Therefore in the case of bees returning from the heather, the last of these bees produced while the queen was still laying hard will have died or will die as soon as they move out of the hive an the 'classic' winter cleansing flights, and at least by mid November.

If a colony enters the winter "overpopulated" this population will maintain itself during its life cycle by consuming valuable stores, where the moderate population will tend to consume less. I contend that the overpopulated hive depletes its provisions so severely, before these surplus bees disappear that by the time brood rearing begins the colony stores are well down, and from this observation I feel that if Farrar only got half the picture he should have qualified his statement with - 'Where this consumption of stares is converted to brood'.

Regarding the increasing numbers of 'observations' confirming, the presence of brood in over wintering colonies, at all times, I postulate that the full significance of this circumstance has been missed for years and that this broad rearing, modest though it may be, is absolutely critical to the continued survival of the bee colony.

I would go as far as to say that in reality, by the end of March in most years where foraging begins at the beginning of March there are virtually no bees of the over wintering population left in the hive. The rapid decay of population in queenless hives once foraging begins seems to confirm this idea. Also the stabilisation of the population around mid April in a queen - right hive and the level at which it stabilises is quite significant, since a colony covering 4 - 5 frames in early spring constitutes a number of bees ranging from 8,000 - 12,000. I have made some rough calculations, and I would be grateful if the mathematicians among the readership could confirm or deny their accuracy! The results are based on an hypothetical queen in an hypothetical over- wintering colony, laying eggs at the following hypothetical rates, thus:

1. From the end of December to the end of February at the rate of 1000 eggs/week. Assuming that from egg laid to dead bee is eight weeks I have used the 28-day month to simplify the calculation. Allow of course 3 weeks before the first brood begins to emerge.

2. From the beginning of March to the beginning of April the rate of lay increases to 2000 eggs/week.

3. From the beginning of April to the beginning of May the rate of lay increases to 3000 eggs/week. Thereafter the rate will increase quite dramatically. Now I concede I am no great counter but surprisingly the number of new bees produced in the hive over this period is approximately 22,000 – 24,000 of which at the end of April there are 16,000 bees still alive. At the middle of April the population is 10,000 - which is not all that far from the expected 'in viva' population at this time.

To produce 1000 new bees/week requires an area of approx. 60 in2 of comb, i.e. 20 in2 on each of three frames—based on 50 bees/in2 of comb, considering both sides of the frame. This represents patches of brood approx. 4in. x 5in. on each of the three combs.

I have noticed on many occasions much larger patches of brood in late winter. Research has demonstrated that it costs about 1lb of honey to produce 4,500 bees, thus to produce the number of bees in the hypothetical example, i.e. approx. 20,000– 24,000 would cost the colony around 5 - 6 lbs. of stores in total plus, of course, the normal amount of honey to sustain the population of the hive. Not a lot really!

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FLORAL CALENDARS

floral calendar for beekeeping is a timetable that indicates to the beekeeper the approximate date and duration of the blossoming periods of the important honey and pollen plants in his area. The experienced beekeeper will have acquired much of this information over the years. The floral calendar is one of the most useful tools of the beekeeper. It enables him to determine what to expect in bee-forage availability, and when, so that they can manage their colonies in the most rational manner. Beekeeping in any specific area
cannot develop without an understanding of the calendar, and for migratory beekeeping, special calendars for the different foraging zones along the migration route are required.Assembling a floral calendar for any specific area is simple but time-consuming. It requires complete observation of the seasonal changes in the vegetation patterns and/or agro-ecosystems of the area, the foraging behaviour of the bees, and the manner in which the honeybee colonies interact with their floral environment. The accuracy of a floral calendar, and hence its practical value, depend solely on the careful recording of the beginning and end of the flowering season of the plants and how they affect the bees. The preparation of an accurate, detailed calendar will therefore often require several years of repeated recording
and refinement of the information obtained.

