



Beetalk

Newsletter of The Blackburn and East Lancashire Branch of
The Lancashire & North West Beekeepers Association
December 2010 www.blackburnbeekeepers.com Registered Charity

COMMITTEE MEMBERS CONTACT DETAILS for 2010—2011

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Philip Ainsworth. Hon. Treas.	0771 3161480	email	philipainsworth@btconnect.com
Vici Winstanley. Hon. Sec.	07827292844	email	vicicoaffee@yahoo.co.uk

MEMBERS SERVICES

Bayvoral - Apiguard - Oxalic Acid -
Thymol - Fumidi 'B'

These Chemicals for treating bees can be obtained from:
David Bush Phone 01200 - 428152
Dave will have them available at beekeeper's meetings.

LIBRARY

There is an extensive range of books on all
aspects of beekeeping that can be borrowed
from the Association library.
Please contact
David Rayner on 01200 426898

MEMBERSHIP

REGISTERED MEMBER. Subscription for the 2011 season will be £20.00

PARTNER MEMBER. This is for partners of registered members living in the same household wishing to keep bees and includes full insurance cover. However they will not receive their own copy of BBKA news. Subscription will be £13.00

COUNTRY MEMBER. This is for people who do not keep bees, but wish to receive BBKA news and attend branch meetings etc. This class of member does not include any insurance cover. Subscription will be £11.00

IMPORTANT INSURANCE NOTICE

Under the new constitution, prompt payment is essential. Basically, payment will be required by the 31st December each year as insurance is now based on the current years membership. New and lapsed members insurance cover will not start until six weeks after paying their subscription.
For insurance purposes subs will need to be promptly, otherwise you will not have third party insurance

SUBS SHOULD BE PAID TO PHILIP AINSWORTH HON. TREASURER Phone 07713161480

Address :::::: Phil Ainsworth Riverside Cottage Potters :Lane Samlesbury Preston PR5 0UE

Association Swarm Catchers.

A small charge is made to collect swarms to cover expenses which is up to the discretion of the individual collector.

BLACKBURN, DARWEN, ACCRINGTON, MELLOR, PRESTON, ROSSENDALE AREAS

Bob Fulton

Telephone 01254-772780
E Mail:::: home.brew@talktalk.net

CLITHEROE AND SURROUNDING AREAS

John Zamorski

Telephone 01200-427661
E Mail::::: john@johnzamorski.wanadoo.co.uk

David Bush,

Telephone 01200 428152
Email :::david.bush2@talktalk.net

BURNLEY, NELSON AND SURROUNDING AREAS

Bill Ainsworth

Telephone 01282-614015
E Mail::::: billscotroad@o2.co.uk

Please feel free to ring any of the above in your area and they will do their best to sort out the problem.

Swarm collectors will not come out to Bumble Bees and Wasp problems

FUTURE BRANCH MEETINGS

Reminder to all committee members. Meetings marked * are also committee meetings which will start one hour before the main meeting.

The program for the meetings as not been finalised as yet. When all is arranged I will put it on the web site at www.blackburnbeekeepers.com under the events page.

We will, where possible open hives so bring along your protective clothing just in case.

DISCLAIMER

The views expressed in any of the articles in 'Bee Talk' represent the personal opinions of the Contributors and in no way should they be regarded as the official opinions or views of the 'Lancashire & North West Beekeepers Association' nor of our local Branch of this association 'The Blackburn & East Lancashire Branch'

For Sale Protective Clothing

1. Cotton Bee Protective Boiler Suits all sizes a bargain at £20 each
2. Net Veils that need to be fitted onto a hat at £3 each
3. Box of thin but very strong gloves at £3 for a box of 50 pairs

These are available by ringing Bob Fulton on 01254-772780

3. Available from Early March 2011 Fitted Veil at £15.
- All in all if you buy the protective Suit, Veil and Gloves you will have yourself fully protected at a cost of £35 compared to something like £85 to £100 from other suppliers.

Sugar and Candy

20 kilo Buckets at £12

10 Kilo Buckets at £6

1 Kilo Bags at 60p

Candy Sticks at 30p per stick

These are available by ringing David Bush on

01200-428152

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.

From EH Thorne's online catalogue 2010 - other sources are available



What's in the Honey Pot

A few snippets of news and information that may be of use to you



That's because your email address doesn't work

Editorial

Our membership secretary reports that several members' email addresses no longer work and emails are bounced straight back at him by the "mailer-daemon". If you've been feeling neglected by your Association lately, please check that we have your correct email address. You can rectify this problem, if it applies to you, by emailing Michael Birt at webmaster@blackburnbeekeepers.com

Well everyone, another season over. Some of us have had a good year and some of us not. I guess that's how it goes in the beekeeping world as it all depends on a few factors. Nosema has taken its toll on a few of our members and gave them a bad start. Lots of us were also caught out with the season itself. It started off great and the bees did very well, too well really as the hives were chocker block full of bees and honey. Then the bad weather came and the bees could not get out so they did what all hungry bees did, they eat the lot and some of us ended up with bees that were starving. The weather then again turned really good and the bees started to swarm. Some of our members had swarms in mid to late September. What was strange is that when they looked into the old hive the new queen had been mated so there must have been drones flying. All this late in the season. Beekeeping in the UK is such a trial sometimes and this year has been no exception, but that's why it's such a fantastic hobby.

On the club side. Our vice chairman Bill Ainsworth, Bill who has been on the committee and held high office with the club for as long as I can remember as called it a day. Bill used to be the editor of Beetalk for over 10 years and brought it, along with the club from a small band of beekeepers into what we are today. If you look back amongst the older experienced members of our club, I do not think there is anyone who has not had a hand up from our Bill. He will be sadly missed by myself and many others of us, but he will continue to be a member and will always be there for us. So thank you Bill and that mate comes from the bottom of my heart.

John Zamorski has also finished as the Honourable Secretary and now becomes the Vice Chairman and Disease Liaison Officer. The person who has taken over as Hon Secretary is Vici Winstanley, a fairly new beekeeper but a young lady with plenty of go, who I am sure will be as great an asset to our club that John has been over the years. I would like to thank John on behalf of us all, all the best wishes and thank you for everything, and to Vici great to have you on board and I am sure you will carry on John's great work. Both John and Vici have added a few words of their own which appears further in this addition.

Pauline Roberts has also stepped down as the Program Secretary. Again Pauline has been a stalwart for our Club and has done a really great job for us. Our new program secretary is Dennis Lee who I am sure will get us some good speakers knocked up. Again thanks to Pauline for all she has done for us all.

On the venue side it has been decided that all future meetings are to be held at Towneley Hall, Burnley. A great venue for our meetings and we have a few hives there so that we will, if the conditions are right be able to go into the bees more often. There will be a small charge for parking up and also we will have to buy a coffee, but seeing that we are getting the venue for free, I feel it's a small price to pay for such a great venue.

The Honey show was great success and the entries, according to the judge as good as any show he had ever judged, so well done to everyone who entered, along with Caroline and the team for putting on a first class show.

Our membership has continued to grow, with many new beekeepers who have never kept bees before. We now have a mentoring system in place. Also Bob Fulton is doing a course for very basic beginners. It's more or less for the people who know nothing or very little about beekeeping and it is hoped that when the course is finished, the participants will be able to handle bees with confidence and then go on to further courses which are more advanced. Bob's Telephone number is 01254-772780.

Dave Rayner is also running courses and Dave can be contacted on 01200 426898 or by e-mail at davidrayner1@yahoo.co.uk

Well that's about it for this time. Hope you all have a very merry Christmas and all the best wishes to you all for the new year. Hope to see you all back in the UK about April time

Michael

Messages

How time flies and its that time again to take this opportunity of wishing you all a very Merry Christmas and a Happy New Year and look forward to meeting you all at meetings throughout 2011 Why not take time to wish your bees the seasons greetings which is a custom in some mid-European countries around Serbia..... and it seems to have good results.

So again ..seasons greetings

Brian (Chairman)

Secretaries Report 2010

2010 has been a busy year for Blackburn Branch. Nationally the interest in beekeeping has continued to grow as has the membership. Meetings all year have been very well supported and in most cases we have struggled to seat everyone and park cars. It is for this reason the plan for next year is to hold the meetings at Towneley Hall in Burnley where there will be ample room and also access to the bees on a regular basis. Although we have had well attended meetings and great speakers there have been very few actual hive openings. Hopefully this will be better next year.

I was unable to attend the Annual Dinner because of illness but had great reports from it. We are looking to change the venue next year so more people can be catered for. The annual Bar-Bee-Que was nearly a washout with torrential rain and wind but we soldiered on and it was a great day. Angela's puddings went down a treat as usual. The honey show was very well attended and it was great to see so many new people taking prizes. We had over 100 entries this year which is fantastic.

Once again I would like to thank everyone who has helped to make this another great year. To allow us all into your homes is a great honour. Also to everyone who has supported me during the last seven years as secretary. I would like to wish my successor, Vici Winstanley, good luck and also my support.

John Zamorski

The Last Post

Here is my last communication as Secretary. I have seen many changes to the Branch since I started seven years ago. One of the biggest changes was the moving of the club magazine, "Beetalk" on to the internet. This was done because the club could not continue to cover the high cost of production. We are very lucky to still have it and looking at the number of visits counter it is very popular.

Almost everything that goes in it is sourced and entered by our webmaster, Michael. The membership does not contribute enough articles for this. Beetalk is a magazine for the club and one person should not have to do all the work. Please think about putting something in an email to him about your experiences or questions. There are lots of problems out there and you may think your question is silly but believe me it won't be. There will be others out there who will have wanted to ask the same question but were afraid to ask. In my early days as a beekeeper we did not have Varroa or CCD and compared to today beekeeping was relatively easy. Disasters such as these mean beekeepers need to be more vigilant and keep up to date with all sorts of treatments and practices. The public interest in the plight of the Honey Bee has led to an enormous surge of interest in the hobby. Membership of our Branch has effectively doubled in the last five years. The Branch now has many new and younger members and we need to change with the times. More opportunities for training, new venues for meetings, top class speakers and interesting subjects need to be sorted. Holding the position of Secretary for seven years is too long. New ideas are needed and this is the main reason for my decision to resign. I have many commitments next year and do not think I can devote the time needed to continue. At the AGM you voted to have Vici Winstanley as your new Secretary. I am really pleased because I think she will do a great job and will be a great asset to us. She has my full support and I am sure you will all do the same. Once again I would like to say thank you to everyone for your support and look forward to the new season.

John Zamorski

A Few Words From Our New Secretary.

I am delighted to take on the role as secretary and aim to continue to support the committee in meeting the needs of our members. A little about me, Alistair my partner and I were bitten by the beekeeping bug two years ago and currently have 5 hives. Along with the sheep, chickens, geese, dogs and allotment .

I fit a day time job in as a
Employee Relations Specialist for a finance company.

My first challenge will be to ensure that the mentor scheme is up and running in the next few months so we can share the vast knowledge and experience we have as a association.

On a final note I am sure the committee will agree with me that John Zamorski has done a fantastic job as Secretary over the last 7 years and I will certainly be picking his brains over the coming months.

Looking forward to the year ahead, once we have got through the cold, wintry weather brrrrrrrrrrr!



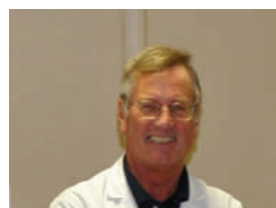
Brian Jackson



Vici Winstanley



Michael Birt



John Zamorski



Phil Ainsworth



Caroline Coughlin



Dave Rayner



Bob Fulton



Alistair McLean

A Few of your officials



*On Behalf of all the Committee
We wish to thank everyone who worked and helped
to make the 2010 season a really good
one.*

*Hoping that you all have a lovely Christmas and
that 2011 will bring peace and happiness and lots
of great things with your bees.*



Bar-Bee-Q 2010

On Sunday 19th September I woke up to horrendous rain and gusty winds. Not looking too good for the annual Barbie. I contacted David Bush and we both went out to Angela's in the morning to put up some sort of shelter to help keep the rain off us. Lynne had a few telephone calls while I was away asking if it was still on. Anyway around 30 hardy souls attended which is down on most years but I still thought it was a good turnout considering the weather. I was very lucky to have the fantastic help from Simon Halliday who got there early and set up his Barbie and then cooked all the food. Very good it was too. Made a great change for me not to be the chef. Simon had very kindly offered me the use of his equipment and ended up doing all the cooking. I think he spent most of the afternoon

pondering why he got the job. Thanks Simon, maybe next year as well please! There was a bit of a mess up with the car parking arrangements because with all the hassle getting up the shelters we forgot to put up any signs and of course there were people new to the event who had a problem finding us. When I did the cooking it was easy to find because my burnt food made lots of smoke. (Take note Simon) You can see from the photographs that it was a bit miserable, cold and wet but the company was great and the fighting beekeeping spirit got us through. Nice hot burgers and sausages went down a treat as did Angela's puddings. Thanks must go to Angela and Rob for their hospitality and the use of their house and garden and also again to Simon for a job well done



Simon doing a great job with the Food



A few of our members getting tucked in



Inside where all the puddings are



No rain can keep us down

Well done to everyone who attended and everyone who made the day a great success. It seemed hard work but well worth all the effort.

