Beetalk June 2022

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.

Michael Birt (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

birt_192@hotmail.co.uk

Honeybee colony swarming.

Why am I writing this?

There is more than enough written about swarming and its control already! Well, I want to deal in a little detail with the build up to swarming and what happens naturally in the parent colony after a swarm issues – something not very well covered in the texts, because they are intent on describing a method of managing that colony to avoid swarming. Sometimes the best route is not to stop the colony from swarming, but to make it swarm (artificial swarming), allow it to recover and then augment it with sealed brood taken from one or more other colonies. This builds the foraging force unnaturally quickly, being aware that overcrowding is a definite swarm trigger.

What triggers swarming? Well, we don't know for definite, but we can be sure that while there are certain factors common to swarming, their trigger levels vary by strain of bee, age of queen, average age of workers, nectar flow, crop type, average temperature, humidity, hive conditions and almost anything else you can think of. A queen emits queen substance. This is distributed throughout the colony by food exchange through a chain starting at her immediate entourage and ending at the emerging worker brood. Each worker has to have a minimum dose exposure on a constant basis; if this drops, they begin swarm preparations, and it can even result in laying workers. Some queens produce more than others and can control larger colonies without swarming. Older queens produce less (and there is something to suggest that the queen's feet play a part in distributing the substance; older queens often have damaged feet and their colonies are more prone to swarms – cause or effect?). A perfectly 'good' queen who runs out of space to lay in will drive swarm preparations – but how? Can she withhold queen substance? Does a full brood nest indicate that queen substance doses are below the threshold for each worker? It doesn't matter; the outcome is the same. The course of natural swarming goes like this. No swarm preparations will take place until drones emerge (usually at the end of April) and then the colony forms a few 'play cell' queen cell cups. You have to see one against a real queen cell to appreciate the difference, but they are short, rounder, not well hidden and will never be used as a queen cell. After a couple of weeks of this, a few, well-formed queen cells are made in the centre of the warmth of the brood nest. These (no more than three unless you've been cutting them out) will be provisioned with Royal Jelly and an egg put into the cell by the workers (as a rule, queens don't lay eggs in queen cells). Shortly afterwards the queen will stop laying after a period of laying decline. Workers, diverted from foraging, will begin to scout for suitable places for a swarm to remove to. After nine days the queen cells will be capped. Any time between then and emergence at 16 days, the swarm, headed by the old queen, will issue from the hive. Half the flying workers leave the hive with the queen. They will settle at a suitable location while the scouts recruit for their preferred final location. After a couple of hours, through a votive process, the workers will lead the queen to their preferred new home, within a three-mile radius of the original colony, dry and (in most cases) with a low-down entrance below the roof. Cutting out queen cells will work as a swarm control for two weeks –then the preparation time shortens, more and more serious queen cells are produced, and they will be spread through the colony and hidden. Beyond this the bees will even swarm on open queen cells. Cut out queen cells once if you must, then immediately prepare your swarm control measures. No, setting up a bait hive with some old comb in is not swarm control! Methods are many and varied, and well documented, but they all revolve (as all of the good beekeeping books will tell you) around emulating the effects of a real swarm having emerged. If you're with me so far you ought to be able to quote what they are, but the key points are: • Old queen removed • 50% of flying bees removed • Little or no open brood Swarm control gives you the opportunity to rear new queens, by removing combs with queen cells to nucleus hives. It also gives you the opportunity to build a strong foraging colony if you are able to do it without removing the 50% of the flying bees, but at the risk of overcrowding the hive and encouraging further swarm preparations, or forming a big, angry colony if it has no queen. There are ways around these, but they are part of swarm control techniques and a bit too complex to discuss here. In swarm control, much is written about what happens to the swarm and what the beekeeper must do to the colony left behind. In the real world, this is what actually happens in the colony left behind: The queen cells hatch and (if the colony does not throw one or more 'casts' headed by virgin queens) one young queen remains to head the colony. By now the colony has not had a laying queen for over a week (remember that the new queen emerges from her cell on day 16, the swarm will have left any time after the cell was capped at day nine, and the queen may have stopped laying for nine days before the queen cell was capped and the swarm issued). So, the brood combs contain brood which will be emerging for the next two to three weeks, usually weighted to the low end of this range. This period marks the most difficult time for even experienced beekeepers to understand and manage. There is no laying queen – so how can you be sure that there is a good virgin queen in the colony? (Putting in a comb of open brood to see if the workers raise queen cells is the best – but not an infallible – indicator. Colony temper can often be touchy even if a virgin queen is present, as it would be if it were queenless). As the brood emerges and brood cells are left empty, the foraging workers will fill these cells with nectar and make honey in them. The new queen is mated and starts to lay (typically four weeks, sometimes more if the weather is bad, but it must be less than 40 days or the queen is stale for anatomical reasons). At this juncture, if empty super space is not provided in anticipation, the combs are clogged with honey, there is nowhere for her to lay and overcrowding will prompt a further swarm. Of course, if empty super combs are provided in a timely manner, the honey and nectar in the brood combs will be moved into them to provide laying space, and this is often misinterpreted as a new nectar flow by the uninitiated. Adding empty supers while the queen is not laying will not result in them being used to store this crop, and may just allow the honey in any existing supers to cool, and given that this is the early crop and probably full of oilseed rape honey, likely to crystallise. That then takes us back to a stable dynamic. The colony has a laying queen, the old bees with the swarm urge have gone and there should be enough space for the new queen to lay in (given that her rate of lay will increase gradually through the rest of the season). If you have managed this with an artificial swarm you need to decide what your expectations of that swarm are. It is headed by an old queen, but will be working hard. You can use this to draw new brood combs and to donate sealed brood to augment the parent hive, especially in the initial stages of colony build up after the swarm. With careful management you can run the two colonies side by side. It is unlikely that the swarm will build up fast enough to collect an appreciable honey crop itself if you use it as a source of brood for the parent colony, but it can be used in this way to maximise cropping of the parent colony. At the end of the season, because it contains the old queen, it can be de-queened, sealed brood (in old combs removed from the parent colony) removed and destroyed, the rest treated for Varroa and merged with the parent colony. This won't affect the Varroa infestation in the parent colony, but at least it won't add to the problem.