The steps normally taken in building up a floral calendar are as follows:

1. The beekeeper makes a general survey of the area, drawing up a list of flowering plants found, special attention being paid to plants with a high floral population density per unit area or per tree.

2. He places several strong honeybee colonies in the area, inspecting the hives regularly and observing changes in the amount of food stored within the hive to determine whether it is depleted, stable or increasing. Any food gains or losses can be monitored accurately by weighing the hives.

3. At the same time that he monitors the hives' food stores he surveys areas in the vicinity of the apiary and within the flight range of the bees, to record the species of plants that the bees visit.

4. He determines whether the plants are visited for nectar or for pollen. Pollen-foragers will have pollen pellets attached to their hind legs. To determine whether the bees visit flowers for nectar the observer squeezes the abdomen of individual bees to obtain a drop of regurgitated nectar, tasting it for sweetness.

5. He studies the frequency with which the bees visit each flower species, in relation to changes in the level of the colonies' food stores. If there is a continuous increase in food stores, in direct response to the availability of the plants visited, the plants are good forage sources. When the food stores remain stable, the plants can be depended upon to meet the colonies' daily food requirements, but they cannot be classified as
major honey sources.

6. He carefully records all the changes in the blossoming of the plants visited. When the colonies begin to lose weight, the flowering season is finished for all practical purposes. Once all the data on forage species have been assembled and repeatedly verified, they should be judged as they relate to the actual performance of the honeybee colonies. The calendar can then be drawn up in the
form of circular or linear charts, showing the weekly or monthly availability of each plant and their flowering sequence.

HONEYBEES OF THE GENUS APIS

Bees are insects of the Order Hymenoptera which feed on pollen and nectar. They constitute a group of about 20 000 species throughout the world, known taxonomically as the Superfamily Apoidea. Honeybees of the genus Apis belong to the family Apidae, a sub-group of this superfamily. Although the question of how many honeybee species exist is still debated among taxonomists. At least four species are commonly recognized: the dwarf, or midget, bee *Apis florea,* the giant, or rock, bee *Apis dorsata*, the oriental (Indian, Chinese, Japanese, etc.) bee Apis cerana, and the common (European, African, etc.) honeybee *Apis mellifera*. The existence of another giant tree, *Apis laboriosa*, has recently been confirmed from Nepal, but little is known about its biology.

All honeybee species are eusocial insects, that is to say that they engage in favourable social activity. A colony of honeybees consists of a queen, several thousand workers, and at certain seasons of the year - a few hundred drones. Among the members of the colony there is division of labour and specialization in the performance of biological functions.

The architectural design of the comb of all honeybee species is essentially similar: it consists of adjoining hexagonal cells made of wax secreted by the workers' wax glands. The bees use these cells to rear their brood and to store their food. The general utilization of comb space is also similar among the species: honey is stored in the upper part of the comb with, beneath it, rows of pollen-storage cells, worker-brood cells, and drone-brood cells, in that order. The peanut-shaped queen cells are normally built at the lower edge of the comb.

As an inherited behaviour characteristic, all honeybee colonies tend to store a certain amount of honey and pollen as their food reserve. The quantity of food stored depends upon several factors, including the seasonal availability of forage, the worker population of the colony and its rate of reproduction, the capacity of the nest, etc. Another important inherited behaviour characteristic lies in the colony's natural site of comb construction: whereas some Apis species build single comb nests in the open, others build multiple-comb nests in dark cavities.

European honeybee (*Apis mellifera)*

There are many geographical races of the common honeybee *Apis mellifera,* distributed widely throughout Europe, Africa, and parts of western Asia, as well as in the Americas. All these races display similarities in their basic biological attributes, e.g. the construction of multiple-comb nests in dark cavities, colony social organization and division of labour, etc.

In the wild, the natural nesting sites of *A. mellifera* are similar to those of *A. cerana*: - caves, rock cavities and hollow trees. The nests are composed of multiple combs, parallel to each other, with a relatively uniform bee space. The nest usually has a single entrance. The temperate races prefer nest cavities of about 45 litres in volume and avoid those smaller than ten, or larger than 100, litres. Colonies of the European races are composed of relatively large populations, usually between 15 000 and 60 000.