Honey Show Report for 2010

The 2010 Annual Branch Honey Show took place at Salmesbury War Memorial Hall, on Sunday 3rd October and was a resounding success.

The Judge was Mr. John Goodwin from Cheshire, who was delighted at the overall number of exhibits and the high calibre shown. His comments will help to improve the standards of both the exhibits and of our branch Honey Show in the future.

There were 113 exhibits from 25 entrants, (a significant increase on 2009) and over 60 people attended.

During the show, Helen Haworth spoke about “Honeybee Friendly Plants in the Garden” and explained to the audience how to make up pollen slides. Helen then gave people the opportunity to look at the different types of pollen under the microscope and led a quiz on Honeybee Friendly Plants. A general question and answer session then took place with Bill Ainsworth and Michael Birt.

There was a selection of stalls where beekeeping accessories, equipment, and chemicals could be purchased, along with an area for the association library where books could be borrowed.

The winners of each class were as follows : -

Class	1	Light Honey	John Zamorski
	2	Medium Honey	John Zamorski
	3	Dark Honey	No Entries
	4	Ling Heather Honey	No Entries
	5	Naturally Crystallised Honey	John Zamorski
	6	Soft Set Honey	No Prize Awarded
	7	Honey Gathered in 2010	Alistair McLean
	8	Novice Class	Victoria Winstanley
	9	“Blacked Out” Jar (Best Taste)	Victoria Winstanley
	10	Frame of Honey Comb	Chris Carey
	11	Beeswax Cake	John Zamorski
	12	Beeswax Candle	John Zamorski
	13	Wax Craft Exhibit	John Zamorski
	14	Mead	Bob Fulton
	15	Honey Fruit Cake	Wendy Leeming
	16	Honey Fudge	Ron Dempster
	17	Honey Desert	Annette Hawkins
	18	Photographic Print	Annette Hawkins

The Ken Preedy Memorial Cup for the “Best Exhibit in Show” was awarded to the winner of the very competitive class of Honey Gathered in 2010, and was exhibited by Alistair McLean.

The Challenge Cup was awarded to John Zamorski for the “Most Points in the Show”.

Besides the 6 classes he won, (John won 7 classes last year – so watch out John the rest are gaining !) John also came 2nd & 3rd in a number of other classes.

The Ken Gaiger Education Shield for the “Best Results in the Basic Beekeeping Examination” went to Paul Keighley.

The Ken Gaiger Memorial Trophy for the “Most Improved Beekeeper” was awarded to Gill Wright in recognition of the further beekeeping courses (including microscopy) which she has completed since embarking on an introductory beekeeping course in 2009, and also for the additional mentoring support she has given to new beekeepers in both Lancashire and Manchester.

Congratulations go to all of the winners, and thank you to all of the exhibitors for the time and commitment put into showing, as the Branch Honey Show would not be possible without your continued support.

Special thanks go to Lynne Zamorski, Angela Bush and Saipin Birt who served the refreshments and snacks available throughout the afternoon.

Thanks must also go to Phil Ainsworth for helping to set up the rooms and tidying up after we had all finished using the facilities at Salmesbury War Memorial Hall.

Once again, congratulations go to all of the successful prize winners.

Caroline Coughlin.
Honey Show Secretary

Some Pictures of the Honey Show



Jean and Vici enjoying themselves



Some of the cakes on display



Some of the Honey Exhibits



More Exhibits



Some blacked out exhibits



Some nice frames of honey



Some nice wax exhibits



Lovely Pictures



John Zamorski our local Bee Inspector



The Show Room



Our Judge, John Goodwin, Caroline the Honey Show Secretary and John Zamorski the Steward



A great turn out for the show



Brian our Chairman doing the introductions



Philip our Treasurer with the ladies in the kitchen



Helen doing her great talk



Question and answer time



Maybe a future Beekeeper



The prize giving begins



John receiving his certificate



Alistair receiving his certificate



Vici receiving her certificate



Chris receiving his certificate



Bob receiving his certificate



Wendy receiving her certificate



Bill receiving his certificate



Annette receiving her certificate



John receiving his cup



Alistair receiving his cup



Caroline presenting John with a couple of bottles



Our Chairman reading a lovely poem

BEGINNER'S PAGES

WINTER

Once temperatures have dropped consistently below 55F, the bees will enter a dormant state. Flying will cease and they will group together in a ball, occupying cells in the centre of the nest, left empty of stores for the purpose. This is known as the winter cluster. The bees are not hibernating, in the way queen wasps and bumblebees do and there is always some activity. The temperature in the cluster bears little correlation to the outside temperature, and ranges from about 45F in the dense, insulating outside layer of bees, to 75F in the centre of the cluster. The bees here are more loosely packed and are more active, thus

generating the heat. (When brood rearing starts early in the new year, the temperature around the brood will be maintained at about 95F) To do this they must be in constant contact with their honey stores. On milder days they are able to move around and relocate the cluster, and a large cluster can move around at will, due to its superior heat producing capacity. The bees expand and contract the cluster, according to the temperature. When it is really cold the bees on the outside may be unable to maintain their grip and so fall off and die but generally they stay just warm enough to cling on. The bigger the cluster the better able it is to maintain an even temperature in the brood nest and any interference disturbs this equilibrium. Sudden changes of temperature lead to increased activity, this means increased food consumption and possible dysentery if it is too cold for cleansing flights to take place. From now until Spring only disturb the bees if absolutely essential.

*** (See below for a reference to a comprehensive study of the winter cluster)*

MONTH BY MONTH

November

Mouse guards should be in place and the hives secure and watertight for the winter. Bees may still fly on mild days but are generally quiescent. All feeding should have been completed by now. Do not give any more syrup now, as it is unlikely to be ripened and fermentation from the extra water content may cause problems. Candy may be given later on if needed, but should be unnecessary until the new year. A block of about 2lbs can be put over the feed hole in the crown board. This should fit under the roof, but a shallow eke (as used for Apiguard) will give extra room. Put the candy in a shallow plastic tub, or cover with cling film or similar, to prevent it drying out. Occasionally the cluster becomes isolated on one side of the hive, unable to reach the remaining stores. A central block of candy will provide a 'food bridge', enabling them to cross over. If you have spare drawn comb, especially brood comb, that needs storing, beware of the ravages of wax moth. Older books recommend P.D.B. (Paradichlorobenzene) as a preventative measure. This is now strongly suspected of being carcinogenic and is no longer available. It contaminates the wax and honey **and it is illegal to use it**. Believe it or not, beekeepers have been known to use ordinary mothballs – these are equally nasty and illegal! Freeze combs before storage (this kills all stages of waxmoth) and keep them somewhere moth tight. Another organic remedy is 'Certan', which contains *Bacillus thuringiensis var 25 aizawai* which kills waxmoth larvae. Spray it on both sides of the comb, allow to dry and store in a moth tight way..

December.

This is the best month to treat with Oxalic acid. If for any reason you were unable to use Apiguard in the late summer, oxalic acid will kill phoretic mites in the now broodless colony. (It does not penetrate sealed brood) Follow the instructions carefully and take all precautions oxalic acid is not nice stuff. There is a demonstration of the trickling method at Claro Bees on Dec. 4th at 10:45 approx. Apart from this, leave the bees alone, but visit regularly to make sure hives are upright and waterproof. Dry cold will not bother the bees, but damp can be fatal. Mouse guards will keep out mice but maybe not rats. Look out for signs of determined gnawing at the hive entrance. If it is too cold, bees cannot defend themselves, and rats will destroy an entire hive-bees, woodwork, wax, the lot! Put small wire-netting around the hive-this will also deter woodpeckers, if these are a problem in your area. Make up some spare equipment, **before** it is needed for swarm control in the spring. The minimum you need is a deep box plus frames and a split board*. A complete hive is much better. One thing the books never mention is that you need at least one spare hive for every colony you have-and probably more!

January.

Sometime this month the queen will start laying a few eggs daily. Food consumption will gradually increase as there is more and more brood to care for. If the bees are known to be short of stores for any reason, a 2lb block of candy placed over the feed hole, under the roof, (see above) and replaced when necessary, will keep them going until syrup can be given in warmer weather. If it snows, keep the entrance clear, and also clear away any dead bees that have accumulated there. Sometimes hives have to be moved around inside the apiary, and this can be done during a good spell of frosty weather, without many bees

returning to their original site. They can also be driven to a different apiary if essential, but do it as gently as you can!

February

As for January. Watch at the entrance on a mild day. Pollen going in is a reassuring sign that brood is being raised. Water is needed to dilute honey to be used as baby bee food. Provide a drinker a few yards from the hive, so bees do not have to fly too far with a crop full of cold water.

**A split board or entrance board, looks like a crown board with no feed holes and a small piece taken out of one edge to make an entrance. It is used to split a colony in two, whilst keeping it under one roof.*

****THE THERMOLOGY OF WINTERING HONEY BEE COLONY**

By CHARLES D. OWENS, Agricultural Engineering Research Division, Agricultural Research Service.

With thanks to Harrogate and Ripon BKA and e-bees

WHAT ARE THOSE QUEEN CELLS?

Queen cells in the colony need attention at any time of year, but what you do depends on the type of queen cell. They are

produced under three impulses- Swarming, Emergency and Supersedure. You must also know the stage of their development. An unsealed queen cell has an obvious bed of white 'royal jelly'. These are the best ones to keep as you know they are occupied by a larva. A sealed queen cell can sometimes be empty, so there is always a risk in leaving just one. A hatched queen cell is often resealed by the bees, sometimes with a greedy worker inside, eating the remnants of the royal jelly. It will reopen easily if the seal is tested with a pin.

Swarm cells are generally found at any time from April onwards. They are usually built around the edges of the frames and in any pop holes. There may be a great many of them and they are produced in purpose built queen-cups. They hang down vertically. As soon as you find them take the appropriate swarm control measures. If the queen is a very good one you could use surplus cells to raise extra queens in mating nucs, but remember that they are from a swarmy strain of bee. Swarming is generally over by the end of July, but it is not uncommon for a colony with a very prolific new queen to out grow its accommodation and throw a swarm. New queens are otherwise unlikely to swarm.

Emergency queen cells are produced when a queen is lost for any reason (often beekeeper error, but sometimes inexplicable) These are produced from young larvae anywhere on the face of the comb and may be numerous. They project from the face of the comb before turning downwards. Because the larvae chosen may be older than the optimum age they may not be fed so well on royal jelly and therefore the queens produced may also be inferior. Remove any very small cells and try to leave a large, unsealed one. If they are all sealed the safest thing to do is leave the two best ones and hope no casting occurs.

Supersedure queen cells. Supersedure occurs when the bees feel that their queen is failing and try to replace her. This failure may not be obvious to the beekeeper, but is a case when the bees know best. If you remove the cells, almost always, more will be built. If you persist in removing cells into the autumn, any virgin that does hatch will have no drones to mate with, and the old queen may well die over the winter. Supersedure cells are found on the face of the comb and usually only two or three are produced. They are started in queen cups, so hang down vertically, are very well fed, and the subsequent queens are usually of high quality. Supersedure often happens at the back end of the year, and the first you know about it is finding an unmarked queen in the spring. You may though, see two queens laying on the same comb in the autumn, the only time this occurs. The old queen will eventually disappear. Supersedure can also happen by accident. I had a colony with many swarm cells, that I thought had already swarmed, and split the brood into three nucs, each with a queen cell. However, at the next inspection, in one of the nuc boxes, I found the old queen and next to her, her new daughter both happily laying away. This new queen was raised from a swarm cell, not a supersedure cell. I have also read several accounts of this as being a good way to requeen an aggressive colony. Take an advanced sealed queen cell from a good tempered colony. Protect it in a queen cell cage or simply wrap the sides of the cell in foil. Place it between two brood combs and keep your fingers crossed. Apparently, more often than not, the new queen will supersede the old one. The old queen would have to be marked for you to be sure supersedure had (or hadn't) taken place.



