Beetalk

Newsletter of The Blackburn and East Lancashire Branch of
The Lancashire & North West Beekeepers Association
March 2012 www.blackburnbeekeepers.com Registered Charity

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David Bush.	Member	01200 428152	david.bush2@talktalk.net
Karen Ramsbottom.	Member	01254722514	john.rammy@ntlworld.com
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Michael Birt. Web Master/Beetalk Editor webmaster@blackburnbeekeepers.com

DELEGATES TO THE CENTRAL COUNCIL

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 2012 season will be £30.00
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 £17.00
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 £12.00

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 currant 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.
For the 2012 season

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 and ROSSENDALE AREAS

Karen Ramsbottom.
Telephone 01254722514
E-mail::: john.rammy@ntlworld.com

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

Nigel Banford Telephone **01282-861170**

Alistair McLean 07815049283 AlistairMcLean@ymail.com

Victoria Winstanley. 01282-701692 vicicoaffee@yahoo.co.uk

Ellen Howarth. helen@waltonhowarth.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 Wasps problems

FUTURE BRANCH MEETINGS

21st March 2012 2012 @7pm. Alma Inn, Laneshawbridge. Annual Dinner

15th April 2012 @ 2pm Towneley Hall. Queen rearing with the committee

May 20th 2012 @ 2pm, Towneley Hall Burnley.

Disease/Swarm Control with John Zamorski

Details of all the meetings can be found on the web site on the events page at www.blackburnbeekeepers.com

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 2012 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.

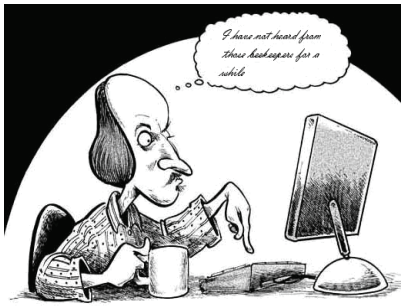
8. New for 2003 You must have a country of origin on the jar. For example - Produce of England, Product of Scotland, Harvested in Wales. Adding the country to the end of your address is not acceptable.

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

Editorial

Hi All,
As I write part of this editorial, I am in China, in a place called Kunming. I am over here looking at some different bee farms that only work the small Asian bee *(Apis cerana)*. Quite a lot different from what we have in the UK and more difficult to work. The honey that they produce is also very different as its more watery. The bee farm where I keep my stingless bees is another interesting place for anyone who gets the chance to visit. They produce all kinds of bee products and, would you believe it export 30 tonnes of royal jelly a year.

Well by the time you read this edition of BeeTalk you should be moving along quite nicely with your bees. The first inspection should now have been carried out to see if the bees have come through the winter and that the hive is queen right. All your equipment should all be in order ready for the build up of the hives and the eventual artificial swarming and honey flows that hopefully you will have. Its surprising how quickly the season moves on and how many beekeepers get caught out with not having equipment ready.

New and inexperienced beekeepers need to be taking up a mentor or going on various courses that the club are offering and attending meetings and getting to know other members where you can ask questions and hopefully get the correct answers.

In the next edition of Beetalk I will hopefully be doing an article on what is going on with the outreach project at Towneley Hall and the Bees in the Borough Project. Lets hope there is some progress there but with all the bees that are being imported into the country it seems a uphill struggle. I received some figures the other day which are quite alarming .

Imports and Exports

There were 4113 queens imported from Cyprus, Czech Republic, Denmark, France, Germany, Greece, Ireland, Italy, Poland & Slovenia. The largest number came from Greece (2850) Also 405 nucs were imports from Czech Republic, Ireland, Italy & Poland.
From third countries – 1762 queens were imported from Argentina, Australia & New Zealand. The largest number came from New Zealand (1242)
Hope that the season and your bees and beekeeping are good to you this year

Michael

Meet some of the Committee for 2012

John Zamorski (Chairman)

Brian Jackson (Vice Chairman)

Vici Winstanley (Hon Secretary)

Phil Ainsworth
(Hon Treasurer)

Caroline Coughlin
(Honey Show Secretary)

Dave Rayner
(Education Officer)

Bob Fulton
Communications Officer

Annette Hawkins Committee Member

Alistair McLean . Committee Member

Michael Birt.
(Webmaster and Beetalk Editor)

BBKA BASIC HUSBANDRY EXAM

Dear Member,

Have you kept bees for at least a year? If so have you ever considered taking the BBKA's Basic Husbandry Exam? The Exam is based on the experience a beekeeper would have gained in a complete year of beekeeping and is taken in June or July. The Exam lasts about 1Hr and when passed, gives a Certificate of Competency which is proof to others that you have reached a certain level of skill, a bit like a driving licence.

Our Branch had only 1 member take and pass this exam last year, so why not try your hand and show to others that as a Branch we are taking steps to improve things for the Bees and ourselves. You never know You might win the Cup & Medal for highest points in Lancashire, plus getting your exam fee back if you pass.

For beekeepers who have kept bees for many years and may be concerned that they may fail, let me reassure you that this exam is at 1Yr level experience and you should have no trouble passing, as the Examiner will treat you as new beekeeper also you will be setting a good example to the newer members.
If you are interested you can contact me via e-mail davidrayner1@yahoo.co.uk

If you have already passed this exam, my apologies, but you may be interested in going through the modules starting with Modules 1 & 2?? You may feel that exams are not for you, but why not improve your knowledge by forming a group of like minded individuals and go through the syllabus with me.

Regards,

David

THE WEB SITE

I thought it time to have a little talk about our web site **www.blackburnbeekeepers.com** and how you can find out information.

The site starts off with the opening page or in computer terms, the index page, here you can find out all the latest news that is relevant to the club such as new information on meetings, events and news. On the 3rd line down you will see 5 honeycomb shaped signs with topics. IE **Beekeeping, Recourses, News, Events and Home**, these if you click on them take you to other sections of the web site, for example if you click on **Beekeeping** it will tell you about beekeeping in Lancashire and how to join out club etc. The **events** will take you to the events, dates and details of all the meetings that are going on over the coming season. **News** is any important news with regards to the club, **Home** brings you back to the front page. The most important one is the **Recourses** section which links you to other sites, gives you Beetalk going back 11 years, There is a section for **Beginners, A general section, E books, Downloads, Videos, and lots, lots more.** All you do is click on one of the topics and the page will come to you with most if not all of the information that you will ever need on Beekeeping. The site is updated on a regular basic too so that you are always informed of what is going on with the club and with the world of beekeeping from all over the UK and around the world.

About a month ago we put on a flag counter which tells you what countries are visiting the web site and in a month we have had 14 different countries visit us, so we are really an international web site. You can find the flag counter on the opening page just above the bee picture. Click on it and have a look.

