

BBKA News

The newsletter of The British Beekeepers' Association,
incorporating the **BRITISH BEE JOURNAL**



No: 211 – March 2013
ISSN: 2051-0624



Above: Honey bee on a Hellebore; photo by Roger Cullum-Kenyon. Below: A snowy winter for bees; photo by David Wootton.

Making Up Winter Losses

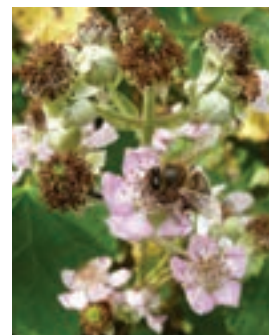
Let us hope that the image on the right is but a dim and distant memory by now, but for those of you who have suffered colony losses as a result of the poor weather throughout 2012 and the harsh winter we have had, help is at hand to lead you through the process of making up your winter losses. Dan Basterfield explains how to make a nucleus colony from a 'parent' colony in an easy to follow step-by-step guide on page 5.



Building up a Nucleus
Find out how to expand a newly created nucleus colony into a strong, healthy colony on page 9.



Introducing Queens
Good husbandry involves ensuring you have the best queen possible for your colony. Turn to page 11 to learn how to achieve this.



European Food Safety Authority Reports
The EFSA reports on the risks associated with neonicotinoid use; see pages 17 and 18.





NATIONAL BEE SUPPLIES

Makers of the finest quality Bee Hives

For hives and a full range of bee-keeping equipment. We promise you the best quality and value – backed by our no quibble money back guarantee if you are anything less than 100% satisfied. With prompt Nationwide delivery service and all major credit cards accepted.

For expert advice and a friendly service

Tel: 01837 54084 Fax: 01837 54085 Email: info@beekeeping.co.uk

The new 2013 Catalogue is out now!

**Buy online at
www.beekeeping.co.uk**

National Bee Supplies

Hameldown House Hameldown Road Exeter Road Industrial Estate Okehampton Devon EX20 1UB



Chairman's Letter



By the beginning of March we should all have a pretty good idea of the number of colonies that have survived the winter, if they are queen-right and whether the queens have become drone-layers. If you lost colonies over the winter it is useful to examine them to try to establish if there is something you can do to help prevent losses to the same cause in future. In this *BBKA News* a number of articles

offer advice if you have lost colonies over this winter. Previous issues of *BBKA News* have contained articles giving advice on bee husbandry and it is always worth looking back over them because they contain a wealth of information and help. As members you can also access them via the members' area on the BBKA website.

Members who have been randomly selected and requested to complete a winter survival form will be receiving their forms this month and I urge you to complete and return them (FREEPOST) to the BBKA.

So what does the new season bring? Beekeepers are by nature optimistic despite the fact that we see a world around us which is becoming more alien for many plants, animals and insects. Honey bees benefit from the fact that they have a value to humans and their welfare is promoted by the beekeeper. Bee health issues will continue to be a focus of attention for us, but it does seem that a key contributor to the health of honey bees is the state of their nutrition and this means increasing the amount, quality and availability of good bee forage. During 2013 the BBKA will be raising the profile of nutrition for honey bees and looking at how it can be improved. As beekeepers we need to take any opportunity to press the case for decision making which will improve honey bee nutrition, be it in agricultural and horticultural practice, gardening and other types of land management.

The new season offers the chance to introduce those new skills you read about over the winter and attend courses to help increase your beekeeping skills and competencies. Beekeeping is a continual learning process and as your skills develop you should aim to manage your bees in a way which does not thwart the expression of their natural behaviour. Beekeepers whose skills enable their honey bees to prosper and be free from disease should find this a reward in its own right and the honey as a bonus. The BBKA Spring Convention is a key event in the beekeeping calendar and I hope you will be able to make a visit whether to buy, attend lectures and workshops or both ... I look forward to seeing you there.

It is a great privilege to serve as the Chair of the BBKA Trustees and I hope that together with your support and encouragement the Trustees can further promote and represent the cause of the honey bee which is one of the key objectives of the BBKA. Do enjoy your beekeeping.

David Aston, BBKA Chairman

Cover photos: Main images: Roger Cullum-Kenyon and David Wootton; Top right: Richard Ball; Middle: Courtesy of the National Bee Unit at Fera; Bottom: Dr Christine Knott.

Disclaimer: Opinions expressed in articles in *BBKA News* are those of the authors and do not necessarily reflect those of the BBKA.

Contents

Regulars

Chairman's Letter	3
In the Apiary	4
Flower Power	7
Introducing Queens: NBU Guidance	11
Everyone Has to Start Somewhere	15
News in Brief: EFSA Update on Neonicotinoids	17
Notes from a Clifftop Apiary	20
Simple Plant Propagation: Layering	23
Learning from Others: Making Skeps	25
Patterson's Page	27
Bees Throughout the Ages	29
On the Bookshelf: Understanding Bee Anatomy	30
Business Corner	31
Classified Directory	33
Diary of Events	33
Your Letters	34

Features and Practical Advice

Making Up Winter Losses	5
Building up a Nucleus	9
European Food Safety Authority Reports	18
Changing Combs Using a Shook Swarm	21
A Funny Thing Happened at the Apiary	28
Insect Pollination	30

EDITORIAL

Editor: Mrs Sharon Blake, Stratton Court, Over Stratton, South Petherton, Somerset, TA13 5LQ. Tel: 01460 242124

Deputy Editor: Dr Christine Knott, Tel: 07765130203

Design: Roger Cullum-Kenyon

All editorial enquiries and submissions should be sent to the editor at: sharon.blake@bbka.org.uk

ADVERTISING

Julia O'Gorman, Email: advertising@bbkanews.org
Tel: 01279 505438

PRINT AND DISTRIBUTION

BBKA News incorporating the British Bee Journal is published monthly for its members by BBKA, Reg. Charity No. 212025. Copyright 2013 BBKA; ISSN: 2051-0624

Printed by: Avenue Print Management, 1 Blighs Road, Sevenoaks, Kent TN13 1DA. Tel: 01732 742397

Distributed by: First Move

CONTRIBUTORS

Regular contributors: David Aston, Dr Sally Bucknall, Dr Ahmir Ahmad, Margaret Murdin, Ken Basterfield, Julian Grazebrook, The Forager, Rowland Molony, Roger Patterson and David Baldock.

CIRCULATION 23,000

Please send any alterations for direct mailing, via your Association secretary, to the BBKA Members' Register.

OPERATIONS DIRECTOR/ GENERAL SECRETARY

Jane Moseley, National Beekeeping Centre, National Agricultural Centre. Stoneleigh, Kenilworth, Warwickshire, CV8 2LG.
Tel: 02476 696679 Fax: 02476 690682
Email: jane.moseley@bbka.org.uk
Website: www.bbka.org.uk

In the Apiary

I am now looking forward to the new beekeeping season with increasing excitement and optimism. Like all beekeepers I am sure this season will be better than last year and we will have healthy bees, fine weather, bumper honey crops, and low swarming. My main hope is that the queens, which mated in the bad weather last year, managed to mate well and do not turn into drone-layers.

The spring flowers and plants should be appearing in all areas now and, of course, the bees are aware of this. It is the appearance of these flowers that signals the end of winter for the bees. The pollen that they bring encourages the workers to increase the feeding rate of the queen and the queen in turn increases her laying rate.

Most of the old winter bees will have died by now and the number of new workers will be steadily increasing, but they will be under great strain. They must feed the queen and the larvae, keep the brood nest warm and forage for pollen and nectar. Colonies should be starting to build up steadily; if you have more than one colony it is important to compare their build-up by keeping accurate colony records. And if you have not kept records before, then spring is a good time to start.