*Left: A hatched queen cell.
Centre: A sealed queen cell-or is it a re-sealed queen cell?
Right: A torn down queen cell*

With thanks to Harrogate and Ripon BKA and of course e-bees

Information from “BEEBASE” on Nosema

Two *Nosema* species have been identified in honey bees in England and Wales, *Nosema apis* and more recently the Asian species *Nosema ceranae*. Both are highly specialised parasitic Micro Sporidian fungal pathogens. *Nosema spp.* Invade the digestive cells lining the mid-gut of the bee, there they multiply rapidly and within a few days the cells are packed with spores, the resting stage of the parasite. When the host cell ruptures, it sheds the spores into the gut where they accumulate in masses, to be later excreted by the bees. If spores from the excreta are picked up and swallowed by another bee, they can germinate and once more become active, starting another round of infection and multiplication.

Symptoms of Nosema

There are no outward symptoms of the disease. Dysentery is often seen in association with *N. apis* infections; this may be seen as ‘spotting’ at the hive entrance or across the frames. The dysentery is not caused by the pathogen, but as a consequence of infection and can be exacerbated during periods of prolonged confinement during inclement weather, especially during the spring. This can lead to the bees being forced to defecate in the hive, therefore contaminating it further. In Spain it has been reported that *N. ceranae* infections are characterised by a progressive reduction in the number of bees in a colony until the point of collapse. The beekeeper may also see a significant decline in colony productivity. In the final phase of decline, secondary diseases frequently appear, including chalk brood and American foul brood. Eventually the affected colonies contain insufficient bees to carry out basic colony tasks and they collapse. Mortality in front of the hives is not a frequent symptom of *N. ceranae* infection. Dysentery and visible adult bee mortality in front of the hives are reported to be absent in *N. ceranae* infections. Dwindling can sometimes be rapid or take place over several months. *Nosema* is readily spread through the use of contaminated combs. The spores can remain viable for up to a year, it is therefore important not to transfer contaminated combs between colonies and as always to practice good husbandry and apiary management, maintaining vigorous, healthy stocks, which are better able to withstand infestations.

Diagnosis and Treatment

The simplest method of diagnosis of infections is by microscopic examination. Both *N. apis* and *N. ceranae* can be identified in adult bee samples using a standard adult disease screen - under the light microscope the spores of *N. apis* and *N. ceranae* appear as white/green, rice shaped bodies. However, both species are virtually identical when viewed using conventional microscopy, but can be distinguished by an expert eye. However, more accurate discriminatory tests are available which detect differences between the two species using genetic methods. Currently treatment with the antibiotic Fumidil B available in the UK is an effective control against both *Nosema* species. As with all medicines ensure that the label instructions are followed.



The gut of the honeybee is shown distended due to *Nosema* infection

Further Information

- Nosemosis of the Honey bee, OIE Terrestrial Manual 2008

- Bee Craft article: *Nosema ceranae*, Jan 2008

What can the beekeeper do?

- Avoid moving combs (especially brood) between colonies
- Move colonies after dusk and ventilate, to reduce stress
 - Consider sterilising stored combs with acetic acid
- Suspect *Nosema* if you find streaks of dysentery on the hive front
- Collect a sample of bees from each colony to check for *Nosema* under a high power microscope (x400)

Thanks to North Staffordshire BKA and e-bees

"British Beekeepers' Association to stop endorsing bee-killing pesticides"
The Guardian - Wednesday November 17 2010 by Alison Benjamin:

Beekeepers' group ends commercial relationship with pesticide manufacturer whose product killed bees.

The British Beekeepers' Association has today announced plans to end its controversial practice of endorsing pesticides in return for cash from leading chemical manufacturers.

The endorsement of four products as "bee-friendly" in return for £17,500 a year caused outrage among many beekeepers because one of the companies, Bayer Crop Science makes pesticides that are widely implicated in the deaths of honeybees worldwide.

But the BBKA denies that it has bowed to pressure from members who have been increasingly critical of its stance. Bayer's clothianidin was identified as causing the death of two-thirds of honeybees in southern Germany in 2008.

In a statement sent out today to the secretaries of local beekeeping associations across the UK, the BBKA's president, Martin Smith, said: "Following discussion with the companies involved, the BBKA trustees have decided that endorsement and related product-specific payments will cease as soon as practically possible."

He added: "The four products subject to BBKA endorsement are of declining commercial importance and the development of new classes of pesticides and application techniques means that the relationship with the plant-protection industry should be reviewed."

Beekeeper Graham White, who resigned from the BBKA more than two years ago in protest at what he called a "secret deal done with the pesticide manufacturers whose products are lethal to bees", welcomed today's decision.

"It's great news, but it's too little, too late," he said. "They should have been showing solidarity with beekeepers in France, Germany, Italy and Slovenia when pesticides were banned there after being implicated in bee deaths, instead of selling their logo to the manufacturers."

Smith defended its position then as one of "constructive engagement" to ensure pesticides were properly applied as per the instructions on the label to minimise damage to honeybees.

The BBKA's position has polarised the 45,000-strong beekeeping community, but the majority of BBKA members upheld its policy at its annual delegate meeting earlier this year and in 2009.

At the next meeting in January, delegates will be asked to note today's decision "with respect to the cessation of BBKA endorsement of certain pesticides".

But the organisation has not ruled out accepting funds in the future from pesticide companies. "The trustees may wish to invite companies to exhibit at the BBKA's spring convention or make a contribution to the BBKA research fund," said Smith.

"It is time to broaden the range of engagement with the crop-protection industry beyond the narrow focus of endorsing certain products; rather to contribute more directly to the development of new regulatory criteria for pesticide approval and to further support the industry in the general move to improve countryside stewardship," he added.

White says all ties to the pesticide industry should be immediately severed. "All of those who created and directed this policy of pesticide endorsement must be thrown out of the BBKA and replaced by real beekeepers. The BBKA is not fit for purpose and will never recover its moral integrity until it is reconstituted as a pure beekeeping organisation that is willing to campaign against all use of systemic pesticides on British farms."

The Usefulness Of Internet Information.

Many beginning beekeepers use the internet as their first port of call when looking for information, but all beekeepers use the internet at some time or other. This can give some misleading information to the unwary as, indeed, can many books and research papers which can sometimes give a narrowly focused view.

Let me explain that bee research is carried out in many different parts of the world, mainly using the bees that are locally available to the researchers. Bees are not all the same, all races have different characteristics and behaviour and exist in various degrees of racial purity, so information gathered and conclusions drawn in any particular study cannot be applied universally to all other bees and circumstances.

The UK and Ireland have a population that contains a large proportion of Dark European Honey Bee genes and as such are very different in behaviour to the majority of bees commonly studied by scientists, so we have to be particularly careful about interpreting and applying information that we read in books and gather from the internet.

When reading papers and books you should try to fix in your mind where the bees concerned were and what racial type they may have been. For instance, in USA the bees are generally a mixture of Italian and Carniolan types, with less than three percent Dark European Honey Bee genes; parts of Germany can be Carniolan or Dark European; Slovenia and Czech Republic are almost exclusively Carniolan – and many parts of South America are Africanised.

There is another problem with online information, in that the internet is not policed, so Joe beekeeper can promote his favourite theory just as easily as a university researcher can publish genuine research. There are no checks as to whether the information is right or wrong so that someone who is a glib writer may easily promote misinformation just as easily as accurate data.

Books pose other, additional problems in interpretation... During the period either side of year 1900, many of the beekeeping authors were members of the clergy, some of whom imparted a religious or moral 'spin' to their information. However the main problem with books is the propagation of inaccurate information, which in turn is repeated in subsequent books written by others that have done their learning from the earlier books. The fact that said piece of inaccurate information occurs in several books then lends weight for such information to be believed.

There is another tendency with belief of printed texts and that is that 'it must be true because it has been published'.

I cannot give you any method of sorting the wheat from the chaff other than by improving your own education on bee matters. The best way of achieving this is by attending, meetings, lectures and conferences and getting to know the researchers and lecturers themselves, so that you can ask them direct questions.

This requires an investment in time and sometimes incurs travel costs, but over a few years you will gain enough knowledge to make sensible judgment on what you are reading. This process is also fun and you will

meet many beekeepers in the process. I visit many conferences every year. I also get to meet many beekeepers as I also do a bit of lecturing. I have thoroughly enjoyed the last ten years, during which I have attended hundreds of conferences and have met thousands of beekeepers from all over the world. I hope you all get as much enjoyment from your own self education as I have had during mine.

~ Dave Cushman

Honey Bee Venom a Potential Medical Breakthrough

Honey bee venom is showing promise as potential treatment for conditions as varied as depression, dementia and even muscular dystrophy, according to new research.

The toxin apamin, found in the venom of honey-making bees, might hold the key to alleviating symptoms of certain disorders because of its ability to block the release of potassium from the nerves, which in turn makes those nerves 'hyperexcitable' according to the Journal of Biological Chemistry study authors.

That heightened energy level can cause the creative juices to flow more readily and improve the brain's ability to learn, which may have positive implications in treating patients with dementia or depression, the findings showed.

An injection of apamin was also found to help the symptoms of myotonic muscular dystrophy.

"I am very enthusiastic about the results of our study," said author Vincent Seutin, a neurosciences professor at the University of Liege in Belgium. "With the help of this piece of information, the targeting of these channels for the development of future drugs has been made easier."

Seutin was a member of one of the two teams of Belgian scientists - the other at the University of Bristol - who jointly studied the effects of apamin on the KCa2, or SK potassium ion channels. When blocked, those channels stopped allowing potassium into the system, which ultimately invigorated nerves in the brain that could theoretically make people suffering from depression and dementia feel better.

AOL Medical Advisory Board member Dr. Daniel Carlat, a Massachusetts psychiatrist and mental health expert, said the study is one of many examining how neurotransmission works on the brain.

"In psychiatry we're always searching for another course of action for depression, dementia and any of the disorders we're treating" Carlat told AOL Health. "Hopefully the next stage would be for these or other researchers to create some medication that can actually be taken by humans and does not have many side effects."

But though the findings are hopeful, Carlat warned that a drug using apamin to treat depression, dementia and other nervous-system-based syndromes is probably a decade or two away from becoming a reality.

Previously, the way in which apamin works hadn't been well understood.

The Belgian researchers, who used computer models for the study, were surprised to find that an injection of the bee venom compound caused the ion channels to change shape.

Drugs formulated with or based on the properties of apamin could mimic its effects on those potassium passageways and help people manage neural and muscular conditions, they concluded.

"Our findings have provided a new approach to designing a therapeutic agent that could help with the treatment of a number of conditions," said another study author, Professor Neil Marrion from the University of Bristol's physiology and pharmacology department. "Drug design depends on knowing the target."

I myself, Along with some very clever people, have been carrying out some research over in Thailand with Bee Venom therapy with great results on arthritis, high blood pressure and diabetes.

Its not just a case of getting the bees to sting you or just getting stung. Its more to do with acupuncture points and knowing where to be stung in relation to your illness.

ED

Some food for thought this is a situation we should all be watching and be wary of.

It will not have escaped your notice that there has been an upsurge of interest in bees and beekeeping among the general public. Some of those 'newbie's', who are starting from a very low beekeeping knowledge base, may be easily led by fringe attitudes and 'quick fix' methods such as may be readily found on the Internet. This fertile ground has been seized upon by those with axes to grind or who have their own pet theories. As a result, there is a growing swell of support for 'let alone bee keeping methods', and weird and unusual hive types (some of which are quite bizarre). In parallel with this there is a strong undercurrent of 'all

chemicals, treatments and bee management are bad'. If that were not enough, no selection is applied to breeding and the bees are left to raise whatever replacement queens are required and to survive or fail according to circumstances. If any treatment or intervention is required, it often bears more resemblance to astrology or alchemy than anything that is based on science.