Anthropomorphically speaking, this behaviour of the temperate races is obviously an evolutionary advantage: without it, the colony faces starvation during the cold winter months, when food is not naturally available and the temperature is too low to permit flight activity. The shortage of natural forage and the cold temperatures prevailing from late autumn until early spring appear to play an important role in exercising rigid natural selection pressures on the colonies. As a result, both feral and hived colonies of temperate-zone A. mellifera are less likely to abscond than the tropical races.

The past three centuries have seen the introduction of the common honeybee to all the habitable continents. Outside Asia, beekeeping with *A. mellifera* constitutes an integral part of modern agricultural systems, furnishing crop pollination services as well as honey and beeswax. Although this bee is one of the most studied animals, many aspects of its biology being fully known, efforts over the past few decades to introduce *A. mellifera* into Asia have encountered a number of problems, such as the inter-species transmission of bee pests and diseases.But successes have been reported from several Asian countries as regards the commercial viability and the likelihood of a profitable economic return of beekeeping with A. mellifera. It appears that the adaptability of the bees, appropriate beekeeping technology, better understanding of forage ecology and socio-economic suitability are among the most important factors underlying the further development of beekeeping with the common honeybee in Asia.

Honeybee species kept by man

Among the four commonly recognized species of Apis, only A. cerana and A. mellifera are kept commercially by man. Behavioural limitations of the dwarf and giant honeybees, particularly their practice of open-air nesting, prevents their being kept in man-made hives for reasonably long periods, while hiving colonies in specially-constructed containers is essential in that it enables the colonies to be manipulated.

In many parts of the world, including several countries in Asia, commercial beekeeping depends on moving the honeybee colonies to places where forage is abundant at certain periods of the year. Such migratory beekeeping often calls for the colonies to be moved several times a year, over distances which may range from a few kilometres to several hundred kilometres from the home base. This approach is practicable only when the colonies are in movable-frame hives, which can he transported without danger to the hives or the colonies. From the practical standpoint, therefore, beekeeping can be a dependable agricultural occupation only when the beekeeper can determine and control the number of hives he owns. On the other hand, where forage is available only marginally, colonies of A. cerana survive better and can produce with lower management inputs than colonies of A. mellifera. It is the absconding behaviour of most, if not all, tropical races of A. cerana that creates a major obstacle to the development of beekeeping with this bee in rural areas in southern Asia. Since this behaviour is apparently triggered, at least to some extent, by an unfavourable hive environment, proper colony management may be able to provide at least a partial

solution to this problem. Thus, only through systematic research and development activities carried out locally is it possible to judge which of the two approaches to apicultural development should be adopted to suit the socio-economic situation, the vegetation pattern and the climatic conditions of each locality.

Lemon balm.

Researchers have been evaluating the effectiveness of lemon juice as a treatment for varroa.
Egyptian agricultural researchers M.F. Abdel-Rahman and S.H. Rateb mixed pure lemon juice with 1:1 (weight/volume) sugar syrup in concentrations of 10%, 25%, 50%, 75% and 100% and the solution was applied at the rate of 5ml per seam of bees. Colonies were treated 5 times at 6 day intervals. The success rates were 32.5%, 40.5%, 82.9%, 84.4% and 86.6% respectively.
Polish beekeeper Dominik Ptak reported that he had tried the method in Poland and reported achieving a 90.5% con-trol with a single application. He says that the mixture must be lukewarm and freshly made; as with oxalic drip treatment the colonies should have little brood. So this is a November/December treatment.
For more information and discussion, go to:
www.buzzaboutbees.net/support-files/lemon-juice-to-counteract-varroa.pdf