You can buy 'ready-made' colony record cards but it is easy to make your own. In his book *Guide to Bees and Honey* Ted Hooper recommends monitoring and recording a minimum of five things every time we examine a colony. They are:

- ❑ **Queen presence.** Determine if the queen is present and laying. It is not necessary to find the queen, in fact if we go into the brood box at all in March we must do so only if the temperature is above about 12°C and then only briefly. Just check to see if there are eggs. If eggs are present then you know the queen was there within the last day or two.
- ❑ **Stores.** Are there enough stores to last the colony until your next visit? At this time of year the weather is very changeable and it may not be warm or dry enough for you to open the hive for a few weeks. And of course the bees are using the stores up more rapidly because they are more active and they are feeding the queen and brood. If you are in any doubt about the amount of stores then you can place a patty of fondant directly on top of the brood box. Similarly if there is a shortage of pollen-rich plants near the apiary you can feed pollen patties. The bees will ignore them if there is enough natural forage available.
- ❑ **Disease presence.** Is disease or an abnormality present? The varroa count should be low because you will have treated with oxalic acid in December or January during a cold snap when there was little or no brood present. However, they will not have gone away and the count will be building up as they reproduce in the sealed brood. If you have not already done so put the varroa slider in and check the number of mites that fall over a seven-day period. Then either check the calculator on BeeBase or look in the NBU's pamphlet on varroa and see if further action is needed. Make a note of the daily average and the total count in your records. At this time of year one of the biggest dangers is nosema. This is an adult bee disease which affects the gut. Nosema is often found with dysentery.



It prevents the bee from processing pollen and feeding the brood and it shortens their life. It is often the cause of 'spring dwindle' and is one of the reasons why it is important to keep notes and compare your colonies. If one colony is much slower building up than the others then it is important to check for nosema. If your brood area looks healthy and there is a good brood pattern then note how many frames of brood there are and if they are well covered with bees. Move any frames that you wish to replace to the outside, ready for removal when the weather is warm enough for a full inspection.

- ❑ **Space for eggs.** Does the colony have sufficient room for the queen to lay until your next inspection? This should not be a problem in March but should be something to note when the weather is warmer.
- ❑ **Swarm preparations.** A note should be made of swarm preparations. Again this should not be a problem now and it is not necessary to go through the hive looking for queen cells, but there should be space for a note in your records.

In March, it is enough to know and to record that all is well in the colony. Hopefully, this will be that the queen is laying worker brood in a good pattern, that this looks healthy and that there are enough stores for the increasing needs. Then it is a time to hope for large, healthy, non-swarming colonies and to dream of those honey harvests.

Margaret Murdin, Ormskirk and Croston BKA

Immediate Label Ltd

Full Colour Printed Labels

Jar labels	£30 for 250 - £55 for 500
Lid labels	£15 for 250 - £25 for 500

Prices include VAT and Postage

Your own design or we will make one up for you*. Different label sizes available. No need for internet we are happy to take orders over the phone. Pay by cheque, credit card or cash. You can also place your order on the website www.immediatelabel.com

Immediate Label Ltd • Britannia Works • Arkesden Rd • Clavering
Saffron Walden • Essex CB11 4QU • Tel: 01799 550963 • Fax: 01799 551205
Email: sales@immediatelabel.com • Web: www.immediatelabel.com

*Tell us what you want and we will send you 4 different proofs for you to choose from. We also offer a complete design service from £35 per hour.

Making Up Winter Losses

Last month I wrote about the problems of drone-laying queens and laying workers, which can become apparent during our first full spring inspections. The advice for the former was to de-queen and unite the remaining bees with another queen-right colony. For the latter it was to shake the bees out and remove their hive so that the non-laying workers will locate and bolster another colony nearby. Clearly both of these situations will reduce your colony numbers.

Each beekeeper has a preferred upper limit of colony numbers, often imposed by such tedious necessities as time, space, and the wishes of other family members(!). However, I would recommend that a minimum of two colonies be kept at all times. The logic here is that if there is a problem within one colony, the other can be called upon to supply something to assist. Most often, of course, we use this situation when we are testing for apparent queenlessness: i.e. we take a frame of eggs and larvae from one colony, and introduce it into the suspect colony. What really appeals about this particular test is that it provides not only a positive confirmation of queenlessness should emergency queen cells be drawn, but in doing so it has supplied the very materials needed by the colony to right their predicament, and indeed they are already well on their way by the time the beekeeper checks for the results of the test. But I digress. Suffice it to say that I am now considering the situation whereby we wish to make up a winter loss from your remaining colonies. Clearly there will be an opportunity to do this by collecting swarms. After all, during the month of May bees do indeed seem to grow on trees, but I wish to present here a method by which this can be done under your instigation and supervision. I would like to cover the making of a spring nucleus from a colony showing signs of swarming.

As with most (all?) successful beekeeping manipulations, we work with the bees' inclinations, maybe leading them one step further but always in a plausible direction from where they are. To consider taking a nucleus out of a colony it needs to be strong, healthy and with an abundance of stores. We also have to reflect that, on average, two in five colonies will be likely to swarm in a given season, and one particular factor that hastens the swarming urge is being cramped. Thus, particularly in the rather small National hives, swarm control has become part of a beekeeper's routine, and the practice of an artificial swarm — or perhaps, more properly, a pre-emptive swarm — is popular. Making a nucleus colony (nuc) can be a suitable form of artificial swarming and can serve to make increase in order to recover from winter losses. It should also dissuade swarming from the 'parent' colony since that colony will have been suddenly de-populated and significant space will have appeared in the brood nest area.

A nuc has a broad definition and many uses, but in essence it is a small colony with all the components of its full sized counterpart. Nuc sizes can vary from three to six frames, and they are most commonly made up of five frames. There is a simple recipe for the make-up of a five frame nuc as follows:

- ❑ Two frames of food
- ❑ Two frames of brood
- ❑ One frame of space (i.e. drawn comb or foundation)
- ❑ Bees to bolster.

These frames are added with their attendant bees, and then

the bees from further brood frames are shaken into the nuc to bolster its population. Whether a queen is added or a queen cell is introduced depends upon the purpose of the nuc. For the purposes of illustration, we will make up a nuc from a colony that is showing signs of swarm preparation, we will give it a queen cell and keep the nuc in the same apiary afterwards. We will inspect our colonies as normal as spring progresses, but have a nuc box and spare frames to hand and ready for use. Once we see a strong, healthy colony preparing to swarm, we want to make up a nuc from it. Ideally, this should be done on a bright afternoon when the older bees are foraging. Once you have established that the colony is raising swarm cells, you need to go through the brood box looking at each frame while thinking of the above nuc 'recipe' so that you can identify the frames you will need to take out for the nuc. We do not want to transfer the queen to the nuc, so you must find and cage her, e.g. in a matchbox, before proceeding. Also, lightly stuff the entrance of the nuc box with some grass.



The arrangement of frames in a nuc, illustrated looking down on the frames from above, by Dan Basterfield.

First identify the frame with the queen cell that you wish to transfer to the nuc. A good choice would be an open cell with a large, well-fed larva visible; this gives confidence in its quality, and it will be on a frame of brood, ideally with some eggs and open larvae. We will want to destroy all other queen cells, but do not start this process until you have found and assessed each queen cell. It is easy to destroy the best one first, or indeed all of them when you are mistaken that there is still one remaining. The second frame of brood should be chosen for being sealed and as close to emergence as



The first stage of a potential queen cell. Photo by Roger Cullum-Kenyon.