My concerns are for the new beekeepers and many of their beekeeping neighbours. The newbie's are being led along a path that is not well founded in beekeeping knowledge. They may never be able to learn very much about bees if the methods used require the hive only to be opened a couple of times a year so that a beekeeper who lacks initial knowledge is operating hives of bees that are rarely inspected or checked for disease. Couple this with a general lack of knowledge about bee diseases and distrust of chemicals and we have a recipe for disease outbreaks. Such a situation is not good either for the newbie's or their neighbours and is grossly unfair to the insects themselves.

At a slight tangent to all of this we also have some ill informed individuals infiltrating email lists and propagating badly formed logic about curing bee-keeping's ailments. This is not usually a problem but in the current climate we have many inexperienced beekeepers who, while they may not be gullible, are nevertheless unable to sort out the wheat from the chaff.

Beekeepers of all types and degrees of experience have a duty to keep their bees healthy and reduce any risks to them, the environment and others as much as possible. I hope my fears are actually not borne out by future reality.

EU increase support for the beekeeping sector

The European Commission has approved on 14 September the national programmes of the 27 Member States to improve the production and marketing of apiculture products for the period 2011-2013. The EU contribution to the financing of the programmes has increased by almost 25% compared to the previous period (2008-2010), from € 26 million to € 32 million per year.

The Commission has decided to increase the overall annual budget allocated for the co-financing of the national programmes for the beekeeping sector to 32 million Euro per year for 2011, 2012 and 2013, compared to the level of EU co-financing that was available during the period 2008-2010 (26 million Euro). This will increase the effectiveness of the programmes and demonstrate the proactive approach of the Commission towards resolving the problems of a highly sensitive sector.

All Member States have communicated their national beekeeping programmes to the Commission. The programmes relate to different measures: Control of varroasis, rationalisation of transhumance, support for laboratories, restocking of hives, applied research programmes and technical assistance. All 27 programmes are eligible for co-financing.

The health of the beekeeping sector is a sensitive issue given the fundamental role of bees for pollination. For several years the sector has been facing an unprecedented mortality of bees. This not only makes the economic situation difficult for beekeepers, but also poses a threat to biodiversity. The national programmes are currently the only tool available to partially offset the loss of bees. Member States have been satisfied with the benefits provided by these programmes and the positive effect of measures funded under national programmes on the sector is also widely recognized by the beekeepers.

How to Get Your Bees Through the Winter

by Rosemary Legge

I was very sorry to hear that so many beekeepers had lost colonies through last winter so I have been asking people who brought them through successfully what they did in the hope that we can all learn something from them. Here is what I learned:

TREAT FOR VARROA

It is absolutely essential that you do this in the autumn because Varroa breeds in the brood cells. In winter there is little brood so the Varroa is more concentrated in the brood cells and will weaken or kill the brood off. That means you will have weak bees in spring which are unable to build up to full strength. Also they will be much more susceptible to other diseases.

Treat them with oxalic acid using the trickle method in January and formic acid on sponges in April.

FEED WELL

As soon as the honey is taken off give them as much thick syrup as they will take down. Try to get that done before the end of September. Always use white sugar - brown is bad for the bees.

Invert syrup seems to be better for them than sugar syrup. The successful beekeepers said they use that in autumn as the bees can process it quicker and are less likely to get dysentery. Invert comes in liquid form so is much easier to use. It does not cost much more than sugar syrup, and when you take into consideration the cost of replacing a colony of bees it is well worth it.

Once the liquid feeding has finished put a block of bakers' fondant or a 2kg damp sugar bag, with holes in the paper, over the feed hole. The feed hole should preferably be in the centre of the hive. If the feed hole is at one side of the crown board position it above the centre frames. Some people put the fondant straight on the brood frames with a small eke and the crown board above that. From New Year onwards check from time to time that there is still some fondant left. You will probably need to put some more on in February.

Feed with syrup from the end of March onwards.

Last winter colonies died of starvation in the spring even though there was fondant over the feed hole because they had eaten up their honey stores in the brood box. Use a contact feeder. When the weather is cold bees will not come up to a rapid feeder to take the syrup. Keep feeding with syrup until the first nectar flow. The syrup will also stimulate the queen to lay so you will be building your colony up ready for honey production in May.

INSULATE THE ROOF SPACE

When you have finished feeding in the autumn put a large sheet of paper over the sugar bag or fondant. This is to prevent the bees getting tangled up in the insulation. Then put on an eke or empty super and fill it with insulation. You can use old blankets and fleeces or roof insulation in old pillow cases. Last winter this seems to have made a huge difference, especially in the colder areas of Scotland.

If the roof space is well insulated you can successfully leave the bees on a mesh floor because they will be able to keep warm even when it is minus 20 degrees centigrade outside. The mesh floor has the advantage of ridding the bees of 20% of Varroa and also providing ventilation which helps keep the colony dry. Bees can die of damp in the hives during the winter.

If you can keep your bees in a place that is sheltered from the wind and where they will get some winter sun that will also help them keep warm and dry. Try not to keep them under trees. They do not like water dripping on the hive roof and it encourages damp conditions.

REQUEEN EVERY TWO YEARS

If your colony goes into the winter with a queen that is more than 2 years old you may find that she does not have the strength to lay enough eggs to build up the colony in the spring. The colony will therefore gradually die out by April or May before you have the chance to raise a new queen. So plan ahead and raise enough new queens or nucs in June ready to re-queen if necessary by the autumn.

I hope this will help people to successfully over-winter their bees. If anyone else has more ideas please do let us all know.

With above article mentioning Fondant for feeding the bees. I thought it would be a good idea to include a recipe for those who do not know to make it up

Fondant recipe - suitable for bee feed

What you'll need:

1X Large saucepan
1 X Hand or electric Mixer
1 X Cooking thermometer
Shallow disposable setting pans (pizza type)

Ingredients (scalable):

4 parts granulated sugar
1 part water
1 Teaspoon White vinegar

Procedure:

Pour sugar, water and vinegar into saucepan and bring to the boil stirring constantly.
Cover and gently boil up for about 5 minutes.
Remove lid and check temperature with cooking thermometer, continue to boil with lid off until temperature reaches 234F.
Remove from heat and cool to 200F.
Whip with mixer (preferably electric) until mixture begins to turn white and creamy with air bubbles.
Pour into shallow setting pans.
Allow to cool undisturbed.
To feed bees, place inverted pan on top of frames. Place an empty super on top and insulate dead space.

Note: Remember to if you intend to store your fondant keep it in a suitably cool and dry place.

Health & Safety: Cooking and handling hot materials is potentially hazardous. Be careful of splashing or spilling hot mixtures. Hot sugar mix is very flammable. Cooking and setting hot mixtures should be kept out of the reach of children and pets.

BEE FRIENDLY PEOPLE
An Idea
By Ken Pickles
The Wharfedale Beekeeper.

FIRST AIM:

The keeping of honeybees in as natural and bee friendly way as possible with minimum cruelty, whether in wooden hives, straw skeps, clay-clad baskets or other suitable homes where their combs are made wholly by themselves for their needs, not our convenience.

SECOND AIM:

To encourage a more 'Bee Friendly' approach in the nurturing of healthy bees by the use of natural methods, the production of honey being secondary to all other considerations. However, it is the strong, healthy colonies that produce the most honey.

THIRD AIM

The avoidance of feeding sugar and the encouragement of other beekeepers to leave the natural food of the bees in sufficient quantity to avoid this thoughtless, possibly harmful practice except in cases of outright famine where the bees would otherwise die of starvation.

Those beekeepers who desire to try and do something 'For the Bees' not just for themselves could join with similar-minded people in their areas and hopefully bring about a change for the better. Modern methods of teaching bees leave much to be desired and many who take up the craft do not proceed beyond those early teachings. This is detrimental to the bees and yet associations go blindly on propagating ideas that clearly are wanting.

Perhaps the adjustment to working for the bees instead of the beekeeper would in itself bring about an improvement in our bees health, at least it would be a start.

Of course, those intent solely on milking their bees for all they are worth, unmercifully using them for financial gain would not likely be interested in these ideas yet the bulk of beekeepers in Britain are not dependent on reaping a wage from their charges and many could so easily change their ways.

Human beings on the whole are so very sheep-like, happy to believe what they are taught without thinking it through themselves. Many have not had an original thought for years, or that is how it seems to me with the beekeeping world from the boring periodicals, association comments and even some of the recent books which merely seem to reiterate what has gone before. Even what I say will have been said before or at least thought by some of you.

I am told some fourteen universities are currently carrying out research into bees. One would expect such people would go back to the basics to see how bees prefer to live in nature. From some of the results of their findings seen in the press they are discovering things we have known about for hundreds of years. Perhaps this is an area of 'pain' the Chancellor could inflict in making a useful saving.

Beekeepers are the best equipped to use their brains in knowing the bees needs and the problems they face for their noses are closest to the ground. I am not convinced about the safety of any sprays used in agriculture but I do appreciate the farmers' dilemma in combating harmful pests in food production. For the moment we must all live with these possible dangers but I think time will show we were very foolish to ignore the signs of dangers in the countryside. Some carcinogens take time to develop and 'there is no evidence to connect the product with the illnesses'! How often have we heard that and who really cares when big money and jobs are involved?

Do any of you older beekeepers remember how it used to be before sprays? Corn fields growing their quota of yellow charlock, cornflowers and a host of other flowers useful to bees; meadows with multi-flowers and grasses; yellow hammers and linnets a-plenty and cuckoos as common as sparrow-hawks and kestrels (the two latter species almost eradicated by man-made poisons). In those meadows were innumerable nests of the tawny bumble bees in vacated field-mouse nests which had been their style since time began, now alas rare on account of the modern silage system of cutting too close to the ground for the health of the bees.

Do you remember those early seed-corn dressings where after sowing the fields were littered with dead game birds, small birds of every description and even foxes? Human beings really are the pits at times. The one consolation is, in spite of all their pretended superiority over the rest of the animal kingdom, they have in fact created their own 'self destruct button' and one assumes one day, one of them will press it.

Oh for the comfort of sitting beside a colony of well-behaved bees on a summer's day, smelling the delights of the floral contents of the hive, listening to their gentle humming as they unceasingly wend their way with their precious loads. These vital creatures have no interest in world domination but put us all to shame by their labours.

Could but a few beekeepers really start to consider the needs of their bees and less of their own, just imagine, in time perhaps, we could bring about some improvement for them. It surely is worth a try. Why, there might even be that extra pot of honey after leaving the bees with sufficient to live comfortably. How those beekeepers can continue to strip the hives bare of honey and feed sugar is beyond me. Play the game chaps; it might be our last chance to get them healthy! You have everything to gain.

Listening to Professor Pickard recently in Ilkley he stated that the human race had about a hundred years left unless we got our act together. I doubt that myself for I do not believe the poor earth can afford to put up with us that long; we are causing far too much damage but for us it's the bees that matter so do your bit - get them healthy and able to survive without our intervention as they did not so long ago and use local strains that have adapted, not unknown foreign imports, that is so foolish. Heavens, we haven't sorted out the imports from the last major epidemic prior to the Great War but at least they've had near a hundred years of trying to live in these islands so use the best of them and the best of them are black.

MAKING UP A HONEYBEE "NUC" W. John Johnson.

If we have a colony of honeybees which has over-wintered and by mid April to early May has a good population of bees and several frames of sealed brood, we can remove some of the frames with sealed brood and bees, place them in a separate hive body, introduce a new young queen and thus have what beekeepers call a nucs. This is a low cost and practical way to add colonies or replace old ones.

Equipment needed to "make up" a nucs includes bottom board; entrance reducer; hive body or nucs box; six to eight frames of drawn comb for a hive body or four frames for a nucs box; inner cover; outer cover; and division board feeder and sugar syrup. Also needed is a new queen and two or three frames of sealed brood with adhering bees. One of the challenges in "making up" a successful nucs is getting bees to accept the new queen.

Experience has shown that a relatively weak nucs with no more than two or three frames of brood will accept a new queen more readily than one with four or more.

Proceed as follows to "make up" the nucs:

- Select a day when the temperature is 130C or warmer and preferably when it is sunny.
- Remove three frames from the middle of the hive body or nucs box that is to receive the new queen and frames of sealed brood with adhering bees.
- Gently smoke the over wintered colony or colonies from which combs of sealed brood with adhering bees will be taken. Find the comb on which the hive queen from the over-wintered colony is located. Remove that comb and queen from the colony and put it in a safe place.
- Remove three frames of sealed brood with adhering bees and place them in the hive body or nucs box which will house the nucs. Combs of brood and bees which make up the nucs may come from several different over-wintered colonies if available.