New Bee species

The swarming season seems to bring together many of the most stressful, the most depressing, the most exciting and some downright bonkers aspects of our hobby. Collecting swarms from unlikely places, improbable circumstances and insane improvisations are all the rich basis for anecdotes for years to come. 4 Not least of these are swarm calls from the public which turn out not to be honey bees at all. This is what transpired the other day when asked to check out a "swarm" in a garden in Curry Rivel. In discussion on the phone, it seemed the bees were in a bird box – which due to scale instantly suggested bumble bees rather than honey bees. They had been there a month already and the householder was concerned about their visiting grandchild's safety. As it was on my way back from work I promised to drop by to check them out anyway. I found a blue tit box full of very attractive chestnut-headed, black thorax-ed and white tailed bumbles, which also seemed to be nesting nearby under eaves. On checking a reference book and Google Images, I was delighted to confirm they were the Tree Bumble bee *Bombus hypnorum.* This bumblebee has two broods each summer and unusually for bumblebees, has a reputation for being rather defensive if the nest is interfered with. The problems affecting Britain's pollinating insects is hardly news to beekeepers. Three UK native bumble bee species are now believed extinct, several others are under threat and most of the remaining species seem to be declining. Against this backdrop, Tree bumblebees have been swimming strongly against the tide. Although wide spread in Europe, it was unknown in Britain before 2001, so Bombus hypnorum did not even have a common English name. After discovery on the Hampshire/ Wiltshire border in 2001, it has rapidly spread since 2007 throughout eastern and middle England and started to move through the South West. This may be one of the first records locally and if you should come across any other nests of this very attractive bee, please send in any records via the BWARS (Bees Wasps and Ants Recording Society) website. It is currently unclear why this bee has been so successful compared to most of its UK relatives and so far is not believed to pose any additional threat to them.

Basic Assessment

If you have kept bees for a while, you should really think about taking, what is, the equivalent of the cycling proficiency test. The Basic Assessment is a BBKA qualification that does exactly what it says on the can. It reinforces what you already know, that you are competent to keep bees. It is normally conducted at an apiary not known to you and is predominantly practical, with a few questions thrown in. There is nothing in the assessment that is not covered in the Beginners' classes that we run. You will be tested by a very understanding and experienced beekeeper, who will guide you through the process, rather than stand over you. There is still time to apply. Entries must be received by Bridget Knutson (examinations officer) - email : bridget_knutson@yahoo.co.uk by the end of June. In order to take the Basic Assessment you must have kept bees for one whole year at the time you take the assessment. Entry forms and the syllabus can be downloaded from the BBKA website. The fee is £15.00, which is returnable, if you pass. The majority of people do pass and you will receive a very nice certificate.

Neonicotinoids

For those of you interested in the neonicotinoids argument Marianne Ball has sent this report from the Avon Spring Day School: Dr James Cresswell of Exeter University made a very convincing case that neonicotinoids are unlikely to be responsible for the decline in honey bee colonies. He explained that the effect of the neonicotinoids was minimal and that contrary to recent publications there was no scientific evidence to prove otherwise. In his research he found that as soon as the bees were no longer exposed to the neonicotinoids they recovered from any ill effects they might have experienced and carried on as usual. His own pet theory was that honey bees were likely to be quite resilient from any ill effects because the same chemicals were found in the nectar of plants from the areas in which honey bees originated and they had therefore evolved to cope with it; whereas bumble bees had no previous exposure and were more likely to be effected in an adverse way

Requeening

If you are unfortunate enough to have a hopelessly queenless colony, you will have to intervene in order to save it. That is you must re-queen it. How? You have basically got to :- a) give the colony a frame of eggs to rear a queen on b) give the colony a good queen cell from another colony c) give them a queen, virgin or mated laying. A frame of eggs. You should be able to beg a frame of eggs if you have no other colony of your own. There will be larvae on it as well, some of which will be too old to produce a good queen. This does not stop the bees from using them, so four days after giving the frame, remove all sealed cells, as they will have been built over 3 or 4 day old larvae (5/6 days from laying) which will not have had an adequate queen feeding regime. A queen cell. Queenless bees will not normally tear down a queen cell, but it can be given some protection if desired. A wire cell protector or kitchen foil around the sides will do. An unsealed cell should still be on its frame as they are too fragile to travel, but a sealed cell is more robust, although it should be kept warm and not shaken about. It can be cut from a frame and put in a small container to travel. Interestingly, it is also possible to requeen a queenright colony, by using a sealed queen cell. This cell will definitely need protection around the sides but apparently queen cells are not torn down from the bottom. This procedure mimics natural supersedure and seems a good way of 9 requeening a bad tempered colony, as you do not need to first find and remove the old queen. Bees most readily accept a queen of the age they are expecting, but a mated laying queen is generally welcomed by any colony. A colony which has just lost a laying queen through accident, or because the beekeeper has removed her, will not be so keen on a virgin replacement. A colony which has lost its virgin on a mating flight will probably be happy with one In all cases queen introduc tion is best done gradually, though some books will say 'run her in at the entrance' or 'drop her through the feed-hole'. Don't do this if she is valuable! Uniting a queenless colony with a queenright one, through newspaper, is the safest way of introduction. A queen introduction cage, plugged with candy , paper or paper and kitchen foil, also works well. If using kitchen foil, remove it after three days, as bees cannot chew through it. It is said to be even more reliable if the queen is alone in the cage, so if she arrived with attendants, they should be removed. Do not wear leather gloves, use vinyl ones if you feel the need, but the workers are very unlikely to sting. A queen that has travelled is no longer in laying condition and is more reliably introduced into a nuc. of brood and nurse bees only. This can then be united with a queenless colony when she is laying well.