It is possible to cut out and transfer a queen cell, as shown above, to a nuc if so desired. Photo by Roger Cullum-Kenyon.

possible, so that young bees will very shortly emerge into the nuc. Each frame should be shaken lightly, 'a jiggle', over the parent colony; enough to dislodge any older bees that will fly, but not enough to dislodge the majority who want to hang on. Move both of these frames to the centre of the nuc box, covering with a crown board. For extra bees to bolster the colony, choose four further brood frames from the parent colony in turn, give these the same light jiggle and then shake their remaining bees into the nuc box, covering with the crown board as you go. These four frames are then returned to the parent colony.

Now select your two earmarked frames of stores; honey principally, but ideally also pollen from the edges of the brood nest, and add these, with a similar jiggle, to the nuc, placing one at each outer side. Finally, add a (mostly) empty drawn comb if one is available, or otherwise a frame of foundation next to the two brood frames and one of the frames of stores, but do not use it to divide the brood. Put the roof on the nuc and move it to its permanent location in the apiary.

Back at the parent colony, double check that no swarm cells remain, and then re-assemble. You will need to introduce five frames to replace those you have removed. Ensure that you group the remaining brood frames in the centre of the brood box, moving stores frames to the outer edges, and add the new frames to either side of the brood nest without dividing it. Remember to re-introduce the queen! If you have introduced frames of foundation, feed this parent colony immediately with a gallon of 1:1 syrup to give them the income to support comb-drawing.

Do not feed the nuc colony for at least six days. The grass stuffed in the entrance will contain the bees for a day or so, but once it dries and falls away, inevitably some of the transferred bees will return to the parent colony. If you had fed the nuc immediately, the returning bees would take back the message that there was an abundance of nectar nearby, and the nuc would be robbed out by its parent colony, with disastrous results. Look again at the nuc after a week, and decide if it needs feeding (is it light, did you give it a frame of foundation?). If it has lost a lot of bees returning to the parent colony, repeat the jiggle-and-shake exercise with several frames to introduce more young adult bees into the nuc, taking care not to add the queen. Leave the nuc alone now for a further

couple of weeks as a newly emerged queen is best left undisturbed. If all goes well, you should expect to see eggs being laid roughly a month after the nuc was made up. Continue to inspect the parent colony as normal during this period.

The subsequent plan for this nuc is to grow it into a full sized hive, and have it increase in strength and stores sufficient to overwinter. Once the new queen is laying well, move the nuc box to one side, place a full size floor and brood box on its site, gently transfer the five nuc frames into the middle of this brood box, and pack the outer space with foundation or empty drawn comb. Shake all remaining bees out of the nuc box into the brood box and place it some distance away. Feed the newly transferred nuc with a gallon of syrup if you added foundation. See page 21 for more on this.

If all goes to plan, you will have made a new colony to replace your winter loss, and will have controlled swarming in the parent colony. However, using swarm cells for this purpose may be criticised as perpetuating a swarmy tendency. As I alluded to earlier, there are several factors that induce swarming, such as lack of space, but also potentially an inherent predisposition towards swarming. Indeed the colony chosen from which to make the nuc may not have been our most favoured since we took advantage of its size and swarm preparations over and above any considerations of its character. We should aim to propagate queens from our better colonies, replacing those in our poorer colonies, thereby maintaining and improving important characteristics such as temper. Next month I will look at a simple method of queen-raising for a two to four hive apiary that will supply favoured daughter queens for re-queening with the aim of general stock improvement.

Dan Basterfield, NDB, Devon BKA



Here at The Hive Maker we pride ourselves in producing the finest quality, hand-crafted, Western Red Cedar National Hives, from our family workshop in the North-East of England.

Come visit us at
the BBKA Spring
Convention 2013

www.thehivemaker.co.uk



WESTERN RED CEDAR

info@thehivemaker.co.uk
tel: 0191 2532101 mob: 07904 003555

Flower Power

There can be few people in the UK who do not recognise and look forward to seeing the glorious sight of vibrant yellow daffodils blowing in the spring breeze. However, this delightful vista holds less pleasure for beekeepers as most varieties of daffodils, as well as the native wild ones, have nectar that is out of reach of hungry honey bees. This is because the flower's nectar is secreted at the base of a deep corolla, the tube that also contains the stamens, and the tongue (proboscis) of the honey bee, *Apis mellifera*, usually cannot reach it.



Above: *Prunus spinosa* by Dr Hagen Graebner; inset of flowers by Kurt Stüber.
Right: *Caltha palustris* by JM Garg.
Far right: *Mahonia aquifolium* by Walter Siegmund.

All photos are licensed under the Creative Commons Attribution-Share Alike licenses and are in the public domain of Wikimedia.

Bumblebees have the longest proboscis of British bees at between 7.2mm and 13.5mm, except from *Anthophora* species which range from between 15mm and 21mm. Other species of solitary bees, some of which are very small, have a proboscis that is between 2mm and 7mm. Honey bees come in at between 5.7mm and 6.4mm. This information enables us to look at the structure of a flower; the position of the stamens and the nectaries, and give us a rough guide as to whether the plant is adapted for insect pollination and by which type of bee.

The snow white flowers of the blackthorn, also known as sloe (*Prunus spinosa*) are a good source of both nectar and pollen. They are borne in March before the leaves unfurl so are starkly beautiful. Blackthorn is a good example of an open simple flower where the stamens can be seen clearly. There are about twenty stamens arising around the rim of the central part of the flower known as the receptacle and so pollen is readily accessible to bees. The nectaries are located where the stamens join the receptacle and consist of a group of cells that are obvious only when they are secreting drops of shiny nectar.

Another open, easily accessible flower is the marsh marigold (*Caltha palustris*) also called kingcup. It is a member of the buttercup family (Ranunculaceae). As its name suggests its habitat is damp grasslands and stream banks. It provides pollen and abundant nectar from nectaries lying in two shallow depressions at the base of the flower.



A very useful plant for early winter days when honey bees are on the wing is Oregon grape (*Mahonia* species). All mahonias are very hardy except one. They have tough glossy evergreen foliage sometimes with holly like edges and small striking lemon yellow flowers usually borne on strong flower spikes. Like some other winter flowering plants such as viburnums, mahonias have a strong sweet perfume. They are worked for nectar by honey bees and bumblebees when the temperature is warm enough and will continue flowering until April. Six stamens are inserted at the base of each petal, which is where the nectar is found; this is also very sweet. Gardeners often recommend *M. aquifolium*, *M. japonica* and the cultivar *M. x media* 'Charity'.

Yellow seems to be the colour of many late winter flowers and it is interesting that while honey bees see some colours differently than we do, they see yellow the same. Another yellow flower that brightens up the hedgerows and our gardens and provides pollen is celandine (*Ranunculus ficaria*), although many gardeners consider it to be a 'thug' as it can spread very rapidly on some soils.

There are some plants that do not have showy coloured flower parts. Members of the willow family are insect pollinated but they also release clouds of golden yellow pollen which can readily be seen on breezy spring days. Willow flowers are very small and devoid of petals or sepals and the flowers are dioecious, which means that the male and female flower parts are found on separate plants; only the male plants provide pollen. There are at least twenty wild willow species in the UK and many natural hybrids as well as



varieties and cultivars. The earliest species to release pollen is goat willow (*Salix caprea*), and profuse pollen and nectar is produced over a period of several months providing useful forage for honey bees, bumblebees, some species of solitary bees and moths. The nectaries which occur in both male and female plants are also yellow and, interestingly, male plants secrete more nectar than females. Honey dew is also produced by willows.