BEEKEEPING GLOSSARY

BROOD: Typical beekeeper's facial expression when s/he realises that a large proportion of the bees on the veil are clinging to the inside, not the outside.
COMB: The sticky, crumbly stuff which is spread over your arm from elbow to fingertips during hive inspections.
DRONE: The male, recognised by his squat bottom and large eyes. Named after the noise he makes at beekeeper's meetings as he tries to discuss the merits of various types of smoker fuel.
HIVE: With an old tree and a chainsaw you can make an adequate beehive in twenty seconds. Alternatively you can pur-chase a "DIY Hollow Tree kit". These kits contain 200 beautifully made wooden parts; a few of which actually fit together.
HIVE ROOF: Contraption made of wood and metal designed to lie in the grass ten yards downwind of each hive.
HIVE TOOL: Cunning little lever which will remove neatly all the frame top bars, whilst leaving everything else perfectly stuck inside the brood box.
HONEY: Mythical substance said to come from beehives.
NEIGHBOURS: For legal reasons I am not able to mention the nice people who used to live next door.
PROPOLIS: When a hive tool is stuck to one hand, a smoker to the other, and your wellies are glued together, say out loud, "Ah, this is the wonderful panacea that is priceless!"
QUEEN: Mythical, invisible creature said to live in beehives.
QUEENLESSNESS: Natural state of a beginner's colony; no cause for alarm.
SKEP: One legged dancing movement to be observed when bees find the gap at the top of your wellies.
SMOKER: Produces more smoke than the 'Flying Scotsman' when the bees get annoyed. At this point a hidden microchip and secret circuit cut in to extinguish all smoke instantaneously.
STING: The bee's way of saying, "Good morning!" As they are naturally friendly creatures they tend to say, "Good morning!" frequently.
SUPER: You well need six of these for every hive. Pile them on top, take some photos, then put them away 'til next year. Show off the photos modestly at beekeeper's meetings.
SYRUP: Spill this on your back doorstep so the bees know where to find you and greet you every morning.
SWARM: The noisy heaving mass of beekeepers clinging to the bookstalls at Stoneleigh.
UNITE: The technique by which two small queenless colonies are combined into one larger queenless colonies.

<u>An Unusual Sting Remedy.</u>

A couple of weeks ago, I was stung by both a bee and hornet while working in the garden. My arm swelled up, so I went to the clinic. The doctor gave me cream and an antihistamine. The next day the swelling was getting progressively worse, so I went to my regular doctor.
The arm was infected and needed an antibiotic. The doctor told me - ' The next time you get stung, put a penny on the bite for 15 minutes'.
That night, my niece was stung by two bees. I looked at the bite and it had already started to swell. So, I taped a penny to her arm for 15 minutes. The next morning, there was no sign of a bite. We decided that she just wasn't allergic to the sting. Soon, I was again gardening outside.
I got stung again, twice by a hornet on my left hand. I thought, here I go again to the doctor for another antibiotic. I promptly got my money out and taped two pennies to my bites, then sat and sulked for 15 minutes. The penny took the string out of the bite immediately. In the meantime the hornets were attacking, and my friend was stung on the thumb. Again the penny. The next morning I could only see the spot where the hornet had stung me. No redness, no swelling.
I don't have an author's name for this, but the editor of Bee Talk suggested that this might be as a result of the effect of copper. I noticed last year that Boots the Chemist were selling plasters impregnated with Silver as an antibiotic for cuts. Perhaps there is a connection? If the effect is because of the copper, it would be worth keeping a few old coins as I understand that the there is less copper in our coinage now since the value of metals rose a few years

Is Late Summer Feeding Always Necessary?

Towards the end of the year there is always that temptation to mull over the weather, bumper yields or the opposite, of the previous months (it was a 'different' year though!) but, whatever had been, it is the coming months that matter now.

From a very personal point of view the second half of August and the first half of September were distinctly favourable for the bees, so much so that I haven't given them any syrup to top-up their stores. I estimate that they have sufficient to meet their requirements through the winter and, most probably, the Spring too - in fact right until the serious nectar flow starts again about mid-April.