Some of the bees on combs just removed from the old unit and placed in the nucs box are field bees. That is, they fly out of their parent colony and forage for nectar and pollen. Remember, they have been removed from their parent colony and placed in a new location. If that new location is approximately two miles or less from their parent colony, they will return to that unit. These field bees are thus lost to the nucs. To offset the loss of field bees when the new unit is two miles or closer to the parent colony, take a frame with a substantial number of bees on it from the old unit and shake them into the nucs. This step is important as the nucs you are establishing needs sufficient bees to keep the brood warm and feed the newly laid eggs and larvae when the new queen begins to lay eggs.

Now, place the little queen cage with the queen inside into the new unit. First, note that the queen cage has a screen on one side and a hole covered by a small cork on each end. Under one of the corks is candy. It has served as feed for the queen while in transit. With a nail or knife blade remove the cork covering the candy.

Now, being careful not to injure the queen, use a nail or similar object to poke a hole through the candy. Next, tightly wedge the queen cage between two frames which contain sealed brood and adhering bees. Locate the queen cage so the candy end is pointed up and the screened side of the queen cage faces the back of the hive. Make certain the screen on the queen cage is located so the bees outside on the combs have access to it and can feed the queen through the screen.

Important – Feed the nucs a mixture of 50% clean, chemical free water/50% sugar. Stir well so the mixture forms a syrup. Use either an overhead pail over the inner cover of the hive or a division board feeder which is located inside the hive in place of two frames. Close the hive then put an entrance reducer with small entrance in place. Leave nucs undisturbed for five days.

After five days, check and see that the bees have accepted the new queen. Look first to see if there are newly laid eggs in the bottom of open cells. Don't expect to see eggs in many cells as the queen has been out of her cage only a short time. Of course, you have added assurance if you do see the queen. If the cage is empty and you see neither eggs nor queen, close the hive up and check again in a few days. Sometimes the queen is out and okay, but does not immediately start laying. When the queen is accepted, refill the feeder with sugar syrup and insure the nucs has frames with drawn comb or foundation so they have room to grow. Refill the feeder as needed until the bees stop taking the syrup or a nectar flow begins. When the single hive body in which the nucs is housed has several frames of brood, add the second hive body with ten frames of drawn comb or foundation.

Varroa Treatment with Thymol

I first found Varroa in the autumn of 1997. I decided that I did not wish to introduce pesticides into my hives and so, since then, I have treated only with Thymol crystals and, for the first two years, oxalic acid. I no longer use oxalic acid as I am concerned about the damage to bees (especially queens) and because I find that the control achieved with Thymol is satisfactory. The strategy appears to be successful so far and the Thymol also appears to have reduced Chalkbrood levels - although some of this is now probably due to selection. The cost is extremely low and treatment is very quick to apply. The method of application is based on research by Mariano Higes and Jesús Llorente of the Regional Apiculture Centre, Agrarian Investigation Service Joint Communities of Castilla - La Mancha, which was reported in Bee Biz, July 1997. Effectiveness is quoted at up to 97.6%.

Method: Thymol crystals are placed in an old honey jar lid placed on the queen excluder directly over the brood; an eke is used to provide the necessary air circulation (the ekes are also used for feeding fondant). The dose used is 8g (approximately 2 heaped teaspoonfuls) per week for four weeks and is applied in March - April, before the flow starts and during August immediately after the main crop is removed. Cost is approximately 35p per four week treatment. Thymol is a relatively safe substance to handle with gloves but is very pungent and therefore best kept out of the house.

I monitor in the spring by uncapping drone brood when inspecting colonies for swarm control; mite levels are variable, but appear to remain below the economic damage threshold. I consider that some exposure to mites is highly desirable as this will lead eventually to resistant bees. Over the past five years I have changed all floors to permanently and fully open mesh; this does not appear to have affected the efficiency of the Thymol.

One potential problem is the treatment of colonies going to the heather; it would be good to treat them before they go, but a full four-week treatment is obviously not possible. There is then a danger, perhaps lessened now by global warming, that the weather will turn too cold after their return in September for the Thymol to work effectively. In practice this does not seem to happen, probably because colonies return from the heather with large amounts of brood and the temperature immediately above the queen excluder will therefore be maintained.

Although bees do move away from the Thymol, I have not experienced any exodus of bees from the hive, as some have reported, despite applying it this year when temperatures exceeded 30°C; nor have I seen any adverse effects on brood, adult bees or queens. Since the arrival of Varroa my average crop (based on the number of colonies the previous autumn) has actually improved and there has been no noticeable taint of the honey.

*With Thanks to Peter Edwards
(Stratford-upon Avon Beekeepers Association)*

Beginner Information about Dark European Honey Bees

You will probably have read books and surfed the web for information as well as being confused by all the various methods, hive types, frame sizes, bee types, etc, etc. Confusion is the way most people start beekeeping, and is brought about because there is often no explanation of why a different method or item is used, coupled with a mixture of information. This article is intended to help explain to you what must be quite daunting, but in fact is quite simple.

You will no doubt have read, heard about, or been given advice on large/small hives, large/small frames, single/double brood chambers, brood and a half, the number of eggs a queen lays in a day, how long a queen lives, how much food a colony needs during the winter, and much more. These are all things that are relative to the race of bees that are kept, yet little mention is ever made of this fact, and it is very important.

In general, exotic races of bees are far more prolific than native bees, and it must seem logical that the more bees there are in a hive the more honey you will get, but it isn't quite as simple as that. In good summers it is accepted the more prolific bees will out perform the less prolific, but in poor summers like those that occur most of the time in the UK, there are more bees and brood to feed, so they sit at home and consume what they have collected. As there are many more bad summers than good, it is felt that if you take into account the cost of equipment, feeding, and the effort involved, native bees out perform imported ones over an extended period. There is the added benefit of native bees doing better in poor seasons when others haven't got much honey.

The bee should suit the hive, and that is why those who keep prolific bees need either a larger hive, or multiple brood chambers, both to provide extra room for more brood and food storage for the winter. So before you make your choices you will need to do some reliable research.

It is thought that honeybees have been in the British Isles since soon after the ending of the last Ice Age, approaching 10,000 years or so, and have evolved to suit our climate which has a long unproductive spell in winter and variable weather in the summer. They have had to deal with differing climates including the "Mini Ice Age" that lasted from the end of the 13th century to the early 19th century, and through natural selection have survived. Our native honeybee, *Apis mellifera mellifera*, is able to deal with variable conditions and colder weather much better than some imported races, many of which come from much warmer and predictable climates, and are less suited to our conditions.

It is important that bees suit the locality, but the importation of bees and queens just introduces bees that suit the area they come from, not where they are going to be used. I hope you will raise your own queens from your local bees. The Association can offer much help in doing that, either as an individual or in a group situation. Queen rearing is very simple, it can be done with a minimum of equipment, and it is very satisfying to see a home reared queen do well.

Due to earlier writers stating the "British Black Bee" was extinct, many now think that is the case, but in fact it isn't and never has been. This was done to discredit the native bees by those who had a vested interest in promoting imported bees, and has not been helped by many later authors simply repeating what had been written in other books, without finding out the facts. Unfortunately this is a major problem in several areas with many bee books. There are, of course, still those who believe what they read, in that the "British Black Bee" was small and aggressive. It is the largest of all the Western honeybees and its reputation for being aggressive is probably because it is confused with mongrels that have been crossed with imports. It is well known that early crosses with pure races, even if they are docile themselves, are often very bad tempered, and that is one reason why those who purchase imported queens often have a temper problem when they breed from them.

By morphometric and, more recently, DNA techniques, it has been shown that the native bee of the British Isles, far from being extinct, is in fact still very much in existence. In Ireland a tremendous amount of work has been done by the Galtee Bee Breeding Group to improve their native bees.

The Bee Improvement and Bee Breeders Association (BIBBA) was formed in 1964 to promote the native and near native honeybees of Britain and Ireland, and is committed to helping beekeepers understand the benefits of them. Through publications, workshops, conferences, lectures, and on the website: www.bibba.com, we encourage you to think carefully about the bees you keep, and how to carefully select the queens you breed from in order to improve your own beekeeping, and the temper of your bees. BIBBA also works to negate the bad publicity native bees get, often through the ignorance of people who have never experienced them.

Queen rearing must seem difficult to many, but all beekeepers are queen breeders, whether they realise it or not. Many seem to think because they don't make a conscious effort to raise queens, that they are not breeders, but in fact, as soon as a decision is taken to select one queen cell from several, such as in a swarming colony, that is a step towards breeding.

When people think of bees or start quoting facts and figures, it is often thought that all bees are the same, but this is far from the truth. Different sub species have different characteristics. This is overlooked when research work carried out in other countries is quoted, as the results may reflect the behaviour of bees local to the research project and not be relevant to the UK with its predominantly native bee genetic content.

The benefits of native, or near native bees:

1) They winter well because:

a) They form a tight winter cluster.

b) Winter bees live a long time and are still able to produce brood food in the spring.

c) The rectum can hold a large quantity of faeces, thereby avoiding defecating within the hive.

d) They are frugal and can winter on a single national brood chamber.

e) Brood rearing is regulated by conditions, and they don't breed bees that are unwanted.

f) Queens live a long time and it is estimated adult bees live 50% longer in the summer.

2) They are docile, and hardy.

3) Beekeeping is made more simple because you can use single brood chambers, and as there are fewer bees in a hive the management is less intense.

It is accepted that in many areas the native bee is not available in the pure form, but the genes are still there despite heavy

mongrelisation, and there has been quite a lot of success in selecting for native characteristics. These bees, when fairly stable, will be termed "near native", or "native type". In this modern era there is a move towards things that are indigenous, partly

because they have evolved to suit the locality, and partly as a way of preserving what we have for the future. BIBBA firmly

believes that the continued importation of bees and queens does not benefit British or Irish beekeeping at all.

Taken mainly from text written by Roger Patterson and Dave Cushman. And with thanks to Leicestershire and Rutland BKA and e-bees

Some thoughts on use of Oxalic acid vapour for controlling Varroa mites in the hive.

The popular treatment of dribbling Oxalic Acid (OA) over combs in the hive requires opening colonies for the winter treatment. Also, there are issues of bee toxicity and depressed Spring brood-rearing due to bees ingesting some of the syrup. Both these issues can be circumvented by applying the acid in vapour form. OA requires heat to vaporize. Once vaporized, though, OA can disperse throughout the colony, and then recrystallise into a fog of tiny crystals that attach to all surfaces (wood, comb, bee's body, mites etc.). This vapour dispersion has the advantages of exposing the majority of phoretic mites to the tiny crystals, and there is no incentive for the bees to ingest it, since it is not mixed in sugar syrup, thereby minimizing any toxic effects it may have on the bees.

There is a vaporiser on the market (Varrox, made in Switzerland, see www.davecushman.net/bee/oxalicthorne.html) consisting of a small pan into which is put a gram of OA crystals before it is inserted into the hive entrance, which is then sealed. The pan is then connected to a 12v battery. The OA vaporises and the device removed. After about 3 minutes, the now-empty unit is removed, and recharged with crystals for the next hive. Several units are generally run simultaneously, and in rotation. Time taken is about 5 mins. per colony, no opening of the hive or other disturbance of the bees is required and the bees are not apparently alarmed or upset in any way. The beekeeper can begin treating second and subsequent colonies whilst waiting to re-open treated hives.

However, I have made a device, similar to other DIY models, that consists of a copper tube with a cap at one end through which the

crystals are introduced and a 9mm tube at the other which fits my narrow hive entrances. I heat the tube where the crystals are with a small gas blowlamp to vaporise the OA which then passes into the hive. Some references relating to efficacy, toxicity, honey residue and applications of vaporised OA: Tests carried out on bloodless colonies during November and

December of 2003 at the Institute of Agricultural Zoology in Rome showed an efficacy between 81% and 100%, with the best average results (85%) being for colonies treated with 1g twice with 15 day intervals. There was no significant effect found on either honey bees or their nest honey. (http://www.apimondia.org/apiacta/articles/2004/enzo_1.pdf) There is a good summary of alternative organic acid treatments at http://www.moraybeekeepers.co.uk/Varroa/alternative_antivarroa.htm

As OA does not penetrate sealed brood, it is applied when brood is absent. Hence it is most successfully used for:

Removal of mites from the overwintering bee population;

Treatment of artificial swarms and nuclei in Spring/Early Summer; and ridding bees of mites after final honey harvest.