Willow is a good plant to have in the apiary and a willow hedge is quick to grow from cuttings pushed into the ground in winter and if other useful hedgerow species such as bramble (*Rubus fruticosus*) and hawthorn (*Crataegus monogyna*) are inter-planted a good hedge can be achieved within a few years. It is important to choose a small willow species and keep it carefully pruned, not hacked down as we often see in our countryside.

Dr Sally Bucknall

compak

Suppliers of Glass and Plastic Containers & Closures

The Home of our "Quality British made Honey Jar"

Our standard 1lb Honey Jars are made to our own specifications in quality glass.

We specialise in supplying many associations including members of BBKA & Bee Farmers Association.

Our prices for large and small orders are very competitive and we can arrange deliveries nationwide.

For further details on our Honey Jars or any of our other products, please get in touch with our Sales Team, we'll be pleased to hear from you.



Compak (South) Ltd
2, Ashmead Road
Keynsham, Bristol BS31 1SX

Tel : 01179 863 550

Fax : 01179 869 162

Email : sales@compaksouth.co.uk

Website : www.compaksouth.com



AULUMGAARD A/S
www.aulungaard.dk

The Bee food with numerous advantages:

- ✓ Tailor made to the specific nutritional requirements based on a bee's natural food
- ✓ Easily fed, already inverted, no waste, maximum Bee benefits
- ✓ Ready to use and practical
- ✓ A range of tailored packages
- ✓ Consistent quality controlled products from certified production
- ✓ Hygienic
- ✓ Long shelf life
- ✓ Thoroughly tested and proven with more than 25 years usage

ambrosia
Bienenfutter von Nordzucker

Bifor®



Strengthen your Bees
Naturally against
Nosema, Chalkbrood,
Varroa & Viruses
A 100ml bottle treats
Five Hives.
Our Introductory price
£15 for 100ml inc vat & post UK

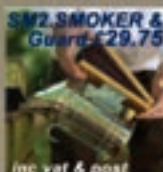


For Inspirational
BEE Gift Ideas
visit
beegifts.com

- * Bee Toys
- * Bee Jewellery
- * Tea Towels
- * Crockery
- * Honey pots



Free Brochure



BEEKEEPERS PROTECTIVE CLOTHING

The
Proven
Protection

Be sure
Buy
Sheriff



Two velcro flap
top pockets.
Pen, hive tool
& thigh
pockets
Elastic at
cuffs &
ankle zips

S36 APIARIST
All-in-One suit
Quality Polycotton
White / Khaki / Blue
size:
ES / S / M / L / EL / EEL

from
£124.50
inc vat. Post £5.98 UK

For our full
Protective
range,
Gloves & Bee
Equipment
visit
beesuits.com



APV Ankle
Protectors
£11.27
inc vat & post

Our beginners are totally
amazed by my Sheriff
suit which I bought from
you in 1985 and is still in
excellent condition. *

Special Internet
Offers

Manufacturer of Fine Beesuits for Optimum Performance

tel: 01872 863304 beesuits.com fax: 01872 865267
email: sheriff.int@btinternet.com

(Ad October 2011)

Building up a Nucleus

New beekeepers often comment that on obtaining a nucleus of bees they find they need help or advice to effectively expand it into a full colony, even though it should be expected that suppliers would supply instruction and/or guidance in this. This article is intended to give some guidance in this topic.

Firstly, make sure you order your nuclei in good time for delivery early in the season as they are best obtained in around April or May so that they can be developed into full colonies and, hopefully, give a honey crop. Nuclei accepted late in the season will not give a crop and may be difficult for a beginner to over-winter successfully. The frames in your nucleus box should be suitable for the hive they will go into.

A nucleus of bees is normally made of five frames, but may be four, six, or even more and may arrive in a nucleus box or, more normally, a travelling box, this being of lighter and cheaper construction. On arrival you will notice that they are, or should be, well ventilated with a mesh screen board on top. If you are collecting them yourself make sure that the ventilation is adequate and put them in the back of your car with the frames, which will be visible through the mesh screen, in line with the direction of travel. This helps to stop combs clash especially if you have to brake hard. The box should be taken to the apiary site and placed on the hive stand facing in the direction you wish the bees the fly. If they are buzzing loudly they may be too hot so pour a little water, say half a cupful, all over the mesh board; they will use this to air-condition their box and will quieten. Don a bee suit, or at least a veil, and open the entrance of the box to allow the bees to fly. It is best to put a hive roof or board over the box to keep the nest in the dark and give protection against any rain showers. The bees can then explore their new environment and settle down.

Now make sure you have all the equipment you need to transfer the nucleus to your hive. This is the hive floor, entrance block, brood box, crown board, roof, one or two dummy frames, three brood frames fitted with foundation, a feeder and some sugar syrup. As a beginner you may wish to use a glass or Perspex crown board, as it is then easy to see what the bees are doing without disturbing them.

A common mistake is to use division boards instead of dummy boards, which makes subsequent manipulations more difficult. It is an easy mistake for beginners as these items look identical but serve different purposes. A dummy board is made to the same dimensions as a hive frame so there is a bee space around it when it is hanging in the hive. A division board is made to same internal dimensions of the hive so when it is inserted it can divide a brood box into two or more separate units. If you cannot source dummy boards a frame with a thin sheet of plywood fixed to one or both sides is a good substitute.

In the early evening, say about 5pm or a little later providing it is not too cold (i.e. less than 10°C) or raining (in which case wait until the weather is more clement), light your smoker, don your bee suit and take your prepared equipment to the apiary site. Smoke the bees with a gentle puff through the entrance and mesh screen. This will cause them to engorge themselves thus becoming more passive. Leave them for a few minutes and then gently move the box to one side. Place the new hive floor with the entrance block on the original site with the entrance hole facing in the original direction. Position the brood box on the floor and hang a dummy board at each side. Go to the nucleus and gently smoke over the mesh screen, which will drive the bees down into the spaces between the frames. Remove the screen and gently lift out the frame at the edge of the box together with all its adhering bees. Hang this frame near the centre of the new brood box. Then gently remove the next frame and place it in the new box adjacent to the first being careful that the frame is placed in the same relationship as it was in the travelling or nucleus box, i.e. the same comb faces continue to face each other. Do this with all the frames. This is because combs are not necessarily straight or parallel and if turned can leave insufficient space resulting in crushed bees. Make sure that the frame spacers, e.g. Hoffman shoulders or plastic spacers, are tight together as they should have been when delivered. If you leave the frames further apart the bees may build brace comb between the frames or even a wild comb between them.



*Nucleus being expanded with a home-made dummy board at end.
Photo by Richard Ball.*

You will now be left with empty spaces on each side of the nucleus combs. If you leave them empty the bees will build comb randomly in the space so you need to fill the space with frames and combs. As a beginner you will not have drawn comb available so you will have to use frames of foundation. Some beekeepers fill the rest of the box with these

leaving no vacant spaces; however this is not good practice. To get the best drawn combs the foundation you put into the brood box needs to be 'fresh'. Fresh comb looks semi-transparent and is covered in a thin layer of waxy oils, which is attractive for bees to build comb on. 'Stale' foundation takes on a whitish bloom and is not so attractive to bees; gentle warming, being careful not to let the sheets sag or otherwise distort, releases oils and returns it to 'fresh' condition. Foundation left away from the bees in a brood box can become stale and bees within the colony will walk over it making it dirty and also put a very thin layer of propolis over the surface. As it becomes dirty bees chew holes in it and the end result is a very poor comb. This is not so much a problem in supers as the foundation is built up from the bottom of the frame over the brood nest and there is not the bees' traffic over the foundation to spoil it. By contrast, in the brood box foundation is built upon from the top down leaving foundation by the entrance for bees to repeatedly walk over.