Finding the queen.

"It's easier when you have experience" well, fine, but a lot of people don't have experience, so what do they do? Firstly do you need to find the queen? Only to mark her, move her or dispatch her. If you have eggs, she was there three days ago and that is usually good enough. If you find her when not seeking her, look at her to see that she is whole, not minus a leg or two, and that she is behaving normally. To get away from the light she can move fast. For a shook swarm, follow Paul Mann's advice and you don't need to find her. Yes, I do need to find the queen. Ted Hooper, one of the best bee-keepers of modern time, suggests the following; this is a summary: Check pp. 153:155 in the 2nd Edition of 'Guide to Bees and Honey'. If you don't have a copy, get one as this is still the best all round book on

bee-keeping available.

'Open the hive quietly with as little smoke as possible. Remove the first frame slowly and carefully; if it contains stores, put it down and continue until you reach the first frame with sealed brood, then go back one frame and re-check for unsealed brood. If it has unsealed brood, start your careful examination of the combs here and concentrate on seeing the queen, nothing else.

Now be swift; As you remove the frame, look at the face of the comb now exposed in the brood box, often the queen is there.

On the frame in your hands, check the edge, the centre, the edge again, turn the comb over and repeat the process.

Go through this process quickly with as little disturbance as possible and you should find her on the frame where she was laying. If you have not found her, repeat the process, blowing on the clusters of bees or moving them gently with a finger 15 or the back of your hand. Check the floor and walls as you do this. If you still have not found her try once more as above, but then stop. By now the bees will be all over the place and need to settle. Still can't find the queen?

Next day, or a later day, put an empty brood chamber next to the brood box that you wish to examine. Open up the hive take out the first pair of frames and put them together in the spare brood box a couple of inches from the wall. Do this with six frames, making three pairs. In the original brood box space out the remaining frames in pairs evenly across the box. Leave for two to three minutes.

Now take a pair of frames at a time and open them like a book; you should be able to find the queen. 'Sieving for the queen Really only to be used where you need to find the queen to remove her. Move the brood box to one side. Put a queen excluder on the floor and a new brood box above it.

Put a swarm board, a piece of ply or similar, as a ramp from the ground up to the hive entrance. Shake and brush all the bees onto the swarm board.

Check that there are no bees left on the combs and put the combs back into the brood box. Put the crown board on the new brood box and leave for half an hour or so; a few puffs of smoke will encourage the bees into the hive.

When all the bees are inside, lift off the brood chamber. The queen will be on the floor or on the underside of the queen excluder. If after all this, and you believe that the queen is still there, ask for assistance.

A fresh pair of eyes, hopefully more experienced, may see what you have missed. There is undoubtedly an awful lot of rubbish on You tube, but if you are prepared to trawl through the site, there is the odd clip that shows queen that you can watch which gives you an idea of her size relative to workers, her movements on the comb, and help you pick up the 'jizz' of how she looks in the hive

Bees for Development Bee Shop, 1 Agincourt Street, Monmouth

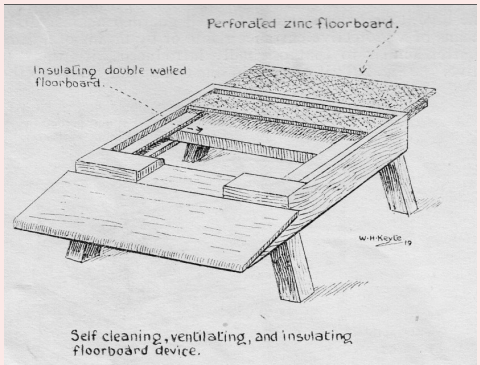
If you have not yet visited Bees for Development's new premises in central Monmouth, then do come and have a look. We have a unique shop and Information Centre and are selling a wide range of local honeys, candles and other produce, a small range of beekeeping equipment essentials, ointments and potions made with beeswax, books and bee gifts. Also honey ice creams. Stock needed We are currently very low on stock and would like to sell your honey and other bee products. Please contact us if you have bee goods for sale. Volunteers needed We need volunteers to help with running our shop in Monmouth, especially at weekends. Please contact us if you can give a couple of hours. The work is not arduous and mainly involves answering enquiries from visitors to the shop about bees and beekeeping. We are also seeking volunteers with other skills for example to assist with marketing, preparing advertising and press materials, fundraising, data input and web site updates. Please do contact us if you think that you might be able to help.

HIVE WATCH.

Those of us who have taken caste and made some nucs, will be hoping the mating will have been successfully completed in the next few weeks. When we see pollen being carried in it is a good sign that the queen will have commenced laying. Until then, it is best to leave well alone as many a virgin queen has been lost as a result of over inquisitive beekeepers taking a look in the hive too early. Prime swarms are different, and these would have been the first to emerge probably in the beginning of May. They should be well established and it is important to inspect the brood for any problems as soon as sealed brood is present. If the swarm builds up quickly we may be lucky to get some honey in a single super or some well drawn foundation. With the smaller lots, they need building up with the help of some 1:1 sugar syrup. Hopefully they will be covering 8-10 frames by August and can be strong enough to get through the winter. This is what is meant by " a swarm in June is worth a silver spoon". It is in the following year that we get the full benefit. If you have a number of caste but insufficient equipment then they can be united by simply throwing them altogether into a single hive. This can be beneficial as the additional numbers will boost brood rearing. Around our area, a wet June followed by a hot July is the generally the recipe for a good nectar flow in July. If you are short of frames, now is the time to insert foundation interspaced with drawn comb in your supers. This way the bees will draw the cells from the foundation and not build wild comb between the frames. Using narrow ends can be an added insurance to ensure the comb is drawn out evenly. If you have a strong colony, why not put on a brood box of deep frames filled with foundation for the bees to draw? Once extracted and cleaned by the bees, you have one of the most vital components to successful beekeeping, namely some newly drawn deep comb.