AS WITH ANY ORGANIC ACID VAPOUR EXPOSURE RISK, GOGGLES, GLOVES AND RESPIRATOR SHOULD BE WORN.

With Thanks to Bob Allen **WEST CORNWALL BEEKEEPERS ASSOCIATION**

Steve Guest – Making Wax Polish

What you need:

- A double boiler (pan within a pan) with the bottom pan filled with water and providing the heat source i.e. the pan that is used to melt chocolate.
 - A source of heat. Steve uses a small table-top unit with two electric rings but a cooker can be used if you take care and protect the cooker.
 - 10oz of clean beeswax
 - 10 fl oz of pure turpentine
 - Clean polish tins and labels – these are available from Thorne's
 - Correct and appropriate fire protection – just in case
- Mandatory labels (see below)

Comment:

This amount will make six tins which Steve believes is a sensible amount to make at one time.

ONLY pure turpentine should be used and not a substitute as cheap turps or white spirit will damage the wood surface.

Steve purchases pure turpentine in 5 litre cans and said that it is available from any good artist suppliers.

The process:

- Place the wax in the top pan
- Measure out the turpentine into a jug and then put the cap back onto the container and move it to a safe place outside the working area.
- Add the cold turpentine to the wax
- Apply the heat and then stir well until a complete mix has been achieved and do not leave it during this stage.
- When it is fully mixed together, pour the mixture into a clean jug and the "dross" or any impurities will sink to the bottom of the jug.
- Have the tins open on a protected surface and steadily pour the mixture into the tins to your predetermined limit.
- Place the lid on the wax straight away as this will prevent the creation of ripples on the surface of the polish and leave it to set.

When it is set apply the labels and it is ready for use.

Labelling

The tins must have two mandatory labels:

- A contents label on the lid which identifies the product, the producer and the minimum weight.
 - o The tins can hold up to approximately 100 grams but Steve was emphatic that, to ensure that the producer complies with the various regulations, that a minimum weight is specified and he suggested a minimum weight of 60 grams is stated on the label even though the tin might well contain more. Steve uses transparent Able Labels for his details and places them onto the contents label as this saves money in having the labels overprinted. A suggestion might be for those with P.C.'s; that they can produce their own providing the labels contain the relevant information.
- A product specific hazard – a mandatory warning label on the base of the tin.
 - Can you make shoe polish?
 - o Yes – add a tin of Cherry Blossom of the required colour to the mixture
 - Do you use carnauba wax?
 - o No because it makes the polish too hard to apply but if you want to use it, you only use 1 teaspoon per mixture
 - Do you make cream polish?
 - o Yes, but it is harder to make as all items used has to be at the same temperature and more items are required for the product. Incidentally, he uses Boots own brand of Lux when he makes it.
 - Can you use warm turpentine?
 - o Yes but not advisable as it increases the risks – static, gas, gases.
 - Can wood turners use it?
 - o Yes, in great demand but he uses less turps in the mixture and produces it in blocks rather than tins.
 - How do you clean the wax?
 - o Steve uses his best wax usually cappings and he commented that he was surprised in the amount of honey remaining even in dry wax and that honey must be removed – fed back to the bees!
 - ✦ He melts the wax into a liquid
 - ✦ Lets it cool
 - ✦ Lift out the block and any honey should be in the bottom of the pan/container. Then scrape-off the dross/debris.
 - ✦ Another method is to melt the wax in water and the water will extract the honey and then follow the cooling and scraping process.
 - ✦ When that is done, melt the wax again and filter it through a nappy liner – fluffy side up
 - Can any wax be used?
 - o Yes, providing that it is clean and he prefers to use light wax but he said that even old brood comb wax is useful because it is very sought after by furniture restorers.

Thanks to Steve Guest of North Staffordshire BKA and e-bees

Honey Bee Life Cycle

Life Cycle of the Honeybee (Apis mellifera)

A colony of honeybees at the height of the summer contains 50,000 bees. There is one queen (female) capable of laying 2,000 eggs per day, several hundred drones (males), and the rest workers (sterile females).

Both the workers and the queen develop from fertilised eggs (egg + sperm) and have 32 chromosomes. The queen is reared in a queen cell and receives a richer and more plentiful diet (royal jelly or brood food). The workers are all potential queens - it is the feeding that makes the difference (workers have rudimentary ovaries and may become laying workers producing drones).

The drones develop from unfertilised eggs and have 16 chromosomes. A drone has a mother but does not have a father - but he does have a grandmother & a grandfather!

Stages in Life Cycle.

	<u>Worker</u>	<u>Queen</u>	<u>Drone</u>
		<u>Open Cell:</u>	
Egg	3 Days	3 Days	3 Days
Larva (4 moults)	5 Days	5 Days	7 Days
Total	8 Days	8 Days	10 Days
		<u>Sealed Cell:</u>	
Larva/Pro-pupa (1 moult)	3 days	2 days	4 days
Pupa (1 moult)	10 days	6 days	10 days
Total	21 days	<u>From egg to emergence:</u> 16 days	24 days
		<u>Life after emergence:</u>	
<u>Summer bee</u>	Worker 6 weeks	Queen 3 years	Drone 4 months*

Winter bee 6 months.

This relates to the bees that hatched out late in the season, usually the old summer bees die off first leaving the late hatched ones to overwinter

*Drones that mate die - drones are killed by the workers in the autumn.

Development of the worker

Day 1.

Queen measures size of cell to determine whether it is a drone or a worker cell.
Egg vertical, parallel to cell walls.

Day 2.

Egg at 45 deg.

Day 3.

Egg horizontal, lying on the bottom of the cell - hatches.

Day 4 - 8.

Larva fed by workers, grows, moults every 24 hours, eventually fills cell - cell sealed.

Day 8 - 21.

Excretes. Stretches head outwards and spins a cocoon - pupa develops after 5th moult
(3 days after sealing) - colour slowly changes from white. 6th moult occurs just before emergence.

Functions of the worker.

Day 1 - 3. Cell cleaning & brood incubation.
Day 4 - 6. Feeding older larvae (honey + pollen).
Day 7 - 12. Feeding young larvae (brood food).
Day 13 - 18. Processing nectar into honey (water evaporation), wax making, pollen packing.
Day 19 - 21. Guarding and orientation flights.
Day 21 - 6th week. Foraging for nectar, pollen, water & propolis.

Bees often do nothing! Duties depend on the maturity of the brood glands, wax glands at (day 12) & sting gland at (day 18) - bees can revert to earlier duties if required. Other duties included ventilation, humidity and temperature control.

Functions of the Drone

Up to around day 12. Confined to hive except for cleansing & orientation flights on fine days.

Day 12 - 14. Sexually mature. Drones meet (20 deg. /afternoon) in congregation areas - drone assemblies. Drones are attracted to virgin queens by pheromones.

Autumn. Massacre of the drones. The drone's sole function is to mate with virgin queens (from which act he dies). Drones still alive in the autumn are no longer required and are killed.

Functions of the queen

Day 1. On hatching, may kill sealed queens (may swarm).

Day 3 - 5. Orientation flights.

Week 1 - 3. Mating flights.

Year 3 - 5. Starts laying 2 - 4 days after mating. Produces pheromones (chemical messengers) that inform the colony of her presence & inhibits queen raising. If the queen dies (or is removed) or is old, the workers can produce queens from fertilised eggs. Queens are produced when the colony swarms.

The colony through the year

During the winter the colony clusters and becomes inactive - egg laying ceases and food consumption is low. In the spring, as it gets warmer and day length increases, the queen starts laying - the cluster breaks and stores are consumed. The bees take cleansing flights and seek water and pollen from early flowers (crocus etc.). The population decreases as the old bees die. The decrease in population and stores needs to be balanced by new bees and incoming pollen and nectar. Disease, poor weather, lack of forage and too few bees can cause a delay in development. Colonies need to be strong enough to take advantage of early nectar/pollen in April.

As the season progresses, drones are produced in readiness for swarming. The population increases until the brood box is full and extra space has to be provided - supers are added.

The colony is held together by the queen's pheromones, which are passed around the hive by grooming and food sharing. When the population is large, the effect of the pheromones is diluted and the inhibition to produce queens is reduced - the colony may swarm (usually April, May, and June). Swarming is reproduction - and survival. The old queen leaves with half the colony (**All the flying bees i.e. Honey gatherers, so honey production is lost until the house bees which are left start to which could be up to a month**). A virgin queen hatches from one of several queen cells prepared before swarming. She kills the other queens in their cells or swarms with half of the remaining colony - this can occur several times unless the beekeeper takes action. The swarm finds a new location (or is hived). The virgin queen in the original colony mates on the wing (30'-90' above the ground) with several drones and returns to the hive to commence her egg laying. Egg laying is often erratic when the queen starts laying and more than one egg per cell occurs - this phenomenon soon disappears.

Supersedure is the replacement of the queen without swarming – both mother and daughter may co-exist for a time.

The mated queen can lay an egg, which becomes a drone, or add sperm to the egg to produce a worker - if the fertilised egg is reared in a queen cell and fed copiously, a queen is produced. The queen determines the type of cell by measuring with her front legs - worker cells are smaller than drone cells. The workers decide if a queen cell is required. The balance of drones and workers is determined by colony needs. If the queen dies or is failing (old age or insufficient mating), the workers can produce a replacement queen if they have fertilised eggs present. If a queen and her pheromones are not present, the workers rudimentary ovaries may function producing drone laying workers. Since workers have not mated, they can only lay unfertilised eggs producing drones. Laying workers produce small drones in worker cells (raised domes) in a haphazard pattern - the queen lays in a compact & orderly pattern - usually more than one egg per cell.

Bees produced in the summer work for 3 weeks in the hive and then work themselves to death during the next 3 weeks collecting nectar, pollen, water and propolis. Sufficient honey has to be produced for their daily needs and for winter stores - in a good year there will be a surplus for the beekeeper. In a bad year it may be necessary to feed a colony. Winter bees have fat layers and will survive through the winter. In the autumn the drones are evicted, and the colony gradually forms a cluster and the cycle continues.

There are 20,000 species of bees in the world. Only honeybees survive the winter as a colony - wasps and bumblebees rear queens to over winter and the colonies die. The survival & progress of the colony depends on several factors: climate/forage, disease, genetics (i.e. native bees v. foreign strains such as the Italian bee) - and management.

Varroa destructor a parasitic infestation, is now endemic and must be monitored - leave alone management is no longer an option. Bees have survived for 50 million years – Homo sapiens a mere 5 million years. Their organization is highly organized for the benefit of the whole colony not the individual.

Keeping bees in hives is for the benefit of the beekeeper not the bees. Always try to be in tune with their needs – not yours.

Michael Birt

Healthy hive training offered to novice beekeepers

Hundreds of volunteers in England and Wales are to be trained to teach amateur beekeepers how to keep their hives healthy over winter.

The decline in honeybees is prompting more people to take up beekeeping, but there are concerns that novices are not skilled at keeping their hives healthy.

Hives not kept free of disease are more likely to be lost during the winter.

The National Bee Unit said that last year 16% of colonies died over winter, compared to 14% the previous year.

Under the new project as part of the government's healthy bees plan, 400 part-time volunteers will be trained to take a number of steps in autumn and winter to ensure bee colonies survive cold weather.

The measures include checking for pests and treating the Varroa mite which is a key problem for honeybee hives, checking the health of the queen bee, making sure the hive is waterproof and providing supplementary feeding if necessary.

More and more people are starting beekeeping, which is brilliant - it is a release from the pressures of modern life and helps the environment"

Says Mike Brown
Of the National Bee Unit

The aim is for the volunteers to be trained to deliver courses to beekeepers through the British Beekeepers' Association's (BBKA) network of 160 local associations, using a "course in a case" full of training materials.

Environment minister Lord Henley said: "Bees are essential to putting food on our table and worth £200m to Britain every year through pollinating our crops.

"This training will help the many new beekeepers keep their hives healthy and bees buzzing."

Head of the National Bee Unit, Mike Brown, said: "More and more people are starting beekeeping, which is brilliant - it is a release from the pressures of modern life and helps the environment.