It is considered that the best practice is to put one frame of foundation to the side of the wax nucleus combs with the most stores



Above: A plastic rapid feeder. Photo supplied by EH Thorne (Beehives) Ltd.

in and then a dummy board, and on the other side to put two frames of foundation and then a dummy board. So you should end up with the following sequence: dummy board – comb of foundation – most stores – brood nest – least stores – two combs of foundation – dummy board, all being centred in the brood box. Check that the frames, together with the dummy boards, are spaced properly. Personally, I prefer to place the ‘most store frames’ adjacent to the hive end wall and then place two or three frames of foundation between the other side of the nucleus and a dummy board. It seems just as effective and saves equipment!

There will still be bees in the travelling box so pick it up, invert it and shake the bees into the new brood box. A sharp tap on the bottom may help remove any stragglers. Place the crown board on the brood box, being careful not to squash any bees; remember the use of a gentle puff of smoke will drive bees away from the edges of the box. Place the feeder over the feedhole, filling it with

sugar syrup. If you are new to beekeeping the small round plastic rapid feeder is good for this as it is easier to top up and, in conjunction with the glass crown board, makes observation easy by just lifting the roof instead of opening up and creating disturbance. Dribble a little of the syrup down the central feedhole so the bees know it is available.

To make sugar syrup use white granulated sugar; it makes no difference if it was sourced from cane or beet. The syrup should be made up in the proportion of 1 kg of sugar to 630 ml of water or 2 lb sugar to 1 pt of water. There is no need to boil the mixture, but using hot or warm water helps the sugar to dissolve. Stir regularly to remove the air bubbles and dissolve all the crystals.



Above: A glass quilt/crown board. Photo supplied by EH Thorne (Beehives) Ltd.

When fully dissolved the mixture is clear and a very pale straw colour; a thinner syrup can also be used, made with twice the amount of water.

To build comb bees need to generate heat, which they do by clinging together and having a supply of nectar. If there is not an abundant nectar flow you must feed sugar syrup to enable this to happen and also to encourage the nucleus to increase brood production. As you top up the feeder you can check progress through the glass crown board. Start checking the colony every seven days as part of normal colony examinations.

As the bees build their new comb and expand their nest you will need to put new frames of foundation into the brood box keeping just ahead of the bees. Make sure you have at least one frame of foundation between the drawn combs and the dummy board until the brood box is full of combs. If necessary, keep feeding until this point. When the bees reach the edge of the box they find it difficult to cluster and generate enough heat to build comb on the outside face of the comb so turn that last comb around or if the adjacent comb along has only stores in it move that comb to the end and insert the end comb in its place.

When all the brood combs are built, it is then time to stop feeding, place a queen excluder and super of foundation over the brood box. Do not do this before all the brood combs are built; if you do the bees will move up and draw the super combs ignoring the brood box foundation.

We sell live bees!

All you need for keeping bees

- Bees on Comb & Queens
- Hives
- Frames
- Beeswax Foundation
- Clothing
- Extraction
- Medicines & Fumigation
- Feeders & Bee Feed
- Smokers
- Hive Tools & Hardware
- Bottles, Containers & Cutters
- Parts & Accessories
- Marking & Queen Rearing
- Labels & Books

Stock up now!

Northern Bees

• 18 Camp Hill Close
• Ripon • HG4 1QY
• www.northernbees.co.uk

All levels catered for!

Opening Hours
Mon - Fri: 9.00am - 5.00pm
Sat: 9.00am - 12.30pm
Tel: 01765 698855

Richard Ball,
Devon BKA,
Past National Bee Inspector

Introducing Queens

Obtaining a new queen

The queen bee defines the characteristics of her colony. Using the sperm she received when she was mated, the ideal queen will maintain a strong, healthy colony with the best qualities such as docility, disease resistance, reliable overwintering and, of course, a high honey yield.



Above: A marked queen in colony. All photos courtesy of The Food and Environment Research Agency (Fera), Crown Copyright; images supplied by the National Bee Unit at Fera.

Although they may go on laying viable eggs for several years, queens are not immortal and there comes a point when any queen will pass her best, fail and die, or she may exhibit undesirable traits and have to be removed. All beekeepers therefore need to be able to replace queens; this is an essential part of good husbandry. By taking control in this way you can prevent many problems and also enable a significant degree of selection for the type of bee desired. Many beekeepers,

however, experience difficulties when introducing queens, so this article gives some basic guidance on procedures that can be used to help your worker bees accept such a new queen as their own.

Queens can be introduced into colonies in three life stages. These are: as mated queens, as virgin queens or as sealed queen cells. Rearing your own queens and managing mating are exacting processes, which take experience, forward planning and considerable preparation. Young larvae are grafted, by hand, into artificial queen cells that are then placed into specially set up breeder colonies where they will be reared as queens as shown in the photo opposite (top of page). When mature, the sealed queen



Grafting (larval transfer).

cells are put individually into mating nuclei. Mating nuclei are small, queenless colonies containing food reserves (see photo below of mating mininuc). The queens emerge from their cells and remain inside the mating nuclei to sexually mature before flying to mate at drone congregation areas. If you would like to read more about queen rearing there is suggested reading at the end of the article.



Cell bar with mature queen cells ready for use.

Most beekeepers will buy mated queens. The BBKA recommends that you buy bees that have been bred locally or within the UK rather than buy imported queens. Bees can, of



Introducing a queen cell to mating mininuc.

course, be purchased from other countries and many beekeepers do this to get the stocks they want, but whatever the case, you should always obtain them from a reputable breeder. The quality of queens can vary a great deal. Ask local beekeepers for recommendations or see the beekeeping magazines. Otherwise, you may obtain sealed queen cells or hatching virgin queens from a swarmed colony and select these as your new stock.

Whatever the case, it is not usually possible to introduce queens to colonies that already have one. For the introduction to be successful the receiving colony must be queenless with a high proportion of nurse bees. Many expensive bought-in queens have been lost because the beekeeper has attempted to introduce her into a colony where a queen was present even though no brood was seen. A quick and humane method of dispatching an unwanted queen is to crush the head and thorax firmly between finger and thumb. Otherwise, put her into a suitable sealed container and place this in your freezer for at least 24 hours.

Introducing mated queens

- ❑ Introducing a queen to a colony which is not her own is not straightforward, and listed below are a number 'dos and don'ts' that will help you maximise the chances of a successful queen introduction.
- ❑ As a general rule, the larger the colony the more difficult it becomes to introduce a new queen. So, with colonies larger than a full brood box, it is better to introduce the new queen into a small nucleus. When she has been accepted, is laying, and all stages of brood have been present for at least two weeks,

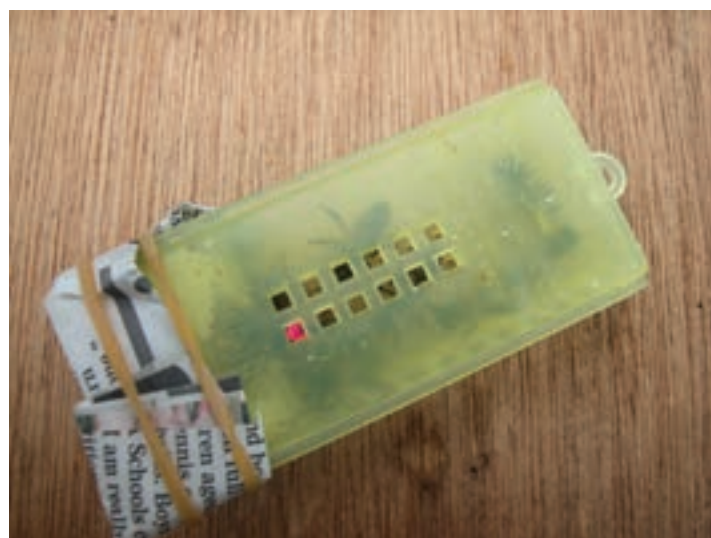


Queens and escort workers in Nicot mailing cages.

then unite the nucleus to the queenless colony, for example using the 'newspaper' method. Place the queenless colony on top of the other hive with two sheets of newspaper in between; leave in situ; the colonies will gradually get used to each others' odours as they slowly chew through the barrier. Do not touch this colony for a week or so.