In the **resources** section HIGHLIGHTED you will also see a link to **Bill Ainsworth's Black Bee Blog.** Now this site, come blog. run by our own Bill Ainsworth and Arthur Bickerstaffe who were before me, the editors of Bee Talk. Their site is packed with information on Beekeeping and is presented in a month by month way so as any one who is learning will be able to know what to do at any particular time of the year. There is also a comments section, if you are stuck with anything of if you just want to comment. Do please visit this site at **www.blackbees.co.uk** and I am sure you will be impressed and don't forget to make a comment. Always remember that both sites are for you, the members of this great club of ours.

So there you are, please visit the websites and make full use of them. They do belong to the club which is all of us.

Michael. Web Master and Beetalk Editor.

TOPICAL TIPS

We are now in a critical phase for our colonies. Populations are at their lowest level and most of the bees in the hive will be old bees that have overwintered; they will not survive very far into the spring. Any setback at this stage can be fatal to the colony, so we must ensure that they have sufficient food - which must be close to the cluster - and as little disturbance as possible so that they can get on with this important work.

Heft colonies and if they are heavy then leave well alone. Any that are light will require further checking. If you have to open colonies, try to do so on a dry, reasonably warm day with little wind - but if they are really light then you will have to open them no matter what the weather. Provided that you do not remove any brood frames and that you work reasonably quickly, any brood will not be chilled as it will be well covered with bees. If the colony needs feeding then there are three options: provide fondant, sugar syrup, or a frame of honey. Fondant should be placed on the queen excluder directly over the cluster. Syrup (2lb sugar to 1 pint of water) must be in a contact feeder and again must be put directly over and in contact with the cluster. When the weather is cool, bees will not bring food from the other side of the brood nest or from an overall feeder. It is not a good idea to move frames of honey from other colonies unless you are absolutely certain that there is no disease - and remember that you cannot see things like nosema without looking at samples under a compound microscope at 400x magnification. However, if a colony has simply eaten its way across the brood nest and the only food is in frames on the other side of the brood nest, then you can move a frame of stores so that it is beside the cluster. On no account should you split the cluster and put the stores in the middle.

This is also a good time to treat for varroa if your colonies need it. We had a very long summer last year and varroa numbers soared - so they may still be a little on the high side if you did not control them well last autumn. Get treatment in hives now so that it is out before the honey flow starts. Thymol based treatment is preferred - and do note that it is now too late to use oxalic acid.

Do get supers on to strong colonies by the end of the month, not for honey storage, but to give the bees space; this helps to reduce swarming later.

Oh - and you have got your spare equipment ready, haven't you? The rape could easily be in full flower within the next six to eight weeks - or, of course, we could be up to our knees in snow! Be prepared to take advantage of whatever the weather throws at us.

Peter Edwards Stratford-upon-Avon BKA and of course e-bees

More colonies starve during March and April than at any other time of the year.

Some nice honey jar pictures

UK Pollination of Crop Plants by Honey Bees

Compiled by Michael Birt

Pollination by insects is called entomophily. Entomophily is a form of pollination whereby pollen is distributed by insects, particularly bees, Lepidoptera (e.g. butterflies and moths), flies and beetles.)
Note that honey bees will pollinate many plant species that are not native to areas where honey bees occur, and are often inefficient pollinators of such plants.
Please note that plants that require insect pollination to produce seeds do not necessarily require pollination to grow from seed into food. The carrot is an example.

Common Name	Scientific Name	Product of Pollination
Onion	Allium cepa	Seed
Celery	Apium graveolens	Seed
Beet	Beta vulgaris	Seed
Mustard	Brassica alba, Brassica hirta, Brassica nigra	Seed
Rapeseed	Brassica napus	Seed
Broccoli	Brassica oleracea cultivar	Seed
Cauliflower	Brassica oleracea Botrytis Group	Seed
Cabbage	Brassica oleracea Capitata Group	Seed
Brussels sprouts	Brassica oleracea Gemmifera Group	Seed
Chinese cabbage	Brassica rapa	Seed
Turnip	Brassica rapa	Seed
Chile pepper, Red pepper, Bell pepper, Green pepper	Capsicum annuum, Capsicum frutescens	Fruit
Caraway	Carum carvi	Seed
Chestnut	Castanea sativa	Nut
Watermelon	Citrullus lanatus	Fruit
Coriander	Coriandrum sativum	Seed
Melon	Cucumis melo L.	Fruit
Cucumber	Cucumis sativus	Fruit

Squash , Pumpkin, Gourd, Marrow, Zuchini	Cucurbita spp	Fruit
Quince	Cydonia oblonga Mill	Fruit
Lemon	Rutaceae	Fruit
Lime	Citrus	Fruit
Carrot	Daucus carota	Seed
Strawberry	Fragaria spp.	Fruit
Soybean	Glycine max, Glycine soja	Seed
Sunflower	Helianthus annuus	Seed
Flax	Linum usitatissimum	Seed
Apple	Malus domestica, or Malus sylvestris	Fruit
Lima bean, Kidney bean, Haricot bean, Adzuki bean, Mungo bean, String bean	Phaseolus spp.	Fruit and Seed
Apricot	Prunus armeniaca	Fruit
Sweet Cherry	Prunus avium spp.	Fruit
Sour cherry	Prunus cerasus	Fruit
Plum, Greengage	Prunus domestica,	Fruit
Almond	Prunus dulcis, Prunus amygdalus, or Amygdalus communis	Nut
Peach, Nectarine	Prunus persica	Fruit
Pear	Pyrus communis	Fruit
Black currant, Red currant	Ribes nigrum, Ribes rubrum	Fruit
Rose hips, Dogroses	Rosa spp.	Fruit
Raspberry	Rubus idaeus	Fruit
Blackberry	Rubus fruticosus	Fruit
Elderberry	Sambucus nigra	Fruit
Eggplant	Solanum melongena	Fruit
Rowanberry	Sorbus aucuparia	Fruit
Red Clover	Trifolium pratense	Seed
White clover	Trifolium alba	Seed
Cranberry	Vaccinium oxycoccus, Vaccinium macrocarpo	Fruit
Broad bean	Vicia faba	Seed
Vetch	Vicia spp.	Seed
Grape	Vitis spp	Fruit

I think I have included all of the UK's crop plants but if anyone can think of any more please e-mail me at webmaster@blackburnbeekeepers.com

Summary of the 2011 National Bee Unit Apiary Inspections Programme

This season has been an average year for beekeeping, with mixed reports of honey yields, however, many beekeepers reported making an increase in colony numbers. It has also been a good year for the National Bee Unit inspectors who visited more beekeepers (5781), more apiaries (8920) and more colonies (37,785) than last year. Despite having fewer inspectors on the ground in 2011 due to retirements and unfilled posts, these inspection figures represent 12% increase on the total number of colonies inspected last season. Hand-in-hand with increases in the number of inspections was an increase in the amount of disease discovered, and increase in diagnostic support required from the NBU diagnostic laboratory at York. There were three times more cases of American foulbrood in 2011 (104 cases) and one third more European foulbrood in 2011 (695 cases) compared to 2010. Therefore as a beekeeping community we need to remain vigilant to these damaging brood diseases, and remind everyone to report suspicions of disease to their local Bee Inspector (see below for contact details).