Editor

FROM BEE WORLD OCTOBER 1919



They say there is nothing new in beekeeping. Here you can see a modified W.B.C. floorboard that today would be viewed as a varroa floor. In 1919 varroa was unheard of. This floor was designed to combat damp in the hive during the winter months. It was the practice to stuff any available sheets, blankets etc. in the space that existed between the brood chamber and the outer walls of W.B.C. hives. I can recall my beekeeping guru in the late 1950's early 60's even stuffing used pillows into the gaps. Crown Boards were not in common use and on the top of the frames would be a piece of carpet or as recommended in this article, a covering of blanket. In the summer the covering would be made of canvas known as a quilt. Having created a problem of damp in the hive they thus looked for a solution. Today we are perhaps more enlightened although Jeff Tinson still covers his crown board with a square of carpet and his colonies do seem to benifit in the spring.

Editor

In praise of the WBC hive

If I were a bee, I would rather live in a WBC hive than in any other type. I have come to this conclusion having kept bees in WBCs since I started, having latterly tried a few Nationals as well. However, I hasten to add, that whilst WBCs are fine for the hobbyist, with a few hives, they are not ideal for commercial beekeepers or those who wish to transport their hives on a regular basis. The National hive, so popular in Britain nowadays came into being during World War II as a result of severe timber shortages and should be regarded in the same way as dried egg and utility grade underwear; one of the unfortunate exigencies of austerity.

The WBC hive is a double walled hive developed by William Broughton Carr in the 1880s from an earlier design of Mr. T.W. Cowan. Both of these men were giants of beekeeping in the latter part of the 19th century. W. Broughton Carr is also credited with inventing the metal frame spacers, or metal ends, still in use today and the invention of shallow frames for supers. Lee's of Uxbridge, a well known beekeepers' suppliers until the 1980s, added the finishing improvement in 1920 by making the lifts 'telescopic' i.e. with sloping sides to allow them to fit over each other easily. After WW2, foreign designs such as the Langstroth and Dadant also appeared in Britain. For those who have never seen one, the WBC has an inner brood box and supers, not unlike a National but made of lighter timber, and an outer weatherproof set of 'lifts' with an air space between them and the inner boxes, rather like a cavity wall. It is the classic English beehive of 'chalet' appearance, with a gabled roof. The WBC, like the National, takes B.S. frames with a top space so frames can be easily exchanged. The WBC only has 10 frames in the brood box and supers. Although I have always preferred single brood boxes, 10 B.S. frames is a little small and I have made my own 11 frame brood boxes which fit inside perfectly well. National brood boxes and supers will fit inside WBC lifts, although WBC innards are cheaper, being made of lighter timber. The 10 frame supers are fine. They get filled right out to the edges and are easier to lift when full. The things I like about the WBC are: I am sure they are warmer in winter and cooler in summer and keep out the damp better. Persistent damp is by far the worst of the elements of the British weather from the bees' point of view. You can fit a nucleus box on top of a brood box, when uniting and yet be inside the weatherproof outer layer under the roof. I really like the infinitely variable entrance slides as opposed to the limited choice of entrance afforded by the National. These can be made to take the standard mouse guard for winter. The generous flight board makes it easier for bees landing with a heavy load and for the beekeeper to see what is coming in. ….And, of course they look so much better in your apiary than a collection of 'old boxes' which many hives seem to resemble. Disadvantages If bought new, WBC hives are more expensive, due to the double walls. The trick is to buy good second hand equipment from someone who is foolish enough to have died, given up beekeeping or to be changing to another type of hive. Very little of my kit was bought new. I make my own mesh floors, roofs, porches and interchangeable crown boards, the latter being 18inches square but with a wider 6mm deep strip round the edges to fit either. WBC roofs tend to lift off more easily in a gale. This is easily fixed with the traditional brick on top. Poor W. Broughton Carr knew nothing of aerodynamics when he designed a roof that looks so good but is a perfect aerofoil! There is more woodwork to shift when examining the hives but WBC lifts make useful temporary stands when taking a hive apart with lots of supers. (Bees in WBC hives tend to fill lots of supers!) WBC hives are much more difficult, but not impossible to transport. The last two disadvantages make WBCs unsuitable for the larger operators or commercial beekeepers but hobbyists might like to try them, particularly if they have some woodworking skills. Joe Dod Harrogate Newsletter Feb 2012 via e bees

The main point made by the author in the introduction is, that whichever hive you choose, stick to it, as the parts are not usually interchangeable.

Michael EDITOR

From my Travels

Taken in Norway, these double walled hives have their outer casings removed during the summer months and stored between the hives as you can see. The inner brood chambers were solid timber thus there is good protection throughout the winter months where in some of the most northern regions there will be many days without daylight. Editor

Important Message About Bee Colony Food Levels

The following message was issued by Fera via email in June, and is included again here to remind us all of the importance of checking that our bees have sufficient food.
With the continued spell of poor weather in many areas of the UK, reports are coming in from Regional and Seasonal Bee Inspectors of starving bee colonies, where the beekeeper is not aware that the bees are severely short of food. (If you did not receive the original email direct from Fera, it is recommended that you register with the NBU to be able to receive useful and important messages like this in the future.)