"But it should not be taken lightly, and it's best to find a mentor with practical experience as well as getting advice from us."

BBKA president Martin Smith said: "We look forward to working with the National Bee Unit to ensure that the band of new trainers have the high-quality teaching materials they need to be a viable support to our local associations, whose teaching and mentoring resources have become strained to breaking point."

Taken from BBC News 20th October 2010

Making bees less busy: Social environment changes internal clocks

Study suggests honey bees' circadian rhythms depend on contact with young

Honey bees removed from their usual roles in the hive quickly and drastically changed their biological rhythms, according to a study in the Sept. 15 issue of *The Journal of Neuroscience*. The changes were evident in both the bees' behaviour and in their internal clocks. These findings indicate that social environment has a significant effect on the physiology and behaviour of animals. In people, disturbances to the biological clock are known to cause problems for shift workers and new parents and for contributing to mood disorders.

Circadian rhythm, the body's "internal clock," regulates daily functions. A few "clock genes" control many actions, including the time of sleeping, eating and drinking, temperature regulation, and hormone fluctuations. However, exactly how that clock is affected by — and affects — social interactions with other animals is unknown.

Senior author Guy Bloch, PhD, and his colleagues from The Hebrew University of Jerusalem, Israel, chose to study bees in part because of their complex social environment. One role in bee society is the "nurse": bees that are busy at all times caring for larvae. This continuous activity is different from other bees and animals, whose levels rise and fall throughout the day.

Bloch and his team thought that changing the nurse bees' social environment might alter their activity levels, so they separated them from their larvae. The researchers found that the bees' cellular rhythms and behaviour completely changed, matching a more typical circadian cycle.

"Our findings show that circadian rhythms of honey bees are altered by signals from the brood that are transferred by close or direct contact," Bloch said. "This flexibility in the bees' clock is striking, given that humans and most other animals studied cannot sustain long periods of around-the-clock activity without deterioration in performance and an increase in disease."

The results suggest that the bees' internal clocks were shaped by certain social cues. Jürgen Tautz, PhD, of the Julius-Maximilians Universität Würzburg in Germany, an expert in honey bee biology who was unaffiliated with the study, said it is a wonderful example of the tightly regulated interactions between genes and behaviour in a bee colony. "The presence or absence of larvae switched the genes 'on' or 'off,' which guaranteed the adaptive behaviour of the bees," Tautz said.

Because bees and mammals' circadian clocks are similarly organized, the question is whether the clocks of other animals also strongly depend on their social environments. The next step is to find just how social exchanges influence gene expressions. Further research into this question may have implications for individuals who suffer from disturbances in their behavioural, sleeping, and waking cycles. Research into how these rhythms may be altered and even stabilized might identify new treatment options.

The research was supported by the Israeli Science Foundation, the Israel-U.S. Binational Science Foundation, and the German Israel Foundation.

The Journal of Neuroscience is published by the Society for Neuroscience, an organization of more than 40,000 basic scientists and clinicians who study the brain and nervous system. Bloch can be reached at bloch@vms.huji.ac.il.

HIMALAYAN BALSAM

Himalayan Balsam is a plant, which has invited more controversy and argument between Beekeepers and Conservationist than anything else. According to the Environment Agency it is on the same scale as Japanese Knotweed and Ragwort and should be eradicated. Conservation bodies such Wildlife Trusts are busily organising working parties to pull it out and get rid of this invasive weed. Some of you no doubt and including myself for that at matter may be members of some of these Conservation Organisations which are supporting the eradication of Himalayan Balsam. Being a conservationist I would support eradicating non indigenous plant species every time including Himalayan Balsam, apart from the fact that honeybees love it. Himalayan Balsam is a native of the Western Himalayas resulting in its colloquial name of, " Kiss me on the Mountain". The pink hooded shaped flowers take on the appearance of a policeman's helmet hence its alternative common name. It was introduced to Kew Gardens in 1839 as a greenhouse plant, from there it escaped into the wild. It is now Naturalised in the British Isles and many other countries. It spreads along river banks and its dense areas suffocate other indigenous plant species. Plant species that other wildlife such as birds and small mammals rely on. It bungs up water courses and causes flooding and when it dies down in the winter, it leaves bare patches along river banks leading to soil erosion. Its spread rate in the UK is estimated at 645 km sq per year and an extensive stand of Himalayan Balsam may reduce species richness by 25%. Its high nectar yield attracts pollinating insects in preference to native plants. Little wonder why Conservation Bodies want to get rid of it. Black spherical seeds germinate around February/March time and the plant grows very quickly reaching a height of two metres or more. It flowers from July until early frost. During the autumn green seed pods start to form and explode when disturbed releasing the seeds. Medium sized plants produce on

average 700 to 800 seeds which can be ejected up to seven metres from the parent plant. The flowers produce 47% more nectar than any other native plant therefore a major attraction for honeybees and other pollinating insects. In some areas the honey flow season can be extended for up to two months well up to the end of September. With the queen excluders

removed at the beginning of August a reasonable colony of bees can easily realise two more supers of honey. However we cannot get away from the fact that Himalayan Balsam is an invasive weed. It is an offence under the Wildlife and Countryside act schedule nine to deliberately propagate and encourage it. Yet our bees pollinate it to ensure fertile seeds to

germinate next year. Technically moving hives into an area where there is a large concentration of Himalayan Balsam to catch the honey flow, we could be flouting the law. However proving any such contravening case would be difficult

especially if the beekeeper always moves his hives into a certain apiary every year to over winter. Strange it should just so happen that there is a large area of Himalayan Balsam within a close proximity of that apiary. The extended season has led to strong well fed colonies entering the winter and colonies winter well on the forage from this invasive weed. So it is a balance between the Conservation of some native species and maintaining the environment by eradicating Himalayan

Balsam or ensuring that more honeybee colonies survive the winter through an extended honey flow season allowing the bees to have more natural stores on board. Please remember honeybees pollinate a third of our food source and one can

argue that their interests need to be high on the agenda in preference to conservation. Personally I think Himalayan Balsam should be controlled, not eradicated. Careful management of the plant can realise a balance between the interests of the

beekeeper and native species conservation. Controlled where there are issues of rear native plant species and in specific nature reserves and woodland areas where it should not be present. Himalayan Balsam fortunately and unfortunately is here to stay, total eradicating it, is virtually impossible, like the grey squirrel in preference to the red, it cannot be done. However there is one thing I can say in favour of the plant, the honey is just great.

With thanks to Mike Cross ,Derbyshire Beekeepers and e-bees

Whatever the arguments for and against Himalayan Balsam, all I can say that here in the North West of the UK, if we did not have it, along with Rosebay Willow Herb, our bees would be in trouble. With the summers we have now, due to global warming or whatever, its more or less the only crop we get and is very important to us .

Also when you talk about eradication, its like closing the stable doors when the horses have all bolted. It escaped from Kew Gardens in 1939, now its 2010 that to my why of thinking is 71 years ago. So why bother. It will cost millions do very little good apart from making the pesticide companies rich, filling the country with more

unwanted pesticides and depriving our bees of food which is coming more and more hard to get.

Dummy board and side feeder

1. Dummy board

This useful piece of equipment is neglected by far too many beekeepers. There is a strong tendency on the part of manufacturers to make dummy boards too large, so that they quickly become propolised to the side walls of the brood chamber. However, if they are constructed properly to the same dimensions as the brood frame, the resulting bee space prevents attachment to the brood chamber. The purpose of the dummy board is to fill in the space between the first frame and the end wall of the brood chamber. If this space is left vacant the bees will extend the depth of the cells on the outside of the comb making it too wide, or, alternatively build a comb or brace-comb in the space. The dummy board effectively prevents this happening, and when removed it enables the first comb to move into the space before being lifted, thus avoiding rolling the bees on adjacent comb surfaces. Dummy boards should also be used outside the last comb when the full complement of combs not being used.

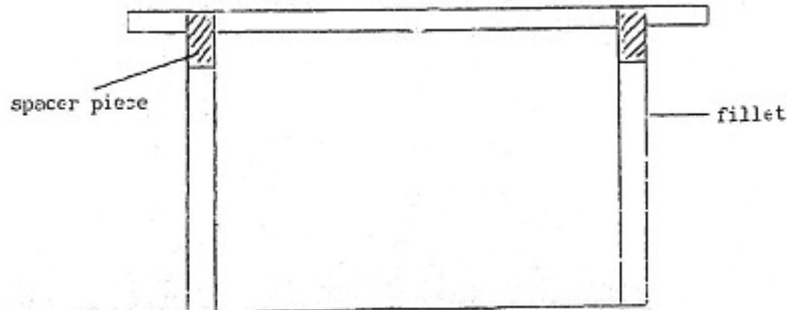


Figure 1

The finished size must be exactly the same as a brood frame except the thickness which is 12mm. To prevent warping fillets 19mm x 12mm are used at the edges. It is an advantage to have the top bar slightly wider at 15mm to give increased strength, but the depth must be 9mm to keep the lugs the same as the frame. The ideal material for making the main part of the board is 12mm thick red cedar board, but 12mm exterior plywood is a good substitute. If Hoffman frames are used two spacer pieces 80 x 22 x 5mm should be glued on (see fig 1.)

2. Side Feeder.

Side feeders are invaluable for feeding nuclei and they deserve wider use. Like the dummy board they should be made to the same dimensions as the brood frame. They can be made in two widths, small ones equivalent to one frame for nucleus hives and boxes and wider ones for brood chambers. The overall widths are 25mm and 65mm. A wooden float is used to prevent bees drowning in the syrup. This is 5mm narrower and shorter than the inside of the feeder and has a number of holes bored through it. Small galvanised roofing nails are driven in at each corner top and bottom so that they protrude 6mm.

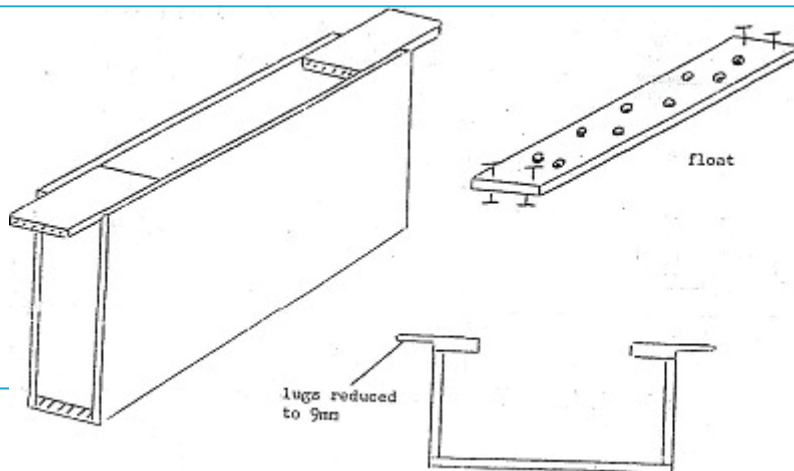


Figure 2

Construction Materials

The frame is constructed of softwood about 15mm thick and the sides consist of 4mm exterior plywood. Waterproof glue should be used although small leakages can be tolerated as the feeder is contained within the hive and bees have access to the outside of it.

With thanks to Jim Crundwell of Montgomeryshire Beekeepers and e-bees

Hymettus



BWARS

Featuring:

- Background information
- Life cycle
- Habitat requirements
- Conservation
- Lookalikes



UK distribution of the Hornet, *Vespa crabro*



A male hornet showing typically long antennae

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JOINT INITIATIVE: HYMETTUS — BWARS

Information Sheet 8

April 2010

Information Sheet

HORNET (*Vespa crabro*)

Alan Phillips & Stuart Roberts

- Spectacular predator
- Generally docile
- Typical of mature woodlands and parks
- Nests in hollow trees
- Can you add to our knowledge?

Background and Distribution

The 'hornet' is our largest species of social wasp with queens averaging around 3cm in length. Once only common in central southern England, in the last 20 years the species has extended its range eastwards into Sussex and Kent and northwards to Yorkshire.

Over-wintering queens emerge in April and nests are initiated, usually in hollow trees or similar cavities, in May with the first workers appearing around June. New queens and males emerge from the nest September-October, mate and disperse, with the males dying and the newly-mated queens seeking over-wintering hibernation sites. Back at the nest, which may persist into November in mild years, the old queen and remaining workers eventually die-out.