- ❑ Introductions to full colonies tend to be more successful before mid-April and after the end of August.
- ❑ Introductions to full colonies during the season between mid-April and the end of August tend to be more successful during a good heavy nectar flow. This is because the distribution of the queen's pheromones is increased during a nectar flow. Feeding sugar syrup may also increase acceptance by simulating a flow (see references).
- ❑ It is best not to attempt to introduce a queen to a colony where laying workers are present; she will usually be killed. You can salvage the bees by relocating the hive to another apiary (at least three miles to avoid returns) and then shaking out the bees. They will redistribute themselves among other colonies without any problems. The frames can be recycled and the hive cleaned and disinfected before re-use (see references).

- ❑ Be sure that the colony or nucleus is queenless and check that there are no virgin queens or a second queen present. If you have not removed the queen and are unsure whether she is still present, insert a frame of brood containing eggs. This is known as a test frame. If, after a few days, you find emergency queen cells then the colony is probably queenless.
- ❑ Honey bees can differentiate between their original queen and any new individual for about a day, so introduction methods must allow for this by incorporating a delay mechanism. There are many different types of introduction cage available that provide time for the new queen's pheromones to distribute throughout the colony, thus conditioning the workers to accept her prior to release. Even empty matchboxes have been used.
- ❑ All introduction cages comprise of a container large enough for the queen, made of plastic or metal mesh, with an entrance that is blocked using candy, newspaper, or some other substance that will delay emergence into the colony until the queen's pheromones have taken effect. The workers will get used to the new queen, feed her and pick up her pheromones, and eat through the newspaper and candy, thus ensuring her gradual release into the colony.
- ❑ One of the simplest introduction cages is the 'Butler' cage which is a simple mesh tube blocked at one end and open at the other. The queen is placed in the cage and the open end closed with a newspaper cap (four leaves thick) held in place with a small rubber band. The cage is jammed between two frames of hatching brood, where there will be plenty of nurse bees, with the newspaper cap facing down.



Newspaper cap over the open end of a plastic queen cage.

- ❑ There are many other, often more complex, sorts of introduction cages (also used for mailing bees through the post), such as the Miller or Manley cages. These generally have three holes and lots of beekeepers find them very effective. The largest hole is blocked with a removable plug, or pressed against the comb, and is used to insert the queen. The remaining two holes comprise a short tube-like entrance through which only worker bees can enter and leave, while the queen cannot, and a longer tube through which the queen can move. Before use, candy is used to fill the two tunnels so workers trying to get to the queen will eat through and enter by the shorter tunnel first to feed her, in the process picking up her pheromones and distributing them throughout the colony. Eventually the queen is released when the candy has been eaten through in the longer tunnel, by which time conditioning is complete.
- ❑ NB. Some plastic cages incorporate a cover over the hole at the 'candy' end of the cage. It is important to check that this

barrier is broken off before introducing the cage into a colony. Otherwise the attendant workers and queen will be trapped inside.

- ❑ If you do not have a supply of commercially made candy for this purpose it can be made up by mixing a drop of honey with icing sugar to form a thick, firm putty. (Refer to *Best Practice Guidelines 7a: Feeding Bees — Sugar*). Be careful that it is stiff enough to remain in the tunnels and not flow out after an hour or two. It is best to prepare introduction cages a few hours before you intend to use them.
- ❑ When a queen has to be caged for any length of time during transit, about eight attendant workers will be confined with her to feed and care for her. It is best that these attendants are removed before introducing the queen to her new colony, otherwise fighting can ensue when the different families of workers meet. The queen is often stung to death in the ensuing mêlée. Some telescopic plastic cages have a facility to enable workers to escape the cage when expanded.
- ❑ When queens have been sent long distances through the post, or have been stored for any length of time immediately prior to introduction into full colonies, they can sometimes be superseded due to their poor initial egg-laying performance. Under these circumstances it is better to introduce the queen into a nucleus so that she can recover from the stress of transportation and return to an acceptable egg-laying rate before introduction.
- ❑ Queens which have arrived in the post need to be watered immediately. If you intend to store them they will need to be watered daily and kept at room temperature in a dark place. To water the bees you need to run your finger under a warm tap and rub a few droplets of water on the outside of the cage where the bees can access it.

Introducing virgin queens

- ❑ Sometimes beekeepers go to swarmed colonies and find queen cells hatching out. If these virgin queens are caught they can be used to re-queen queenless colonies. There is usually good acceptance providing the recipient colony has been queenless for at least 24 hours. This procedure is often used in an emergency, for example when all other re-queening efforts have failed, and when the beekeeper must take immediate steps to save a colony. Two methods are commonly used:
 - Caging the virgin queen and introducing her as described for mated queens.
 - Running her into the entrance of the queenless colony, together with the use of smoke or a sugar spray to mask colony odours. Acceptance by this method is heavily influenced by outside factors such as nectar flow, etc.
- ❑ As a general rule virgin queens are less readily accepted than mated laying queens.

Introducing queen cells

- ❑ As a rule queen cells are introduced into nuclei as part of queen rearing programmes (as shown in the photo above opposite), but sometimes, especially when beekeepers do not have such a regime, it is necessary to select a queen cell from a swarmed colony to use in a queenless colony. These cells are by nature variable, so for the best chance of success:
 - Select cells that are 25mm to 30mm in length. Longer cells often contain dead, damaged or diseased larvae or pupae.
 - Avoid using emergency queen cells. These look like human noses sticking from the surface of the comb.
 - The best queen cells to harvest are those built at the sides of the brood comb. This is because they are easier to remove without damage.



Introducing a queen cell from a rearing programme. It is important to ensure that the queen cell is not damaged and is hanging downwards as shown above.

- The cell should have a rough rather than a smooth exterior.
- Be careful that the cell has not hatched and the opening flap then resealed in position. This is easy to check this by gently scratching down the lower edge of the cell with a fingernail or hive tool, which will cause the flap to re-open. Cells that are about to hatch usually have a dark ring around the base, and sometimes the queen can be seen cutting her way out.
- Do not use queen cells which are surrounded by drone brood.
- ❑ Use a sharp knife to cut the queen cell from the comb, being careful to take a small area of the surrounding comb and not to cut into the queen cell.
- ❑ Put the cell adjacent to any brood that may be present, toward the centre or on the upper edge of the nest, by pressing the piece of wax surrounding the top of the cell into the comb. Make sure the queen cell is not damaged and is hanging downwards.