Bees Particularly at Risk · Colonies where supers of honey have been removed. · Splits / Artificial Swarms and Nucleus colonies made up this year. · Newly collected and hived swarms. · Populous stocks of bees which haven't swarmed this year · Colonies where the weather has precluded them gathering sufficient food. What should Beekeepers do Right Now? · Firstly - Check all colonies feed levels by 'hefting the hive'. · Where the hive is light liquid feed should be applied, directly above the bees. ·

Remove empty super will act as a barrier to the bees getting the food quickly. · Feed sugar / water mixed at 2:1 ratio, or proprietary ready mixed syrups. · Fondant can be used in an emergency if nothing else is available. Large starving colonies of bees will take 1 gallon (approximately 5 Litres) of syrup very quickly. After feeding heft hives again – if in doubt feed some more in a few days time.

Question - What is the Correct Way to Inspect a Double Brood Box?

The prime aim of inspection is to check the development of the brood chamber, and using the procedure described here will enable you to reduce the risk of loosing the queen during movement of brood boxes, and to increase the chance of being able to find her, if needed, during the inspection.
Stage (1) Place the roof and place upturned on the ground. Remove the crown-board and lean it against a side of the hive. Remove all supers and place on the roof. (Remember - supers contain Human food and should be not be placed directly on the ground.) Check the queen is not on the QE, then remove the QE and place on the supers. (Making sure you get it the right way up.)

Stage 2 Remove the top brood box, place on the QE and then cover with the crown board. (If the queen is in the top box, since she will usually try to keep away from the light she is unlikely to escape through the holes in the crown board.) Alternatively place a 'lid' with no openings on the top brood box. The queen is then certain to not escape.

Stage (3) Carry out the inspection of the lower box in the hive.

Stage (4) Transfer the crown board to the lower brood box. Carry out the inspection of the top brood box. (Unless the queen needs to be found it is not necessary to search for her. Eggs and young larvae show that she is around.)

Stage (5) Remove the crown board from the lower brood box, replace the top brood box with QE on the top, and reassemble the hive.

Question - What is a 'Bailey Change' and How Do You Undertake the Process?

The 'Bailey Change' is a method used to replace old or diseased frames, and change them to new frames with clean wax. It was originally developed by Lesley Bailey, who was an expert on bee diseases. However, it is not as effective as the 'Shook Swarm' method which is recommended by the National Bee Unit as an appropriate method to treat certain brood diseases. The method is often undertaken in early April to replace old frames, and involves the following steps.

1. Remove and dispose of all empty frames in your brood box.

2. Centralise the remaining frames.

3. Place a dummy board on either side of these frames. (If you have sufficient dummy boards, it is useful to fill the box with these.)

4. Put a new brood box on top, with the same number of new fresh frames as the original brood box. (Ensure that you position the new frames exactly in line with those below. Again if you have sufficient dummy boards to fill the box, use them, or alternatively you could use frame feeders, which is beneficial.)

5. Place and fill a contact or other feeder above the brood box. It is a good opportunity to also use a fresh crown board

6. One to two weeks later check that the comb is being drawn in the new brood box.

7. If the queen is laying in these new frames, and you are certain that she is in the upper brood box, insert a queen excluder between the two brood boxes.

8. Add further new frames to either side of the brood area in the new brood box, removing dummy boards if necessary.

9. Check there is sufficient feed in the feeder, and repeat this check every week.

10. After a period of three weeks all worker brood in the original lower box will have developed, and you can remove this box and shake off the bees into the new brood box. (Note - this box may be removed sooner, if you are undertaking the process for disease control rather than frame replacement. But you will loose any undeveloped brood.)

11. Remove all but one of the remaining dummy boards in the new brood box, and place the queen excluder on top.

12. Dispose of the old frames, and carefully sterilise your brood box and dummy boards for reuse. It is good practice to replace comb and refresh your frames every two years. Whilst undertaking a Bailey Change, it is also a good opportunity to replace any part of the hive with a freshly ster-

Swarm control (without the use of a Snelgrove board)

Many people seem to find swarm control difficult and often simply cut out the queen cells, hoping that the problem will go away. Of course, this very rarely works and is really a pointless exercise as the bees simply build more. So I thought that we might look at the easiest, reliable method of swarm control - the artificial swarm - step by step. Creating an artificial swarm is a simple procedure that can be done at any time when there are queen cells in a colony and the queen is still present. So if you find only unsealed queen cells with larvae in them, it is time to make an artificial swarm without delay. If you have no equipment ready, cage the queen securely and then you can return to deal with the colony later. If there are sealed queen cells then they have probably swarmed and it is too late (ring for advice on what to do next if you need it!). Rather than try to remember each move by rote, it may be more helpful to think about the principles involved so that you have a clear idea of what you need to do. The purpose of the procedure is to remove the brood combs (with the queen cells) and the young bees from the colony, leaving the queen and, of course, the flying bees as an artificial swarm. The brood combs are placed in a hive on a new site beside the old hive. Although it can be done by setting up an empty hive beside the old one and moving the combs across, in practice it is usual to simply move the old hive to one side, put a new box on the original site and then put the queen back in it where the flying bees will join her. Here is the step by step guide:

1.Remember that you must never shake the bees off a frame with queen cells if you may want to use one of those cells later.

2.Remove the roof of the hive and place the supers on it.

3.Pick up the brood box and place it on a new site 2-3' to one side of the old one.

4.Put a new empty brood box on the old site.

5.Find the queen in the old box and put her and the frame that she on into the new box. It is essential that there are no queen cells on this frame, but before you destroy them all, be certain that there are good queen cells left in the old box! Ideally, this frame will have no young larvae (so that the artificial swarm cannot make queen cells from them) and you might prefer to choose a suitable one and then put the queen on it.