The NBU visit apiaries based on the risk of finding disease, or finding exotic pests, and conduct so called priority inspections. The risk of an apiary having disease is derived from the proximity of each apiary to known disease outbreaks, so the closer an apiary is to known disease, the higher the priority of inspecting that apiary. The Random Apiary Survey was commissioned by Defra and the Welsh Assembly Government to help the NBU obtain an accurate estimate of disease prevalence by visiting apiaries in all areas, rather than concentrating on high risk areas. Over the last 2 seasons the NBU have checked for disease at over 4700 apiaries selected at random from across England and Wales. We know from this massive surveillance exercise that the priority inspection programme, routinely used by the NBU, detected significantly more American and European foulbrood than the inspection of apiaries selected at random. Also, the apiary risk classifications used by the NBU to prioritise inspections, were confirmed as being very useful for targeting disease. The final part of this exercise was to look at 13 pathogens in adult bee samples collected from each visit, including viruses, fungi and bacteria. We can confirm that every one of these pathogens was detected across England and Wales, but the prevalence of each ranged from being very common, to a single finding in the survey! Some good news is that the viruses linked to Colony Collapse Disorder in the United States were of very low prevalence, and none of the 19,615 colonies assessed in the survey, were suffering from this condition. The final report for this surveillance exercise will be shared with beekeepers in spring next year, so look out for updates in magazines, on BeeBase (see www.nationalbeeunit.com) and presentations at the WBKA and BBKA Spring conventions. NBU staff will also throughout the year be giving presentations across the country as well which will include these details.

This season was also another successful year for providing training and advice building on what has gone before. To date, NBU staff have given 833 training events with 25,200 attendees. Also seasonal husbandry advice was sent to 4500 beekeepers who had registered on BeeBase and provided their email addresses, and 105 disease alerts were sent to 2076 registered beekeepers who own bees within 5 km of foulbrood disease. If you wish to receive seasonal advice and updates or be informed when foulbrood has been found in your area, please provide us with your email address (see contact details below).

The NBU can only provide training and advice, and effectively control disease when we are in a position to contact you! This might seem like an obvious statement, but if we do not know you are a beekeeper, we cannot warn of disease threats near you or provide timely husbandry advice. A large number beekeepers that remain unknown to the NBU seriously compromises our ability to control notifiable disease and to contain any future incursion of an exotic pests like the Small Hive Beetle. Many beekeepers presume that by registering with a local association, NBU inspectors will know automatically where beekeepers are. However, this is not always the case. For example a survey in 2011 revealed that 45 of 64 county level associations do not share such information with the NBU, leaving large gaps in our ability to control disease and future exotic pest incursions. Recent efforts by the NBU inspectors has resulted in an estimated additional 2291 beekeepers becoming registered, and therefore becoming part of a responsible community of beekeepers who are serious about improving honey bee health. If you want to register with the NBU as a beekeeper, and help us to help you, then please contact us.

National Bee Unit

Contact us on 01904 462510, by emailing nbu@fera.gsi.gov.uk, or find more information by visiting our website (www.nationalbeeunit.com).

Annual Bee Report 2011 – Northern Region. (Covering Greater Manchester, Merseyside and the Wirral, Lancashire, Cumbria, Tyne and Wear, County Durham & Northumberland)

Foul brood Disease

There has been an increase in the amount of foul brood disease found in the Northern region this year.

American Foul Brood (AFB) has been found in the following 10km squares: -

NY04 Allonby - 5 colonies 1 apiary
NY35 Carlisle West - 1 colony 1 apiary
NY45 Carlisle East - 1 colony 1 apiary
NY56 Brampton - 1 colony 1 apiary
SD53 Preston North - 1 colony 1 apiary
NY65 Geltsdale Forest - 2 colonies 1 apiary
SJ 38 Bromborough – 2 colonies 1 apiary

European Foul Brood (EFB) has been found in the following 10km squares:-

SD30 Haskayne – 1 colony 1 apiary
SJ79 Irlam – 2 colonies 1 apiary

As National Bee Unit protocol, we have completed 5 km inspection sweeps around the infected apiaries.

Varroa

Unfortunately, as often happens, some beekeepers have found high levels of Varroa in their colonies late in the season; this can be due to poor Varroa monitoring/management or invasion from nearby colonies.
Varroa monitoring is very important and should be done regularly and throughout the year (at least 3 to 4 times).
On every inspection beekeepers should really be asking themselves **'what can I do help to control Varroa at this inspection'?**
It is usually the large stocks that haven't swarmed that show high varroa levels (due to constant brood rearing – i.e. no brood break)
Also later in the year, beekeepers should be on the lookout for invasion from collapsing colonies in the surrounding area, levels can increase to danger levels in only a few weeks, particularly if as stated earlier a colony is collapsing nearby.
Beekeepers must remember to use different treatments regimes and management techniques at different times of the year. If using low efficacy products, it is often necessary to undertake a 'summer' Varroa control, usually by making the colony/ies brood less and treating the brood less stocks.

For more information on Varroa please visit our web site www.nationalbeeunit.com or read the 'Managing Varroa' leaflet produced by the NBU. This can be downloaded off the web site.
Please remember Varroa and its associated viruses are still the biggest killers of honey bee colonies here, in Europe and throughout the World.

Possible new Varroa treatment

It is likely that a new Varroa treatment will be available to beekeepers in the UK soon (hopefully sometime in 2012). BASF and NOD Apiary products are seeking full approval from the Veterinary Medicines Directorate (VMD) for the product - MAQS (Mite Away Quick Strips) in the UK and then hope to move to EU approval following this. The treatment is Formic Acid based formulated into a saccharide gel strip. The strips are placed on top of the brood frames and are active for approximately 7 days. There is no need to remove the strips after treatment as they will degrade. Formic acid has a proven track record for Varroa control and has the benefit of penetrating the cappings to kill the mites in the cells as well as the phoretic mites.
The product has been registered for use in honey bee colonies in The United States of America, Canada and Hawaii and has been tested in Germany and England.

As always, if using, follow the label instructions to the letter.
Disclaimer - No mention of a treatment or proprietary product in the report constitutes a recommendation by the National Bee Unit or DEFRA, neither does it imply registration under English law.