Though smaller, queens of the 'median wasp' (*Dolichovespula media*) are often mistaken for hornets but the former is yellow and black with small areas of red whereas the hornet is a brown, red and yellowish-orange species lacking any deep black markings. Unlike the median wasp, the hornet has no yellow markings on the thorax.

Habitat and Conservation

Very much a creature of lowland wooded habitats but will venture into gardens with mature trees especially if in the vicinity of woodland. Our preponderance for planting trees either in gardens or for conservation value in the wider countryside is probably one of the reasons for the species spread in recent years.

Often viewed along with other wasps with some trepidation, hornets are in fact relatively docile and problems only arise if nests are threatened.

They help maintain balance in nature by preying upon (and so controlling) numbers of other invertebrate species, some of which are regarded as agricultural pests.



A queen hornet after emerging from hibernation



Worker hornets emerging from a nest in a hollow tree



A hornets' nest. The beige coloration and blistery bulges are diagnostic

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<http://www.bwars.com/>

For further information and submission of records:

contact: [aculeates\[at\]gmail.com](mailto:aculeates[at]gmail.com)

Photos: N. Jones, J. Michaelson, R. Williams



BWARS



Information Sheet

ASIAN HORNET (*Vespa velutina*)

Stuart Roberts, Quentin Rome & Claire Villemant

- Alien Invasive
- Spreading in France
- NOT in UK
- Potential threat to domestic Honeybees
- Please report possible sightings (with photos)

Featuring:

- Background information
- Life cycle
- Habitat requirements
- Threats

Background and Distribution

This south-east Asian species of wasp was first recorded in France in 2005. The Asian Hornet (*Vespa velutina*) is thought to have arrived in a container of pottery from China before 2004 through the port of Bordeaux. Since 2005 it has spread rapidly throughout the neighbouring départements. There are NO UK records as of May 2010.

Slightly smaller than the native European Hornet, with queens up to 30mm, and workers up to 25mm in length. They are easily recognised by their appearance and difficult to confuse with any other species. The thorax is a velvety black / dark brown with brown abdominal segments bordered with a fine yellow band. Only the 4th segment is almost entirely a yellowy-orange. The legs are brown with yellow ends and the head is black with an orange-yellow face.

As with other social wasps, the colonies last one season, and only the fertilised queens hibernate.

Habitat and Threats

In France, the Asian Hornet nests in tall trees in urban and rural areas, but avoids pure stands of conifers. Nests are also found in garages, sheds, under decking - or much more rarely, in holes in walls or in the ground.

Vespa velutina is a day flying species which, unlike the European Hornet, ceases all activity at dusk. It is a proven predator of social wasps and other bees, including Honeybees, but as in *V. crabro*, it also consumes a wide variety of other insect prey.

The impact on Honeybees can be limited merely by reducing the hive entrance to a narrow slit. So far, predation of honeybees in France by *V. velutina* seems to be limited to the adults rather than the brood.

V. velutina is not generally aggressive, although the stings can be painful. Large nests (usually those in trees) should certainly be avoided.



A queen Asian Hornet



Worker Asian Hornet hunting at a Honeybee hive



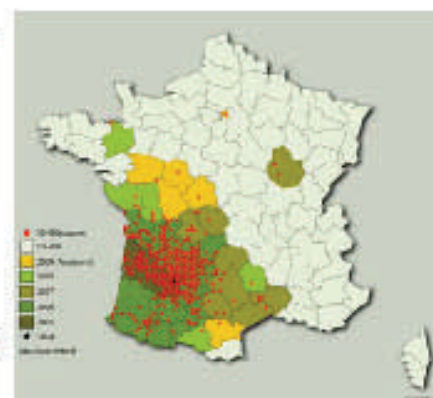
Vespa velutina nest



Interior of nest showing Worker and brood



A queen Asian Hornet



A map of France showing known distribution and colonised départements

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MNHN, Muséum National d'Histoire Naturelle de Paris, France, and INPN, Inventaire National du Patrimoine Naturel, for recording of validated data on all the species in France.

<http://inpn.mnhn.fr/lob/index.asp?>

For further information and submission of records and/or photographs, please contact:

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Photos: Claire Villemant & Jean Haxaire

The Races of Honey Bees

Apis mellifera ligustica

The Italian honeybee is the most widely distributed of all honeybees, and has proved adaptable to most climates from subtropical to cool temperate, but it is less satisfactory in humid tropical regions. It is very prolific, but brood rearing starts late and lasts long into late summer or autumn, irrespective of nectar flow. It is therefore at its greatest advantage in those regions where favourable weather prevails throughout the summer, and there is a long, uninterrupted supply of nectar. It is less satisfactory where the main nectar flow occurs in spring, or where the weather is uncertain, as in the cool maritime regions like UK and Ireland. In poorer districts a honey crop may only be obtainable at the expense of heavy autumn feeding. *A. m. ligustica* has been described as having a low swarming tendency with few queen cells, but this is contrary to the experience of many beekeepers in Great Britain. This may possibly be due to the use of brood chambers which are too small for such prolific breeders. In the migratory beekeeping practised in America, it is usual to operate without a queen excluder, so that the breeding area is unrestricted. It is said that the queen seldom goes above the second brood box of the hive. Italian bees, having been conditioned to the warmer climate of the central Mediterranean, are less able to cope with the "hard" winters and cool, wet springs of more northern latitudes. Their bodies are smaller and their over hairs shorter than those of the darker races, and they do not form such tight winter clusters. More food has to be consumed to compensate for the greater heat loss from the cluster. The tendency to raise brood late in autumn also increases food consumption. They are unable to retain faeces in the gut for long periods and require more frequent cleansing flights than the dark bees; they are more likely to be lured out of the hive by bright winter sunshine. There is no clear evidence that Ligustica is any more resistant to acarine than Mellifera; no epidemic corresponding to Isle of Wight disease was ever reported from northern Europe. Moreover, acarine is undoubtedly a problem among the Italian bees of the United States of America. Ligustica also appears to be less tolerant of Nosema than Mellifera. Ligustica tends to forage over shorter distances than either Carnica or Mellifera, and may therefore be less effective in poorer nectar flows. It apparently lacks the ability to ripen heather honey before sealing. Italian bees are much more prone to drifting and robbing than the other principal races of Europe. It has a reputation for gentleness, but hybrids with the darker races can be especially vicious.

Apis mellifera carnica

The Carniolan bee of Slovenia and Austria is the nearest relative of the Italian, but it is larger and darker, the characteristic yellow rings of Ligustica being replaced by dark bands. The Carnica territory covers a large area of South eastern Europe, and there are numerous regional variations. The characteristic brood rhythm is a rapid build-up in spring, followed by a slow decline and an early cessation of brood rearing in the autumn. It is particularly suited to an early spring honey flow. Like *A. m. mellifera* it can survive hard Winters with a small winter cluster. Carniolan bees are said to be more prone to swarming than Italian bees, but that this tendency can be reduced by selective breeding. In recent years selective breeding has also been used with great effect in both Austria and Germany to improve the productivity of the bees. *A. m. carnica* are reputed to have better homing ability than any of the other major races, and are much less prone to drifting (and presumably to robbing). They are sparing in the use of propolis. Carniolan bees have a well deserved reputation for gentleness and quietness on the comb, but their hybrids with both Mellifera and Ligustica are said to be particularly vicious.

Apis mellifera caucasica

The Caucasian bee closely resembles *A. m. carnica* in general appearance, and may not be easily distinguished from the latter except by morphometric examination (longer proboscis, cubital index about two on average). Indeed, it has been alleged that many bees sold as "Caucasians" were in fact Caucasica-Carnica hybrids. *A. m. caucasica* is autochthonous (the original sub-species) to the mountain range and southern valleys of the Caucasus, and to the eastern end of the Black Sea coast in Anatolia. The climate varies from humid subtropical on the coast to cool temperate in the mountains, and local strains reflect the different climates, the bees from the mountains

A. m. caucasica is described as having a "high level of gentleness", and certainly it had this reputation in the 1930s, although there was little experience of this bee in Britain at that time. It is said to combine well with other races, particularly Carnica and Ligustica. There has been a report of very aggressive behaviour by "Caucasian" bees in this country, but the bees in question may have hybridised with local bees. They apparently showed poor wintering qualities.

The native bee: *Apis mellifera mellifera*

The "*A. mellifera*" (1758) or "*A. mellifica*" (1761) of Linnaeus, is but one small section of the Dark European

Honeybee whose natural territory included the island of Corsica and ranged from the Pyrenees over Europe north of

the Alps to the Ural Mountains in the East, and included Great Britain and Ireland and southern Sweden. Although there is no historical record of honeybees in Norway before 1775, it is known from archaeological evidence that

A. m. mellifera was present in southern Norway round about 1200 A.D. It is well adapted to survive in a harsh

climate. It is thrifty in its use of stores; brood rearing is reduced when the nectar flow is interrupted. It forages over longer distances than the Italian bee and can make better use of meagre food resources. It will be observed foraging both earlier and later than *A. m. ligustica*, and will fly in dull and drizzly weather which would keep Italian bees

indoors. It may also be that mating can take place at lower temperatures than in the case of the southern races.

Although less prolific than Italians, the workers live longer and there is a higher ratio of foraging bees to hive bees. The wintering capabilities of the dark bee are excellent; although colony size is at all times moderate, and the winter

cluster is small, heat is conserved by the tightness of the cluster and the large bodies and long over hair of the bees. The "winter" bees of the northern race have the ability to retain faeces in the gut for long periods, due apparently to a greater production of catalase by the rectal gland in autumn. They are thus less dependent on cleansing flights. They are also less likely to be lured out of the hive by bright winter sunshine than Italian bees. *A. m. mellifera* forms a compact brood nest with pollen stored as close to the brood as possible, sometimes below as well as above the brood. Honey is stored outside the pollen circle. It has often been heard said among beekeepers that heather honey should be disposed of quickly because it "does not keep". Another widely held belief is that heather honey is

unsuitable for winter stores. Apparently *A. m. mellifera* had not heard these maxims or, if they had, they chose to ignore them. How otherwise would "heather bees" have chosen to live for centuries in areas where there was only the heather honey crop to support them from one year's end to the next (and perhaps for two or more years if the weather was bad at the time of subsequent harvests)? The native bee of the British Isles is renowned for the

whiteness of the sealed honeycomb. The cappings are convex and a small air space is left between the honey and the capping. This prevents "weeping" and reduces the risk of fermentation which might give rise to dysentery. The swarming behaviour of *A. m. mellifera* is variable, depending on the region. In heather districts the local

populations tended to be very swarmy, but some strains from the north of Britain have shown a low inclination to swarm, with the construction of only small numbers of swarm cells. Where the swarming tendency is low, queen replacement takes place by supersedure. The Dark European Honeybee generally had a reputation for aggressive behaviour, but this was not the reputation of the British bee as reported by earlier writers. Pure strains of

A. m. mellifera from different parts of Britain have been found to be docile and easily handled. Hybrids with other races are often highly productive, but they frequently show a fierce temperament and proneness to "following" – highly objectionable characters in densely populated countries. The gentle behaviour of the major races of honeybee may be due, of course, to selection for this quality over many generations; even the "skep" beekeepers of former days would, no doubt, tend to destroy the worst tempered bees and retain the gentler colonies.

With Thanks to Ashleigh Milner, Prof. Friedrich Ruttne and Dave Cushman and of course e-bees



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Book Review

Bee Friendly Beekeeper A sustainable Approach by David Heaf.

I started to read this book with an open mind as I had heard lots of people say good things and other who were completely against this type of beekeeping.

After reading a few pages ,I thought the book was interesting and the more I got into the book I knew that David Heaf was a very knowledgeable man on his subject and that the subject of sustainable beekeeping was one that maybe we should all be having at least ago at with a couple of hives at the least, and that maybe it could be the way forwards to keeping healthy and stress free bees.

David goes through each stage of keeping his bees in the Warre hive in a very easy and understandable way and what he talks about makes lots of sense. The parts on Varroa, Queen Rearing and Swarm control are much the same as with us beekeepers who use other methods so there is nothing new here. But the rest of the book is a real eye opener, a pleasure to read, and well worth having in your library but more so a great reference to having a go at this fascinating way of beekeeping.

I would recommend the book to anyone who would like to have a go at a gentler way of beekeeping both for the bees and the beekeeper him or her self

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