6.Fill the new box with foundation or empty drawn comb, put on the queen excluder, supers and roof - and breathe a sigh of relief! You have now created your artificial swarm. (Note that it is better to use some drawn comb because returning bees will have nowhere to store pollen until foundation is drawn and will put it in the supers). Check that they are not building new queen cells after a few days - remove any that are found.

7.If you can't find the queen, proceed as above to stage 5, but then shake or brush all the bees down in front of the new box, remembering not to shake queen cells. Put the old box with the brood and queen cells on top of the new box, queen excluder and supers and leave for a couple of hours. The queen will be down in the new box and young bees will go up through the supers to cover the brood. You can now deal with the old box, which contains the brood, young bees and queen cells. There are a number of ways that this could be used, e.g. split it into nucs (probably up to three), use it as a new colony or allow a new queen to mate and then unite it back to the new box - effectively re-queening the original colony without making increase. For the first option the frames are simply split between 3 nucleus boxes, making sure that there is a good queen cell in each.

For the second and third options:

1.Go through the frames and find a good shaped queen cell, wide rather than long, and with a deeply patterned surface rather than smooth. Choose an unsealed cell so that you can see that there is a healthy larva in it (pearly white floating on the royal jelly). This unsealed cell will not hatch in less than a week and this point is important later.

2.Destroy all other queen cells on the frame with your chosen cell - do not shake the frame, but you can brush off some of the bees gently (use a twist of grass) to ensure that there are no other cells.

3.Shake the bees off the other frames and destroy any queen cells.

4.Close the hive and leave for 7 days.

5.By now the queen cell will be near hatching, but will not have hatched, and there will be a considerable number of flying bees. When the queen hatches and flies to mate, there is a danger that the bees will leave with her and not return - a mating swarm. To prevent this, move the hive now to the other side of the hive containing your artificial swarm. The flying bees will join the artificial swarm, strengthening it, and the new queen will emerge in the weakened colony that will not swarm. When the queen is laying you will have a new colony, but could then kill the queen in the artificial swarm and then unite the two boxes if you did not want to make increase.

Interactions between Nosema microspores and a neonicotinoid weaken honeybees (*Apis mellifera*)

Global pollinators, like honeybees, are declining in abundance and diversity, which can adversely affect natural ecosystems and agriculture. Therefore, we tested the current hypotheses describing honeybee losses as a multifactorial syndrome, by investigating integrative effects of an infectious organism and an insecticide on honeybee health. We demonstrated that the interaction between the microsporidia Nosema and a neonicotinoid (imidacloprid) significantly weakened honeybees. In the short term, the combination of both agents caused the highest individual mortality rates and energetic stress. By quantifying the strength of immunity at both the individual and social levels, we showed that neither the haemocyte number nor the phenoloxidase activity of individuals was affected by the different treatments. However, the activity of glucose oxidase, enabling bees to sterilize colony and brood food, was significantly decreased only by the combination of both factors compared with control, Nosema or imidacloprid groups, suggesting a synergistic interaction and in the long term a higher susceptibility of the colony to pathogens. This provides the first evidences that interaction between an infectious organism and a chemical can also threaten pollinators, interactions that are widely used to eliminate insect pests in integrative pest management.

Pesticide exposure in honey bees results in increased levels of the gut pathogen Nosema

Global pollinator declines have been attributed to habitat destruction, pesticide use, and climate change or some combination of these factors, and managed honey bees, Apis mellifera, are part of worldwide pollinator declines. Here we exposed honey bee colonies during three brood generations to sub-lethal doses of a widely used pesticide, imidacloprid, and then subsequently challenged newly emerged bees with the gut parasite, Nosema spp. The pesticide dosages used were below levels demonstrated to cause effects on longevity or foraging in adult honey bees. Nosema infections increased significantly in the bees from pesticide-treated hives when compared to bees from control hives demonstrating an indirect effect of pesticides on pathogen growth in honey bees. We clearly demonstrate an increase in pathogen growth within individual bees reared in colonies exposed to one of the most widely used pesticides worldwide, imidacloprid, at below levels considered harmful to bees. The finding that individual bees with undetectable levels of the target pesticide, after being reared in a sub-lethal pesticide environment within the colony, had higher Nosema is significant. Interactions between pesticides and pathogens could be a major contributor to increased mortality of honey bee colonies, including col□ony collapse disorder, and other pollinator declines worldwide. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3264871/ (Full Paper)

Joke.

A long time ago, there was a beehive in the middle of an American forest. Every day, as worker bees do, they would go out into their fields, gather pollen from the flowers and bring it back to make honey. The bees had a problem because every so often an intruder would come around, such as a bear that wanted the honey or kids who thought it'd be fun to throw rocks at the hive. Finally, the bees got tired of it. Being the intelligent insects that they are they built an alarm system for the hive. They built it in such a way that one bee pulls a lever which triggers the alarm that the bees will hear in the fields and then the bees can come back to protect their home. There was one bee that was exclusively assigned that job and she was aptly named the "Lever Bee." Her job was to watch for potential adversaries and pull the lever to raise the alarm. Now, obviously, the security of the hive depends on this one Lever Bee. So she has to be constantly ready and on the alert to be able to do her job. And that, friends, is why people say, "I'm as ready as a Lever Bee."

Newcomers to beekeeping

Many people are forced to give up keeping bees with age and as it becomes increasingly difficult to lift those heavy supers full of honey. Others just find the associated chores too much of a hassle to deal with any more. It is very refreshing when we learn of the other side of that coin. We have a father and 4 son team who came to the Introductory course over the winter and acquired a very crowded colony from a commercial beekeeper. They now have two colonies, as (you guessed it) the original colony swarmed. The whole point of this is that the very active new beekeeper father is 81 years old.