Approved Bee Medicines

I have been asked on several occasions this year 'What medicines are approved for use as treatments in honey bee colonies in this country?'
For your assistance, I list the current authorised medicines below, please check the VMD web site regularly (www.vmd.defra.gov.uk) or ring the VMD to confirm that products are still legal and current to use.
Please note that treatments are approved for use in honey bee colonies in this country by the VMD (Veterinary Medicines Directorate) and not by the National Bee Unit.
There is a link from Beebase to the VMD website.

Product Name.	**Active Substance**
Apigauard Gel. (25% Thymol) for Beehaive Use	Thymol
Apilife Var Bee-Hive Strips	Camphor Racemic, Eucalyptus Oil. Menthol
Apistan 10.3% w/w Bee Hive Strip	Tau Fluvalinate
Bayvarol Strips 3.6 mg	Flumethrin
Fumidil B Powder for Syrup 20 mg/g	Fumagillin
Thymovar 15 g Bee-hive Strips for Honey Bees	Thymol

The 2011 honey season.

2011 has generally been a poor honey gathering year, mainly due to the poor summer weather. The average main crop yield surveying 34 beekeepers across the Northern region was around 30 to 35lb per honey producing colony. As last year, the rape secreted well due to the good spring weather, although for some beekeepers, this was the only honey their bees produced.
Some beekeepers reported as much as 80 to 100lb as their average crop; this was mainly due to the balsam flow, although crops in Cumbria were low averaging between 15 to 25 lbs. Similarly, crops through the Ribble Valley were around 20 to 30lb, and on the Wirral they averaged around 25lb.
Honey prices remained the same as 2010, flower honey retailing between £2.50 to £5 per lb dependant on demand and location. Heather crops were generally poor with an average crop of between 10 to 15lb per colony.

Staffing

Ian Wallace was appointed Seasonal Bee Inspector for the North of the Northern region (Northumberland, County Durham and Tyne and Wear) in May 2011.

Random Apiary Survey

The last samples for the Random Apiary Survey (RAS) were collected at the end of May. All samples have now been analysed and those of you who had samples taken can find results by checking your personal page of Beebase. As a guide we are checking for: Nosema spp, Acarine and viruses, as well as foulbrood and exotic pests.

This has been the largest apiary survey ever conducted and we are expecting some useful information from its results. The initial results indicate that the way in which the NBU works, by doing risk based inspections, is the most effective way to find disease and suggests that the NBU has a good idea where foul brood is located. The RAS indicates that apiaries with shared ownership (joint apiaries) are more likely to have EFB than apiaries run by a single beekeeper and also shows that DWV is the most common virus that can cause colonies to dwindle and die. Also the report shows that high colony numbers in an apiary is likely to lead to higher disease levels.
Please see the attached NBU report for more information.

Imports and Exports

There were 4113 queens imported from Cyprus, Czech Republic, Denmark, France, Germany, Greece, Ireland, Italy, Poland & Slovenia. The largest number came from Greece (2850) Also 405 nucs were imports from Czech Republic, Ireland, Italy & Poland.

From third countries – 1762 queens were imported from Argentina, Australia & New Zealand. The largest number came from New Zealand (1242)

Those of you who import queens into the Northern region will normally receive a visit from a bee inspector; this is to check that the queens and nucs have arrived with the correct paperwork and that the queens have established healthy colonies. If you wish to import queens into the UK, from the EU or third countries then guidance notes and forms are available on our website at www.nationalbeeunit.com click on Bees & the Law and select Imports and Exports from the menu.

Beebase registration

There is a common misunderstanding, that beekeepers who are members of beekeeping associations are automatically registered on Beebase, unfortunately this is not the case. Generally, you are registered on Beebase, if you have been inspected by an Appointed Bee Inspector, been added to the data base by an Appointed Bee Inspector or the office staff at the National Bee Unit in York (with prior permission from the beekeeper or beekeeping association) or registered on-line yourself.

We are currently trying to encourage as many beekeepers to register on Beebase as possible, this so we can contact beekeepers for things like exotic pest surveillance work, but mainly to offer advice to beekeepers and inspect their colonies for notifiable disease.

When we find notifiable disease, we use our Beebase 'sweep system' to search the area around the disease outbreak (normally 3km to 5km). This is so we can visit the beekeepers in the surrounding area to make sure that their bees have not contacted the disease.

We then use our e mail disease alert system to let beekeepers know that notifiable disease has been found in their area, to be alerted you must have a current e mail address in Beebase.

If you are not registered on Beebase, could I please ask you to register as soon as possible.

If you are unsure whether you are registered, please contact me or the NBU office on 01904 462559/510

If you are registered on Beebase, please make sure that your e mail address is current and up to date.

Please note the National Bee Unit do not pass any of your personal information to third parties.

To access the site, please visit www.nationalbeeunit.com

Seasonal Bee Inspector Contacts

Merseyside/Wirral/West coast of Lancashire

Doug Jones, (available April to end of September)
Works mobile: 07775 119444

Cumbria/North Lancashire

Stewart Beattie (available April until end of September)
Works mobile: 07775 119443

Lancashire and some parts of Greater Manchester

John Zamorski (available April until end of September)
Works mobile: 07775 119446

Durham, Tyne and Wear and Northumberland

Mr Ian Wallace (available April until end of September)
Works mobile: 07775 119445

Details of disease incidence, research and news updates are regularly placed on the NBU website on www.nationalbeeunit.com or you can access our web based site at http://secure.fera.defra.gov.uk/beebase

If there are any items in this report you would like to discuss, then please feel free to contact me.

Just to remind you, I am available for lectures and demonstrations throughout the year.

Ian Molyneux. **Northern Regional Bee Inspector**
10 Bramhall Ave,
Harwood,
Bolton.
BL2 4EL.
Tel: 01204 381186 **Mobile: 07815 872604** e-mail: ian.molyneux@fera.gsi.gov.uk

Bills Blog

As many of you know Bill Ainsworth and Arthur Bickerstaffe have going an excellent blog on Black Bees and also everyday tips and very helpful advice to both experienced and beginner beekeepers.

They both always want comments to the blog and even suggestions for topics etc. This blog is for anyone interested in bringing Black Bees back into the UK but particular back into East Lancashire.

Please visit the blog and make comments and ask questions as this is what the blog is all about.

I am sure that after one visit you will not be disappointed and will enjoy all there is to read and as a blog suggests add your comments.

The web address is

www.blackbees.co.uk

Swarm Catchers

It is advisable due to outbreaks of AFB in our area that any collecting of swarms that are out of the vicinity of any members apiary or swarms from an unknown source should be carried out by our official swarm collectors and so eradicate any swarms collected which may have AFB spreading the disease to our area.

The reasons being

- The official swarm collectors have an area where they can keep collected swarms away from any other hives and observe and check them for AFB. If AFB is found then the swarm collector can immediately contact the bee inspector to sort out the problem.