Where did all this 'plenty' come from? It is almost entirely heather honey. My bees, in the garden, are every bit of four miles from the ling up on the Long Mynd, but given fair weather they seek this out, and this year especially, have filled and capped pretty well all the available space in the brood nest - a brood and a half.

I could pick up on the heather honey scent as I walked among the hives from half-way through August and when I had a thorough check on 1st September was somewhat pleasantly taken aback on seeing the amount of stores. I looked again on 1st October - just to confirm - they certainly had the often recommended 40 lbs of stores needed to see them through the next six months - and all natural. I should add that I let the bees have all that comes in after the first few days of August - I take the Summer honey off at that time. I then reverse the two boxes making up the brood nest so that the shallow is on top. I'm not sure this has any particular merit except there maybe more vacant cells there - often is. It then becomes what is frequently described as the food chamber - one could easily see why, this year - eleven combs pretty well solid honey and capped. Temptation there to take it but heather honey is difficult to extract - a press is needed. There is a saying that "you get it back" - not the honey, of course but, all being well, a strong balanced colony come the Spring.

At the same time as reversing the boxes I 'clean' the frames - removing any comb in the wrong place - that along the sides of the bottom bars, for example. Makes working easier at that first manipulation in the Spring as wellas making all bee-space what it should be. The situation leaves me feeling comfortable -well, not quite. There is the matter of the'mite'. It always nags a bit however well onethinks things are. When I looked on 1st October there were patches of eggs, therefore still time for some mite increase. Do I treat with Oxalic acid about Christmas time? Reports on its use leaves me a bit uncertain about it efficacy.

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Good News from BBCT
(Bumblebee Conservation Trust)

The Trust has been awarded £340,000 in support of its three-year Bees for Everyone project. This is an ambitious three-year project in order to:

1) support rare bumblebees throughout the UK through active conservation work to safeguard, restore and create valuable bumblebee habitats

2) raise public awareness of the importance of bumblebees and the problems that they face, inspiring individual action.

In practical terms, as the project progresses, this will mean more flower-rich habitat, more events, more opportunities for learning and participation and significant improvements and refinements in many other areas.

Thank you to each and every one of you for the part that you have played in supporting our work to date. www.bumblebeeconservation.org

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Is YOUR honey effective against MRSA?

In the September edition of The Garden*, the publication of the Royal Horticultural Society, I was alerted to the following research being carried out by researchers from the Welsh School of Pharmacy at Cardiff University under Professor Les Baillie.*

Professor Baillie's team, in conjunction with the National Botanic Garden of Wales and supported by the Society for Applied Microbiology, aim to build a DNA profile of the nation's honey. The information could identify plants that are naturally able to fight antibiotic-resistant bacteria such as the 'superbug' MRSA and Clostridium difficile, and also help fight the diseases attacking Britain's bees.

Professor Baillie and his team are actively collecting samples of honey to improve this profile.

WATCH THEM.

Watch all colonies closely that you have hived on empty frames, and see that they build the combs straight.
Watch all colonies that have cast a swarm, and see that a young queen does not hatch out and lead off a second swarm.
Watch all colonies and nuclei containing young queens that they do not become queenless by the young queen being lost while on her bridal trip.
Watch all queenless colonies that they do not become infested with fertile workers. Keep a frame of uncapped brood in the hives that have been queenless any length of time.
Watch the sections of comb honey and take them off just as soon as sealed over to protect their pearly whiteness.
Watch all combs packed away that the worms do not destroy them. If you find any signs of their work fumigate with brimstone.
Watch that the entrance to the hives does not become clogged with grass and weeds.
Watch the source of the honey supply in your immediate locality and see where it can be improved by planting.
Watch your neighbouring beekeeper and see if he has better success than you. If so, why?
Watch and remember what you see.
Watch and you will be sure to improve by the care taken.