Danish Urban Beekeeping

Oliver Maxwell is an odd looking man. He has the gangly frame of a teenager still growing into his limbs; his hair is red and styled in a schoolboy 'basin' cut. We met him one miserable afternoon on a rooftop in downtown Copenhagen. An unusual rendezvous for an interview, though it figures. Oliver is an urban apiarist. Like many expats, this Englishman moved to Denmark for love. He had his third child and three millionth bee last year. Oliver is the director and founder of 'By- Bi' - Danish for Town Bee, a social enterprise that trains refugees and other disadvantaged groups in the art of beekeeping. This year By-Bi will transform a further 25 Red Cross refugees, alcoholics and reforming drug addicts into apiarists. (So that's where beekeepers come from). Frustrated by the apparent lack of productivity of other Danish social enterpris□es, which seemed to border on institutionalization rather than employment, he thought a business with an actual consumable product that workers could see was a far better idea. According to Maxwell the European countryside is becoming a hostile place for hives due to pesticides, intensive agriculture and climate change. He reckons the best conditions for bee-keeping are now in the city. Last year By-Bi man□aged more than a ton of honey from 30 hives. That's an average of nearly 75 lbs per. hive

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June Comment

One of the pleasures of doing this job is the chance to meet and talk with lots of interesting beekeepers who are passionate about their bees. One such person is Kate Atchley, the secretary and driving force at the Lochaber association. Kate, along with Gavin Ramsay, has been working tremendously hard on the Varroa mapping project which has been tracking the spread of Varroa destructor over the past 18 months. She first revealed her results in this magazine last year and, she has now presented us with an update which, as she points out, proves there are still parts of Scotland free of the mite. This is very important research and the Scottish and UK beekeeping fraternity owe her a great debt of thanks. The focus must now be on spreading the message to errant beekeepers of the damage they are causing by their wilful importation of Varroa-infected bees across the country. Their actions are selfish and show scant regard to other, wiser, and more careful beekeepers. Congratulations to Professor David Goulson and his team of Stirling University for their research into the effects of neonicotinoids on bumblebees and the implications it has for other pollen-gathering insects. There is now little doubt that there needs to be a thorough review of the use of these insecticides and inside we have reproduced a very thought□provoking article from the Telegraph on the subject. I had the pleasure of taking part in a Skype conference call with members of the SBA's IT committee recently and, as a trial, it went very well. There are now plans to widen the scope of the SBA's activity on Skype with the aim of calling more meetings via the internet. This will save the SBA money, save member's time and also broaden the scope of the meetings to SBA members who live outwith central Scotland. Using other forms of internet media, such as Twitter and Facebook, as well as putting more news items onto the website, was also discussed and Gavin Ramsay has started a thread on the SBA Forum on the merits of social networking, so please, if you wish to input your thoughts, get in touch with me or at the Forum.

Bees and Plants

The beekeeper scratches his head totally perplexed. A few moments ago he is having a quiet zizz on a rare sunny afternoon (May 3rd 2 p.m.) when the tranquility is shattered by his son shouting, in a dramatic much exaggerated tone, that ‘’the bees are on the attack’’! The sound of swarming bees fills the warming air as they fly past the sitting room window like a black snowstorm before landing on the low Flowering Currant (Ribes) bush. Just as the beekeeper is about to shake the swarm into a spare empty hive they peel off and fly back home again. The colony was inspected five days previously and no queen cells were seen but today several swarm cells are present though none sealed. None of the larva present look more than five days old.

Never the less, he divides the colony and nearly expires in the heat having forgotten to discard his ‘’thermals’’ in the excitement and the temperature rises to about 18 degrees centigrade in the shade during the procedure.

Later he treats himself to a few cups of his special ‘’Russian Caravan’’ tea and writes up his hive notes and journal. This is the earliest swarm on his, seven year, record but he remembers ‘’A swarm in May...’’ and feels a little bit reassured.

However this colony had more spare room than his mother in law in her granny flat and the queen is less than a year old. He turns his attention to the present forage available in dandelion, oilseed rape, and apple blossom and realises how difficult it is for the bees to have a steady income when the temperature see- saws and the nectar stops flowing or dilutes in the driving rain. He feeds the bees a 1/1 sugar syrup and collapses on the sofa. Bees and Plants The Scottish Beekeeper MURRAY FIRTH

Many people want to know what they should plant in their gardens to encourage pollinators and enable themselves to feel that they are doing something useful to save the bees. There is now a burgeoning interest and a plethora of information on the subject as celebrity gardeners become involved in creating wildlife gardens and pollinator-friendly habitats. City and town bees are likely to fare better than rural bees in the long term unless agricultural policy on monoculture crops and lethal insecticide usage changes. ‘’

Plants and Honey Bees their relationships’’by David Aston and Sally Bucknall (Northern Bee Books, 2004, ISBN 0-393-30879-0) describes the function of plants and their dynamic relationship with bees so that the reader can easily build on the knowledge gained and choose for themselves the plants best suited to their own geographic region. Interestingly, way back in 1879 nature writer Richard Jeffreys includes a short treatise on bees, plants and agriculture in his ‘’Wild Life in a Southern County’’. Jeffreys was the son of an unsuccessful farmer near Swindon who developed a keen interest in the countryside and writing about it.

Readers of a certain age may remember ‘’Bevis’’ as statutory reading in English classes. He could hardly be described as a nature lover though since if he wasn’t exactly sure what bird he had just seen he would usually shoot it.

He describes a scene, ‘’The sward, where the shape of the down becomes almost level beside the hedge, is short and sweet and thickly strewn with tiny flowers, to which the bees come settling on the ground so that as you walk you nearly step on them, and they rise from under foot with a shrill angry buzz’’.