- Any swarms collected will be treated with oxalic acid to rid them of any Varroa that could be on the swarm.

- Once these checks are carried out the swarm when put in a Nucleus will be offered to members of our association in need of a Nucleus of bees.

PLANTS FOR BEES.

Planting for bees, which also benefits other wildlife, can be done by us all. The list below of bee friendly plants is not exclusive, but will attract bees and butterflies.

Annuals.

Asters
Calliopsis
Clover
Marigolds
Poppies
Sunflowers
Zinnias

Perennials

Buttercups
Clematis
Cosmos
Crocuses
Dahlias
Echinacea
English Ivy
Foxglove
Geraniums
Germander
Globe Thistle
Hollyhocks
Hyacinth Lavender
Rock Cress
Roses

SHRUBS.

Berberis; Buddleia: Ceanothus; Chaenomeles; Cistus; Choisya; Clematis; Clethra; Cotoneaster, Cytisus; Deutzia; Escallonia; Fuschia; Genista; Hebe; Helianthemum; Hydrangea; Hedera; Kalmia; Kolkwitzea; Lonicera; Mahonia; Myrtus; Olearia; Perovskia; Philadelphus; Potentilla; Prunus; Pyracantha; Rhododendron; Ribes; Rosemarinus; Salix; Symphoricarpus; Syringa; Tamarix; Ulex; Viburnum; Weigela; Wisteria.
Bilberry; Whortleberry; Blackberry; Blueberry; Gooseberry;

Most, if not all, of these plants are available as either plants or seeds.
If you can plant the plants in clumps or drifts it is better, but shrubs come year after year and so are best.

Check the BBKA website for Information leaflet No.3 for more details.

With Thanks to Bournemouth and Dorset South BKA for the text

Re use of glass jars

I recently heard that glass jars cannot be reused for honey and treated the news with some scepticism. When I mentioned it to several other beekeepers, they gave me short shrift and said that they could understand that lids might present a problem, but they were, to a man (and woman) at a loss to see the sense with regard to, easily sterilised, glass.
Undeterred in my quest for the truth, I sent an email to the Food Standards Agency on January 26th and received the following reply, which confirms absolutely that, jars may not be re-used if the product they contain is to be sold.

I am sorry, but unfortunately the legislation with regards food contact materials will preclude the reuse of glass honey jars for any commercial food use, even following stringent cleaning. A commercial honey producer is legally obliged to ensure their jars are fully compliant with legislation, and have an overriding requirement under the Food Safety Act to ensure the food they provide is safe.

Any packaging used must be compliant with the European regulations (principally Article 3 of Regulation 1935/2004,) which sets out the safety criteria for food packaging. Though it can be assumed that originally the jars met these criteria, as they were fit to sell at the retail level, once sold and their constituent food has been consumed, the required chain of documentation which shows they are compliant is broken. Thus it would be impossible to demonstrate to the relevant authorities that the reused jars were compliant, unless the jars were knowingly manufactured to be reused, and within

a closed loop distribution system like milk bottles. However, only the courts can decide whether in particular circumstances an offence has been committed.

The Agency has guidance on the re-use of food contact materials, which is to be found at:

http://www.food.gov.uk/safereating/chemsafe/packagingbranch/packagingreuse

I hope this proves of use to you.
Regards
Vincent Greenwood
Scientific Officer
Food Contact Materials, Veterinary Medicine Residues & Mycotoxins
Agricultural Contaminants and Food Contact Materials Branch
Chemical Safety Division
Food Standards Agency

It seems that recycling does not sit high on the agenda of the Food Standards Agency, but this is the law.

With thanks to Somerton beekeepers Association and e-bees

Using and Making Pollen Patties

Good quality pollen substitute called 'pollen patties' are used to feed bees protein in the spring before natural pollen is available, or any time that the bees need protein. They are beneficial at this time of the year - from January to March to stimulate brood rearing, and are an important spring food supplement that will make a colony prosper.
The ingredients need to be carefully selected for Appropriate characteristics. Historically a wide range of strange ingredients have been used, such as fresh or skimmed milk, egg yolk, pea flour, linseed, meat scraps, even dried blood, and many Beekeepers have their own favourite recipe.

These days the preferred ingredients are soy flour (de-fatted), brewers yeast, sugar, syrup, pollen if available, and sometimes honey (if the source is know to be safe).
Either a high sugar content (50%+), or a high pollen content (15%+), is necessary to ensure the bees will consume the mixture, and to minimise waste.

A typical recipe to make two 1 lb (500 g) patties:
previously blended 67% sugar syrup - 12 parts / 48% / 480 g
pollen if available
brewers yeast - 3 parts / 12% / 120 g
de-fatted soy flour (available from equine suppliers) - 6 parts / 24% / 240 g
white granulated table sugar - 4 parts / 16% / 160 g

Making the patties.

Use a good strong food mixer is the best way to mix the ingredients. Start by adding all the sugar syrup, and then add the powdered ingredients slowly - starting with the pollen, then the yeast, then the soy flour, and finally the sugar. Add the ingredients slowly until a soft dough is formed, this should take about ten minutes. When you get the right consistency, stop adding ingredients. It does not matter if the formula is exact. Add as much of the sugar as you can, but if the dough seems right before all the sugar is added, stop and make up the patties.
Roll out and cut the patties on a table that is well covered with soy flour and sprinkle lots of soy flour onto the patties as you roll them out with a rolling pin.

A one pound (500 g) large hamburger size patty is ideal to feed one hive. Although a really strong colony can eat a patty of this size in a week.

The bees prefer the patty to be moist, so you can put the mixture in a zip lock bag before rolling out, which will reduce moisture loss, and then cut a 'vee-slot' in the underside of the bag when you put the patty in the hive, or wrap in cling film.

The patty should be placed on top of the brood frames, using an eke if necessary.
You can of course buy patties from the usual suppliers, but they are fun to make, if somewhat messy. Either way treat your bees, and watch them prosper at the start of the season.

With thanks to Riegate Beekeepers Association

Bee Pollen. A Perfect Food.