**Gay Marris, Benjamin Jones,
Damian Cierniak, Jack Wilford,
Mike Brown and Richard Ball,
National Bee Unit**

References

- Healthy Bees Plan Best Practice Guidelines 7a: Feeding bees: sugar* download from BeeBase website <https://secure.fera.defra.gov.uk/beebase/index.cfm?pageid=167>
- NBU Factsheet *Hive Cleaning and Sterilisation*. Free download from BeeBase at <https://secure.fera.defra.gov.uk/beebase/index.cfm?pageid=167>
- Laidlaw HH. *Contemporary Queen Rearing*, Dadant, 1979.
- Morse, RA. *Rearing Queen Honey bees*, Wicwas press, 1979.
- Cook V. *Queen Rearing Simplified*, British Bee Publications Ltd, 1986.
- Adam Br. *Breeding the Honey Bee*, Northern Bee Books, 1987.
- Laidlaw HH, Page RE. *Queen Rearing and Bee Breeding*, Wicwas Press, 1997.
- Wilkinson D, Brown MA. Rearing queen honey bees in a queenright colony. *Am Bee J* 2002; 142: 270–4.
- Waring C, Waring A. *Haynes Bee Manual*, Haynes Publishing, 2011.

Bbwear
Beekeeping Clothing

Specialist manufacturer
of beekeeping clothing
Est 2000 Made in the UK

Starter Kit



Available with
all styles of full suits

FREE LEATHER GLOVES
with BB1/RR1
Subject to availability



BB1 FULL SUIT
£98.95
+ P&P

RR1 RETRO FULL SUIT
£99.95
+ P&P

BB501 BASIC FULL SUIT
£82.95
+ P&P

BB1 & RR1
with ankle zips
& thumb loops

Both hoods are interchangeable
Hood throws back when not in use

SEND FOR FREE CATALOGUE

- Made to Measure Service available.
- Prices apply to all sizes and include VAT @ 20%.

BBwear Ltd, Unit NP1, Rosedene Farm, Threemilestone,
Truro, Cornwall, TR4 9AN
Tel: 01872 562731
email: mike.bb1@btinternet.com www.bbwear.co.uk

BeeHiveMaker.co.uk
Quality hand made beehives



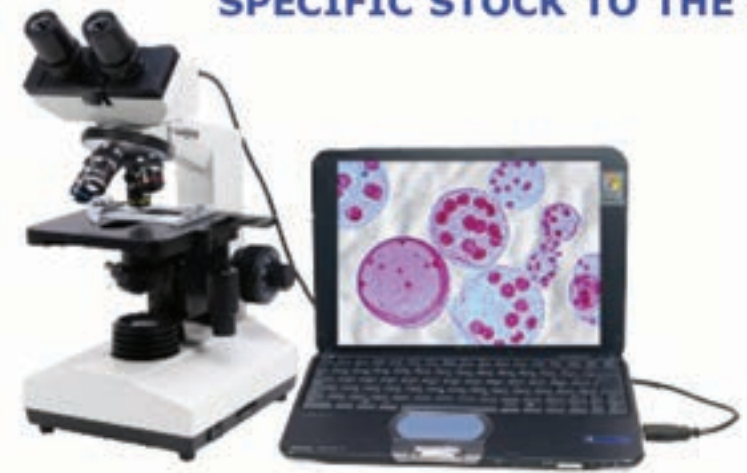
BEES FOR SALE
NUCLEUS BOXES
MEDICINES
BEE HIVES / APIARIES
HIVE COMPONENT PARTS

**WE ARE ALSO AGENTS FOR AMBROSIA BEE FOOD PRODUCTS
BEEVITAL HIVE CLEAN / VITAFED PRODUCTS**

80 Ennerdale Avenue, Botcherby, Carlisle, Cumbria
Tel: 078304 32014 E-mail: hamis822@btinternet.com
www.beehive-maker.co.uk www.northernbeeauctions.co.uk

BRUNEL MICROSCOPES LTD

**VISIT OUR OUR STAND AT THE SPRING CONVENTION 2013
RING THE OFFICE IF YOU WOULD LIKE US TO BRING
SPECIFIC STOCK TO THE SHOW**




Visit the following links for an update on Brunel products
<http://www.brunelmicroscopes.co.uk/beekeeping.html>

Tel: 01249 462655 Fax: 01249 445156
e-mail: mail@brunelmicroscopes.co.uk

Everyone Has to Start Somewhere

Part I

A recent article in *BBKA News* started by indicating that a majority of its readers preferred articles of technical merit in contrast (I assume) to those of a simpler and more practical format. If you are one of the majority, this article not for you. However, if you are beekeeping novice like me, then my recommendation is to keep your reading and ambitions quite simple initially. The time will come when you will appreciate and wish to argue about such heady subjects as the effects of neonicotinoid pesticides on bees. But for most who are experiencing beekeeping for the first time, although the more scientific articles may be interesting they are probably of not much benefit until you have a solid foundation of practical experience. Your initial challenges will revolve around the daily wellbeing of your own colonies rather than more generic problems which may impact us all but over which we have little immediate control.

Furthermore, take comfort in a school science report that I read recently about a 14-year old boy who was struggling in biology and general science. It read (paraphrased): 'it has been a disastrous term. His work has been far from satisfactory ... I believe he has ideas about becoming a scientist; on present showing this is quite ridiculous. If he can't learn simple biological facts, any continuation of work in the subject will be a sheer waste of time, both on his part and on those who have to teach him'. The subject of the report, Sir John Gurdon, won the Nobel Prize for Medicine or Physiology in October 2012 in connection with his work on cloning cells. So keep faith all who are reading these articles in preference to the more scientific ones; your time will come. In the meantime, recognise that beekeeping for beginners is not a science; it is possible that events taking place within your colony are exactly replicated within a textbook or have been covered within the scope of your tuition, but it is very much more likely to be not the case.

Now let me introduce you to the world of a typical beginner. For a long time I had harboured a general interest in the idea of owning bees but had been put off by living in London (although I have subsequently found out that despite the small gardens it would have been possible to own colonies due to the intensive horticulture from so many keen gardeners). Having moved to the country a few years ago, the idea began to develop. But I did understand how daunting a prospect it would be to start on one's own, particularly if one had never even looked inside a hive before. I decided to find a mentor. Fast track on one year. Rather than a mentor, I had found a local beekeeping group, and attended an open day and joined their beginners' course.

Beekeeping is not a frenetic hobby, but I continue to be surprised by the large number of volunteers dedicated to sharing their Saturday afternoons instructing beginners. Perhaps it is their love of cakes which the students are encouraged to bring to each lesson as a sort of penance. I do not know if this is a unique Dorset trait or if it is shared by all beekeepers, but I have eaten more varieties of cake in the last year than during the rest of my life.

After the first month, feeling increasingly confident (as all of the decisions when the hive is opened on the course are being monitored by the experienced keepers to avoid catastrophic errors of judgement), I felt ready to become a beekeeper in my own right. But a number of decisions were required. I needed to purchase

suitable equipment and overcome an obstacle that arose from an unexpected quarter; this was to negotiate the space for the hives in our large garden at home. 'If you have bees, I want a paddock for the pony' was the first negotiation I had to overcome with my 10-year-old daughter; followed swiftly by: 'then I will be getting chickens' from my wife. These might seem very reasonable arguments until you see the rose beds, herbaceous borders, hedges and purportedly poisonous trees which have to be removed for the threatened livestock invasion. And additionally, not only is the pony very happy in the neighbouring farm with other ponies, but who needs chickens when fresh eggs are delivered regularly to our backdoor?