He describes how the horses need space to turn at the end of each furrow and the narrow strip of land left is covered in wild flowers. He lists the flowers seen using local names: charlock, wild garlic, convolvulus, pink pimpernel, scarlet poppy, eggs and butter flower and bluebottle, but as he does not use the Linnaean binomial system of classification, we are uncertain as to the identity of some. The latter are impossible to identify though it may be that the poached egg flower is *Limanthis douglasii* originally from California USA and the bluebottle may be cornflower, Centaurea cyanus,.

The other are likely to be: Charlock (wild mustard*), Sinapsis arvensis*, wild garlic (ramsons), Allium ursinum, Pimpernel, Anagallis, scarlett poppy (common poppy), *Papavar rhoeas*, bluebell, Scilla non-scripta, wood anemone (windflower) anemone nemorosa, convolvulus (great bindweed) *Calsytegia sepium*. Jeffries describes the changes in farming methods from dispensing with longhorn cattle in favour of shorthorn cattle and how the former were hardy and remained in the meadow all winter whereas the latter required to be housed more carefully.

He laments the ‘’grubbing’’ up of hedges to make the fields bigger as he sees the value of the shelter for wildlife. Even then beekeeping was changing, ‘’For although these days beekeeping is no longer what it used to be, yet the old-fashioned folk take a deep interest in bees still’’.

The bees are carefully watched and tended and birds such as blue tits with a tendency to snack on bees are shot. However, if they are in the apple trees they will be safe since every pellet may destroy a potential fruit by breaking tender twigs. The farmer may be summoned home from the hayfield to house a swarm in June.

If he is too busy he will send a deputy otherwise he will hurry home himself. The bees are housed in straw skeps sheltered from behind by shrubbery and situated on the edge of the Ha Ha which gives them a clear entrance and exit. Ha Has were common features around country homes giving clear views unimpeded by fences or hedges and protection against animals entering the garden.

They consisted of deep ditches walled on the inside and were called Ha Has because this is supposedly what the French declared when they encountered them. Bees heavily laden with pollen had no obstacle in coming home and were believed to work more energetically.

Jeffries thinks that they certainly seem annoyed if they tangled up in bushes and he advises anyone pursued by angry bees, whose ire is aroused, to thrust themselves into a hedge or bush since the boughs and leaves will baffle the bees!

The older beekeepers were superstitious and if colonies of bees on the sunny side of the orchard decayed and did not swarm but seemed to die off it was seen as an evil omen. Now we look for sunken cell and ropey contents and have to take responsibility ourselves.

Honey, ginger & sultana cake

Now the grim rain of April has passed, we can hope for things to warm up a bit – although we're forecast a mixed May, so it's still woolly jumper weather. Pruning, digging and weeding in the garden and spring jobs in the apiary are all strenuous work though, and there's nothing like a wedge of cake and a cup of builder's tea after a day out in the cold. This honey and ginger cake hits the spot, with the intense zing of the stem ginger and the dense moistness the honey gives.

Ingredients •

8oz (225g) butter • 9oz (250g) clear honey • 3½oz (100g) dark brown sugar • 10½oz (300g) self-raising flour • 2 tsp ginger powder • 3 large eggs, beaten • 2oz (60g) sultana • 8 balls stem ginger, chopped

Directions Preheat the oven to 140ºC (fan), 160ºC (conventional) or regulo 3. Butter and line an 8" (20cm) cake tin (preferably loose-bottomed). In a pan over a low heat, melt the butter with the honey and sugar. When it's all melted, remove from the heat, allow to cool for ten minutes, then beat in the flour, ginger powder and eggs. The resulting mixture will be rather runny. Stir in the raisins and stem ginger, then pour into the prepared tin and bake for 50–60 minutes until risen and golden, and a skewer pushed into the middle comes out clean. Allow to cool a little, then turn out onto a wire rack. Glaze with a little warmed clear honey.

When I found this photograph, it seemed the most appropriate thing for the front cover. After all, we had just come through the wettest April on record and the central heating had been turned off and then back on again. I was getting a bit low on sugar and so took a run to Bookers – just in case. They persuaded me to buy two 15 kg packs of sugar that were slightly damaged and I wondered how I was going to slip them past the present Mrs B.

No problem. The bees ate the lot, and more, during April

Temperatures started to rise and all those little 'stay at home bees' who had been watching repeats of Escape to the Country, suddenly donned their holiday shoes, causing my telephone and a good few other people's to start ringing. There were swarms being reported from every direction and I had people from out of the district phoning me in desperation. Having tried everybody else, I was their last hope and with temperatures in the high 80s Fahrenheit (26°C), this is going to continue. I am not alone. Everybody on the swarm contacts list has the same problem.

Two points come out of this. Firstly, are we adequately preparing newcomers to beekeeping for the inevitable urge of bees to procreate and expand? We most certainly should be, as otherwise we will be filling our immediate area with potentially dangerous swarms. We all know that swarms are not, in themselves, dangerous, but try telling that to Paul Nichols the race horse trainer, who had a swarm attach itself to the end of a stable block in his yard this week, or the lady in Yeovil who had a swarm in her bathroom. We have a responsibility to the people in our areas as well as the bees in (or out of) our hives. I know you will find this hard to credit, but some people are frightened by swarms,

This leads to the second and more important point. European Foul Brood is on the rampage. Please, please be very vigilant when doing your weekly (yes weekly) inspection. 'Let alone beekeeping' is no longer an option. EFB is with us. It walks amongst us. By leaving your bees to their own devices, you could be condemning them. and those of your neighbours, to a premature demise. You have a responsibility to your neighbours, your bees and your neighbours' bees. Of the 281 cases of European Foul Brood confirmed in England this year, 75 are in Somerset. That's 27% of the total. Frightening. The next highest county is Norfolk with 34 cases and then Kent with 28. To me, that speaks absolute volumes. And its spreading northwards at an alarming rate, so watch out.

BEE KEEPERS' QUARTERLY.

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.

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Himalayan Honey Hunter coming home with his crop

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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.

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