Bee Pollen is one of the richest and purest natural foods ever discovered, and the incredible nutritional and medicinal value of pollen has been known for centuries.
Pollen grains contain the male germ cells (elements) that are produced by all plants, flowers or blossoms. This is essential in order to ensure that plant life throughout the world continues by a process involving fertilization and plant embryo formation.
One teaspoonful of pollen contains approximately 1,200 pellets or 2.5 billion grains, each of which has the capacity to supply those factors that are necessary in order to fertilize and reproduce the particular species that it represents (such as a fruit, grain or tree). Pollen is composed of myriads of microspores that are produced in the anthers of flowers and in the cones of conifers. Each grain measures approximately .002 inches in diameter (although the representative diameter is somewhere near one-half millimetre), and each bee-collected pellet contains approximately two million grains of pollen.
Pollination consists of the transfer of pollen from the anther of a stamen to the stigma of a pistil. This, in turn, produces a fertilization of the ovules in the ovary, which subsequently develops into the growth of seeds. A single spike of Ragweed or a single strobile of Pine may produce up to six million grains of pollen, and as many as four million grains may be found in a head of rye. Many plants are pollinated by wind, rain or water-currents, while colourfully attractive or scented flowers containing nectar are largely pollinated by insects (including flies, bees, wasps, butterflies, beetles and moths).
Pollen gathered by bees is superior to that obtained directly from flowering plants. The bees are extremely discriminate about selecting the best pollen from the millions of grains that are present. Of these, only two types are found, namely, anemophile pollen grains (which are not collected by bees, and produce allergic reactions) and entomophile pollen grains (which are collected by bees, and possess greater nutrient content). In actuality, entomophile pollen grains have been employed in the successful treatment of airborne pollen allergies. It is apparent that the bees only select those grains of pollen that are rich in all the nutrients, especially nitrogenous materials.
The bees mix the pollen grains with a sticky substance that is secreted from their stomachs, which allows the pollen to adhere to their rear legs in "pollen baskets" in order to safely transport it to their hives.
Many other flowers are also pollinated by certain birds, such as sunbirds, honeycreepers, lorikeets and hummingbirds. Marsupials (such as honey "mice" and bats) will also pollinate certain flowering plants, and even snails have been observed transporting pollen.
Pollens are usually designated by their flower origin in order to establish certain preferences that are dependable. The colour and shape usually indicates the species of plant from which it was obtained, as well as the specific geographical region. Although the colour of pollen is normally unimportant, it will range from golden yellow to black according to its source. Pollen contains many varieties of pigments, of which only a small number have been isolated. Certain pigments are water-soluble, while others are fat-soluble. This accounts for the many varied colours of honey (including the ambers and greens), and the yellow of beeswax is a fat-soluble pigment.

The composition of Bee Pollen

Pollen contains the richest known source of vitamins, minerals, proteins amino acids, hormones, enzymes and fats, as well as significant quantities of natural antibiotics. Most of the known vitamins in pollen exist in perfect proportion, which further enhances their value.
There exists anywhere from 5,000 to 9,000 micrograms of active carotenoids, which are converted into vitamin A in the body. The carotenoids are available in the pollen of insect-pollinated flowers, but are missing from wind-pollinated species. Carotenoids (Provitamin A) are present in the Lipochrome fraction (which are xanthophyll esters), and may range from 50 to 150 micrograms per gram. The pollens richest in carotene may contain 20 times as much as is present in an equivalent weight of carrots, thereby making pollen a good source of Provitamin A. The carotenoids are usually combined with the outer layer of the pollen grain (the sporonine), but some may also be bound to the protein of the pollen cell. In addition to the class of carotenoids, there is another group of pigments found in pollen, namely, the flavin pigments (flavones, flavonols). Furthermore, cytochromes also occur in pollen.

The following quantity of B-Complex vitamins are found in one gram (1,000 milligrams) of fresh raw pollen:

Vitamin B1 (thiamine)	**9.2 mg.**
Vitamin B2 (riboflavin)	**18.5 mg.**
Vitamin B6 (pyridoxine)	**5.0 mg.**
Nicotinic acid	**200.0 mg.**
Pantothenic acid	**27.6 mg.**
Folic acid	**5.0 mg.**

These amounts should be increased by 20 to 25 per cent for all varieties of dry pollen. All forms of bee pollen contain higher amounts of vitamins B1, B2 and E than found in fruits, berries and green vegetables.
One gram of fresh raw pollen contains from 7 to 15 mg. of vitamin C, along with traces of vitamin E (tocopherol). Although vitamin K does not exist in mixed pollens, it is usually found in fermented pollen (bee bread). It is most likely created by bacteria that either accompany or assist in the fermentation process whenever pollen is stored in the cells of the combs. While ordinary pollen gradually deteriorates while in storage, bee bread closely resembles fresh pollen and retains its food value (even after more than two years).
Pollens usually contain as much as 17 milligrams of rutin, although beehive stored pollen may contain up to 13 per cent. The richest supply of rutin is found in buckwheat pollen, due to the fact that rutin is derived from buckwheat. Daily consumption of from 60 to 70 grams of pollen is considered safe insofar as the intake of rutin is concerned. Various other vitamins found in pollen include B5, B12, D, biotin, inositol and PABA.

The mineral content of bee pollen is as follows:

Calcium	**1 to 15% of ash (10.5% average)**
Chlorine	**1% of ash**
Copper	**.05 to .08% of ash**
Iron	**.01 to .3% of ash (.07% average)**
Magnesium	**1 to 12% of ash (6.7% average)**
Manganese	**1.4% of ash**
Phosphorus	**1 to 20% of ash (13.6% average)**
Potassium	**20 to 45% of ash (20.7% average)**
Silicon	**2 to 10% of ash**
Sulphur	**1% of ash**

The total mineral ash in pollen may vary from 1 to 7 present (with a mean average of 2.7 present), which is similar to that of grains and certain seeds.
Bee pollen contains up to 59 different trace minerals, and all minerals found in pollen are present in a highly digestible form.
The protein content of pollen (including certain peptones and gloculins) ranges from 10 to 35 present (according to its plant origin), with a mean average of 20 per cent. Forty to fifty present of this may be in the form of free amino acids. All pollens contain the exact same number of 22 amino acids, yet different species produce varying amounts. The amino acids found in whole dry pollen fluctuate between 10 and 13 present (26.88% protein or aluminous substances). This equals from 5 to 7 times the amino acids found in equal weights of beef, milk, eggs or cheese.

The following are protein content comparisons between pollen and "complete protein foods" (100 grams edible portion):

	Isoleusine	Leusine	Lysine	Methionine
Meat (beef)	**0.66**	**0.81**	**0.20**	**0.91**
Eggs	**0.69**	**0.67**	**0.20**	**0.90**
Cheese	**1.43**	**1.38**	**0.34**	**2.05**
Pollen	**3.90**	**4.00**	**1.30**	**5.70**

The quantitative analysis of amino acids (per 100 parts of dry matter) is as follows:

Arginine	5.3%	**Methionine**	1.0%
Histidine	2.5%	**Phenylalamine**	4.1%
Isoleucine	5.1%	**Threonine**	4.1%
Leucine	7.1%	**Tryptophane**	1.4%
Lysine	6.4%	**Valine**	5.8%

These are the amino acids that are most indispensable in our daily diet, and which cannot be manufactured or synthesized in our system. They are also derived from natural sources in a usable form.