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Apparently in Japan a standard way of driving the bees down out of the super is to drum on the roof.

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JOHN EVELYN
31 October 1620 – 27 February 1706 was an English writer, gardener and diarist

Beekeepers should know all that they can about diseases and problems in the hive and what to do about them. Here is some good advice from John Evelyn, the English Diarist and man of affairs who lived from 1620 to 1706. His words are taken from the Elysium Britannicum, an unfinished discourse (due to his death) but he did manage 900 pages of which only 342 remain, fortunately including the contents. Most of it concerns his chief interest, gardening but it did include a comprehensive bee chapter."*The enemies of bees are very many, and some sicknesses they are also obnoxious to, especially the rotts and the flux. The vermin which haunt them must be taken. Their maladies are discovered best by their looks and mortality, and much remedied by the perfumes of galbanum (an aromatic gum resin fom certain umbelliferous plants Ed.) and ox dung. But of this see Columella Bk IXCh.13. If (as sometimes) they fight, fling dust among them, sweet water or beer which will make them all smell alike and reconcile them. The punctures and stinging of bees is cured by their own honey, by juice of malows, by cow-dung mixed with vinegar*."

John Evelyn. His diaries or Memoirs are largely contemporaneous with those of the other noted diarist of the time, Samuel Pepys, and cast considerable light on the art, culture and politics of the time (he witnessed the deaths of Charles I and Oliver Cromwell, the last Great Plague of London, and the Great Fire of London in 1666). Over the years, Evelyn's Diary has been over-shadowed by Pepys's chronicles of 17th-century life. Evelyn and Pepys corresponded frequently and much of this correspondence has been preserved. Interestingly he wrote the *Fumifugium* (or *The Inconveniencie of the Aer and Smoak of London Dissipated*), the first book written on the growing air pollution problem in London!

The Bee Keepers' Quarterly published by Northern Bee Books is a somewhat weightier magazine that BeeCraft.
It carries articles on research; articles from bee keepers from around the world, (the editor lives and keeps bees in Messinias in Greece); articles on bee health; bee keeping development; the bee keeping season and much more besides.
Recent features have included colony losses; making a 'Langstroth' top bar hive; overwintering; new technology; Travellers' Tales and articles 'for the workshop', and there always a number of book reviews.
The normal cost is £28.00 pa, but through the Association it is just £18.00pa.
It needs a minimum of six subscribers for us to take advantage of the offer and John McKee, our Treasurer has kindly offered to facilitate it on our behalf.
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£18.00 per year is only 34 pence per week and the magazine is well worth it.
If anyone would like to read a few back copies to see what it is like, you can contact me through the web site or at BADS-BKA@gmail.com.

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Wasp and Bee on Greengage

Southampton scientists probe link between diesel and bee decline.

Possible links between diesel fumes and collapsing honey bee colonies are being investigated by scientists. A University of Southampton study will investigate whether tiny particles from diesel engines could be effecting bees' brains and their navigation. The three-year study will look into whether it is one of the factors affecting bee numbers. Colony collapse disorder has hit large numbers of hives in Europe and North America in recent years.

Diesel nanoparticles

Biologists, nanotechnology researchers and ecologists at the university will test the behaviour and neurological changes in honey bees when they are exposed to diesel nanoparticles. Ecologist Professor Guy Poppy said: "Diesel road-traffic is increasing in the UK and research from the US has shown that nanoparticles found in its fumes can be detrimental to the brains of animals when they are exposed to large doses. "We want to find out if bees are affected in the same way - and answer the question of why bees aren't finding their way back to the hive when they leave to find food," he added. Chemical ecologist Dr Robbie Girling, said: "The diesel fumes may have a dual affect in that they may be mopping up flower smells in the air, making it harder for the bees to find their food sources." The collapse of bee populations

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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.

E H Thorne (Beehives) Ltd disclaims all responsibility for all consequences of any person acting on, or refraining from acting in reliance on, information contained above.

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