Approximately 35 grams of pollen each day will supply all the body's protein requirements. However, only 25 grams of pollen ingested daily will sustain a person in terms of providing sufficient amounts of each of the essential amino acids.

The albuminous substances in bee pollen consist of albumine, globuline, guanine, hypoxanthine, lecithin, nusleine, peptone, vernine and xanthine.

The body will more effectively utilize the protein in food if there is a larger selection of amino acids available. Bee pollen contains from 10 to 15 per cent natural sugars, including fructose, glucose, pentose, raffinose, stachyose and sucrose. These are essentially the same simple natural sugars that are found in honey, and which exist in easily-digested chains and bonds. Many are converted to a pre-digested form by the enzymatic action of the bee's salivary glands.

The total content of natural sugars in pollen range from 30 to 40 per cent; glucose, from 25 to 48 per cent; reducing sugars, from 7.5 to 40 per cent; and non-reducing sugars, from 0.1 to 19 per cent. The non-reducing sugars in the bee-collected pollen average 2.7 per cent while the reducing sugars range from 18 to 41 per cent, with a mean average of 25 per cent. However, the values for both reducing and non-reducing sugars in hand-collected pollen may be approximately the reverse of this. In hand-collected pollen, reducing sugars range from 0 to 7.5 per cent and non-reducing sugars may be as much as 22 per cent.

Pollen may also contain up to 44 per cent of carbohydrates or glucides. The starches found in bee pollen are sometimes combined with other carbohydrates, and may average anywhere from 1 to 22 per cent.

The highly-resistant exterior wall membranes of pollen are composed of sporonine and cellulose. This complex carbohydrate is unextractable from pollen, and ranges from 7 to 57 per cent in various species.

The undetermined percentages of pollen that remain after the removal of water (or moisture); ash, sugars, starch, protein and ether extracts consist primarily of the pollen shell (or sporonine). This ranges from 21 to 35 per cent in bee-collected pollen, with a mean average of 28.55 per cent. However, the average is approximately 57 per cent for hand-collected pollen.

Although various other extractives may range from 1 to 25 per cent in pollen, fats and oils may constitute only 5 per cent. In some cases, the levels of fatty acids in pollen are about 5.8 per cent. However, hexadecanol has been found in amounts totalling about 0.14 per cent of pollen weight. In addition, alpha-amino-butyric acid has been identified in pollen fat. Furthermore, the unsaponifiable fraction of pollen weight may total as much as 2.6 per cent.

In addition bee pollen also contains lecithin, amines, nuclein, guanine, xanthine, hypoxanthine, vernine, waxes, gums, resins, hydrocarbons (0.57%), sterols (0.6%), polypeptides, DNA, ribose, desoxyribose, hexuronic acid, vegetable oils (5% average) and various growth factors.

Certain enzymes are also present in pollen, and are the essential biological catalysts during the digestive process (pollen also aids in the proper digestion of other foods). The enzymes found in bee pollen include amylase, catalase, cozymase, cytochrome, dehydrogenase, diaphorase, diastase, lactic acids, pectase and phosphatase. A mixture of fresh pollen may contain anywhere from 500 to 1,000 micrograms of cozymase per gram, which compares favourably with the amounts found in yeast. In addition, the alcoholic fermentation of pollen is identical with that of yeast.

The heating of pollen will destroy the valuable enzymes and vitamin C content.

Fungus spores are sometimes found intermingled with pollen.

The water content of fresh pollen ranges from 3 to 20 per cent. This water content must be carefully removed by proper dehydration methods (desiccation) in order to retain its fragile elements, as well as to preserve the total integrity of its properties.

Bee pollen also contains active antibiotic substances that immediately destroy harmful pathogenic bacteria upon contact.

Bee-collected pollen usually contains nectar and saliva. When mixed with honey, this pollen may be stored in comb cells where it undergoes a lactic acid fermentation process in order to produce "bee bread" (which contains high levels of vitamin E and K).

Pollen is superior to both honey and royal jelly, and possesses a similar (but more stable) composition to that of royal jelly. The overall stability of bee pollen is more advantageous when used in dietetics, as well as an effective form of skin care during corrective dermatology. Since pollen contains fatty acids, this may account for its favourable effect upon the skin and dermal tissues. The anti-fungal action in human perspiration is due to the presence of certain fatty acids such as caprylic, propionic and undecyclenic acids.

Many of the active ingredients in bee pollen consist of substances (such as hormones) that accelerate plant growth.

As you can see from the above tables and explanations taking pollen every day is most beneficial and is recommended.

Researched, Compiled and Presented
By
Michael Birt

SWARMS: Mike Cross, Derbyshire BKA

Let us consider why bees swarm and how can we prevent them from swarming.

Adrian Waring said,

"imagine an equilateral triangle, with one side being the queen, another side being the flying bees and the third side being the brood. Take one of those away and the triangle collapses, therefore you have stopped swarming."

Normally in an artificial swarm process we separate the brood and young bees from the queen and flying bees.

Some colonies are susceptible to swarming more than others and you should look at breeding from Colonies that are not susceptible. To some extent this may be true but it is extremely difficult and it is not the complete answer. You can to some extent control the female side by selecting to breed from a queen from a colony that is less susceptible to swarming but you can't control the drones.

Age of the queen:- a queen in her second year is more likely to swarm than a queen in her first year. In some respects this is true, but don't bank on it.

Over crowding:- colonies allowed to build up quickly in the early part of the season. A colony on nine frames of brood by the end of April is a candidate for swarming. Think, when that brood hatches out it has got to go somewhere.

Geographical location:- colonies in the south of the county are more likely to swarm than those in the north; to some extent this is true, the temperature is warmer along the Trent Valley, colonies get going a lot quicker. Also fields of oil seed rape are renowned for accelerating the build up of colonies during the swarming season.

Failure to remove honey from a colony after the end of May could encourage a colony to swarm. This is true because bees will be reluctant to swarm on empty stomachs, especially if they think they are going to be outside for a long time looking for a home. Remove an early honey crop as soon as you can or else they will eat it and go.

The late Len Heath told me that colonies swarm if the wax secreting bees have nothing to do and have no comb to pull out. By having some frames with plain foundation in the hive you give the bees something to do and perhaps takes their minds off swarming.

If you bear these points in mind you may be able to limit the number of swarms but you won't stop them. With more and more beekeepers around leading to more colonies of bees in the environment, so there are going to be more swarms issued.

WHAT DO YOU USE? With Thanks to Peter Edwards, Stratford on Avon BKA

The table below shows the efficiency of selected bio-pesticides compared with Apistan. I have summarised the methods and findings and they are certainly very encouraging in the search for alternative treatments to the 'hard' pesticides. They also show that some of these alternative treatments do not necessarily involve any more work than putting in strips. However, it should be remembered that some treatments may be temperature dependent and will only give these results if applied at the optimum time.

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Product	Method	Time required to apply (per colony)	Efficiency
Apistan	2 strips for six weeks	1-2 minutes	97%
Sucrocide	All combs sprayed both sides	5 minutes	96%
Oxalic acid	50ml of 3.2% oxalic in 50:50 w/v sucrose solution dripped	1 minute	92%
Apilife VAR	4 pieces in corners of the brood chamber on the frames	1-2 minutes	91%
Formic acid	MiteGone™ pad soaked with 65% solution and placed vertically in brood chamber	1-2 minutes	79%
Control	Untreated		23%

BEEKEEPING SAFETY With thanks to Yorks BKA

- **Stop puffing the smoker for a while if a flame comes out of the nozzle.**
- **Don't allow loose embers to blow into combustible materials.**
- **Completely extinguish the smoker before storing it in any buildings or vehicles.**
- **If you dump smouldering fire out of the smoker be sure it is completely extinguished before leaving the area.**
- **Never place a hot smoker near flammable materials such as petrol, beeswax etc.**
- **Keep aerosols from contact with hot smoker**
- **Never puff a smoker into anyone's face even to ward off bees.**
- **Handle a hot smoker only by the bellows.**
- **Keep out of the reach of children.**

All that is common sense, but the next beekeeper whose smoker starts a fire will not be the first. Some beekeepers attempt to light a smoker with their veils over their faces. This is a dangerous practice. Puffing the smoker with just ignited kindling can cause flames to shoot out the top of the open smoker. If this flame comes into contact with the flammable material of a veil, nasty facial burns could result. Always throw your veil back while lighting your smoker until it is going properly.

Whilst on the topic of safety let me remind you about going to out-apiaries. Tell your nearest and dear-est where you are going and what time you anticipate returning home. If you have a mobile 'phone, have it on your person, fully charged and switched on ready for use in an emergency. Accidents, by definition, cannot be predicted. Make a note of grid references of each of your sites, for they are often remote and it can possibly be difficult to give anyone directions to get to them. Stick a copy on your kitchen notice board! Also take your nearest and dearest to your sites occasionally so they are familiar with their l locations. Do not block the entrance to your out apiary as it may be needed by the emergency services coming to your rescue

Queen Pheromones

Social insect groups, including the honey bee colony, are organised in a way that, to us, seems amazing. Not for them the structure of Chief Executive Officer and a hierarchy of managers but rather a system of co-operation where every individual has input and is able to communicate with all the other individuals, and where feed-back mechanisms are used constantly as a monitoring and driving tool.
Of course there is one insect which is given the title 'queen' and is regarded as special, but although she does indeed possess qualities which the other insects in the community do not have, and is essential to the smooth running of the colony, she is still a cog in a very large wheel and in no way resembles our CEO. This month I am going to explore the pheromones that the queen produces and their effects on the other bees in the colony.

The function of the queen in the colony

In a normally-functioning colony, the single queen is the sole female reproductive individual. She is very important due to her ability to lay fertilised eggs, an ability that none of the workers have, although they are all females. All females are derived from fertilised eggs and it is the differential feeding of queen larvae, followed by changes in the hormonal system, leading to the expression of different genes in the adult insect that allow the queen to become a fully functioning reproductive female. It is important to realise, however, that she is very limited in her capabilities and is unable, for example, to produce wax, collect pollen and undertake the various tasks that occupy the lives of workers. In many ways she is a simpler insect and her life is very limited when compared to her daughters. A second function is down to her pheromones and this can broadly be stated as keeping the colony together as a single entity. This may be inside or, in some circumstances, outside the nest.

The queen's pheromones

The existence of queen pheromones was first shown in the 1950's by Colin Butler of Rothamsted and he used the term 'queen substance' to describe a mix of chemicals, the composition of which was unknown. Research has continued, and is still ongoing, on the chemical composition and method of function of the various queen pheromones and we now know that it is a very complicated business. The queen has a number of glands producing pheromones:

Mandibular glands

These are a pair of glands situated just above the mandibles in the queen's head. The original pheromones identified by Butler are produced here, and the glands are very big. (They are also present in the worker bee where they are smaller and produce completely different substances). The main constituents of the pheromonal mix are 9-oxodec-2- enoic acid (9ODA) and 9-hydroxydec-2-enoic acid (9HDA) but many others have now been identified. The pheromone is produced continuously and transmitted by the queen's retinue, and from bee to bee, either by contact or by food sharing. Each worker bee needs a small amount to 'tell' it that a queen is present and if the queen goes missing the whole colony becomes aware of this in a very short time. It prevents ovary development in workers (but brood pheromones also interact with it here) and a drop in the amount received by the workers is one of the triggers that initiates swarming. Outside the colony it attracts drones to the queen in Drone Congregation areas and it is also vital for the formation of the swarm cluster and keeping the swarm together while it travels to a new nest cavity. Interestingly 9ODA attracts bees to the swarm cluster but 9HDA stabilises the swarm.

Tergite glands (Renner-Baumann)

The tergite gland pheromone is produced from small patches of cells on the terga (plates covering the back) and is attractive to the pursuing drone on the queen's mating flight. It is not as far-reaching as 9ODA but stimulates copulatory behaviour when the drone is quite close. It is also instrumental in maintaining the retinue which surrounds the queen in the nest and appears to induce the stinging behaviour that starts when two queens meet.

Dufours gland

This is also present in workers. It is part of the sting apparatus and used to be called the alkaline gland. Its pheromone mix indicates to the workers the fertility and fecundity of the insect producing it, so it varies from virgin queen, mated queen and aging queen. In laying workers the gland enlarges and the secretion closely resembles that of a queen.

Koshevnikov glands

These are a pair of glands found on part of the sting apparatus. They are patches of cells and produce a pheromone which is very attractive to workers and helps to maintain the queen's retinue in the nest. The glands seem to degenerate in one-year old mated queens. (In workers these glands release alarm pheromones.)

Tarsal gland (Arnhart)

Glands found in the 5th tarsomere (small division) of each leg and the pheromone leaves an oily trail everywhere that the queen walks. It seems that, together with 9ODA, a drop in the production of this pheromone, and its absence from some parts of the brood nest, initiates swarm preparations. (The tarsal glands are also present in the workers.) From this brief account it is clear that there are many queen pheromones, which interact with one another. They also interact with the pheromones produced by workers and brood in some circumstances. Production of various pheromones varies with a queen's age and condition and it is noticeable that a newly-hatched queen is unattractive to the workers. Gradually her attraction increases, and a newly-mated queen is probably at her most attractive. Pheromones decline with age and some of these changes will elicit swarming behaviour and supersedure. Since pheromones are complex mixes their composition varies too and different parts of the mix may be important in different situations.

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With thanks to Celia F Davis, Warwickshire Beekeeper and e-bees

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