Despite these minor skirmishes, a suitable site was selected and democratically approved of by the family. It was protected from the prevailing wind, faced a hedge so that bees would rise into the air rather than making a direct line for the house and would receive some morning sun in winter. And while these delicate negotiations were taking place, I was also reviewing a number of websites for the plethora of equipment that I needed to purchase. Minor decisions had to be made in the selection of suits, hive tools, smokers and feeders. I soon worked out that I would benefit from



Of the many purchasing decisions to be made by a beginner the hive type is one of the most daunting: should this be a Commercial, National, Dartington, Langstroth or WBC? Whatever you select, you should try to keep to one type so that hive components can be swapped between hives if necessary. All photos by David Wootton.

looking much more closely at what other beekeepers felt were the essentials; then ask about design benefit and functionality. By concentrating to begin with on the simple, value for money basics, you will be able to manage your first colonies. There will be plenty of time later to add to these first tools of trade, and if you are lucky enough to have people wanting to give you presents at Christmas or anniversaries, you will soon acquire everything you thought you might ever need.

But hive selection was a harder task. I talked to my fellow trainees, to the 'instructors' and to anyone else I could find willing to spare a few minutes. The one thing you learn quite early on when becoming a beekeeper is that there is no right answer. There was no shortage of convincing arguments on the preferred hive, but typically the most logical ones came after the initial purchase had been made! Your choice will invariably be influenced by what your instructors/mentors are using; you will become familiar with

THE BEE VET

Happy bees, healthy hives

Veterinary advice on honey bee health and disease issues.

Our website features an online shop with competitively priced products, questions answered on our forum by our vet and much, much more.

5%
OFF

Register online for **FREE** and receive 5% discount on The Bee Vet products*. Do this by simply scanning the QR code, calling **01392 872887** (quoting 5432) or visit **www.bee-vet.co.uk**.

*Registration allows The Bee Vet to send you health and disease advice, newsletters and product promotions.



www.bee-vet.co.uk

Are your bees healthy?

Bee-Bay provides **organic** products for the treatment of Varroa, Nosema apis, Nosema ceranae and Chalkbrood

BeeBay
looking after the health of your bees



BeeCleanse
A complete source of nutrients. Honey bees respond much better to prevention than chemical treatment. This is where BeeCleanse comes in.



Nozevit
An organic control for Nosema apis and Nosema ceranae, made from plant polyphenols. THE natural replacement to Fumidil B.



BeeGuard
Unique technology inhibits the growth of bacteria without harming your bees.



Optima
Contains whole plant polyphenols for intestinal cleansing.



BeeVital Chalkbrood
Treat the affected brood to keep them healthy.



BeeVital Hive Clean
A certified organic product for the control of Varroa mites, promoting the health of bees. Treatment for Varroa problems, which cleanses bees from parasites and invigorates bees.

Westacott Road, Barnstaple, North Devon, EX32 8AW

Tel: 01271 336210; mob: 07706969622

Order online at www.Bee-Bay.net

those types of hive and almost certainly be swayed by their preferences. But there are alternatives, and it is worth discussing them. I met aesthetic groups of beekeepers who were convinced that the WBC was the perfect hive. The majority of people recommended the National (with a reasonably convincing point that it was the most commonly used hive in the country), a couple talked (without much conviction, I thought) about the Langstroth, no one I met talked about the Dartington and I had a rather eccentric recommendation for the Warré. All have their particular merits, but I followed the most logical path and purchased a National. It was only later that I met a beekeeper who argued convincingly about the Commercial hive. He said that an active colony would outgrow a National, requiring one to use a shallow box (super) to extend the brood box (brood and a half) which in his opinion was messy and why search two boxes for your queen when one should do? His alternative would be to use the 14 x 12 brood box in the National which has approximately the same capacity and therefore functionality, of the Commercial. A further argument I have heard this year is from a beekeeper who claims that if he was starting again, he would only purchase National brood boxes, which he would use as supers and brood boxes, thereby ensuring that one always had a standard size frame.

There is obviously no right answer and every beginner has to make their own decision. I have now migrated to 14 x 12 brood boxes, so within a year I have done exactly what I set out to avoid. The more brood boxes and frames one has of different sizes, the more difficult it is to switch and assimilate colonies. However, although I am convinced I have now made the right decision with the choice of hive, only time will tell.

I am pleased with all of the other equipment that I purchased, although in retrospect I wish I had selected a bigger hive smoker. They last a long time and as I will certainly acquire or generate more colonies, it is inevitable that I will have to buy a new one if I am to be able to cover all of my colonies without having tiresome refuelling stops. Another choice that I made was to buy contact feeders;

although they are perfectly fit for purpose, I am also now going to purchase a type of rapid feeder in order to compare the two as I have been told on numerous occasions that they are 'better'.

Now kitted out, I waited nervously for my first colony. The swarming for the year seemed to be over, so where would it come from? The answer was provided by my tutor group. There was a small, spare colony which we had spent several weeks trying to re-queen and had finally been successful; would I like to buy it? Of course I would, and in a way I thought that a smaller colony might be a good idea to start off with. So I turned up one evening with my brood box to collect it, wondering whether I would have to wear my protective suit in the car on the way home. A swap was made of some brand new frames for very old frames (but which were covered in bees). We securely strapped up the brood box that I was to transport the bees in, made sure that the entrance was very firmly closed and placed it in the boot of my estate car. Although I was assured that I would be quite safe, it was with some trepidation that I set off, listening to the 'growl' (which is the way that I would have at the time described the noise that bees make when being transported) coming from behind me.

As it turned out, the drive was uneventful, and I carried the bees to their new home in a carefully selected position behind a beech hedge. I was at last a beekeeper (or at least an owner of bees!). I felt a mixture of elation and awe as I opened the entrance, wondering if thousands of bees would come pouring out to reflect their upset at being moved around the countryside. None appeared and the noise within the hive had seemed to subside to a more gentle purring. Now I had to make my first decision without recourse to others; should I open the hive to check the bees or feed them? Little darts of doubt beset me; was the position of the hive really as perfect as I thought and would the bees still be there the next evening? As I knew the bees had come with stores in their frames, my first decision was to do nothing and let them be.

Julian Grazebrook, Dorset BKA

News in Brief:

Council of Europe discusses the European Food Safety Authority risk assessment of neonicotinoids

1 February 2013: Update on Neonicotinoids

The 3,216th Session of the Council of Europe — Agriculture and Fisheries took place in Brussels on 28 January 2013 and under *Any Other Business* discussed the EFSA risk assessment of neonicotinoids. (www.consilium.europa.eu/council). The following text is from a press release issued by the Council after the meeting:

EFSA risk assessment of neonicotinoids

At the request of the Dutch delegation, the Commission reported to the Council on the European Food Safety Authority (EFSA) risk assessment of Neonicotinoid insecticides with regard to bees (5667/13).

Many member states supported the suggestion from the Netherlands to initiate an action at community level where high risks have been identified or could not be excluded in relation to certain aspects of the risk assessment for honey bees. Some member states considered however that further scientific advice should be sought before taking any action. The Commission expects soon to present proposals* to apply both the precautionary and the proportionality principles to this issue.

The Commission requested the EFSA to perform a risk assessment of neonicotinoids, in relation to the potential threat to bees. On 16 January EFSA reported that scientists have identified a

number of risks posed to bees by three pesticides from the neonicotinoid group (imidacloprid, thiamethoxam and clothianidin) for a certain number of crops.

EFSA based its conclusions on the evaluation of the uses of the substances currently authorised in Europe when applied as seed treatments or granules to a variety of crops.

*As soon as the BBKA receives the formal Commission proposals they will be posted on the BBKA website.

Dr David Aston,
BBKA Chairman

European Food Safety Authority

Reports

On 16 January 2013 EFSA (European Food Safety Authority) published three reports, the preparation of which had been requested by the European Commission to assess risks associated with the use of the neonicotinoid insecticides clothianidin, imidacloprid and thiamethoxam. The assessments concentrated on the use of these insecticides as a seed treatment or as granules with particular regard to their acute and chronic effects on bee colony survival and development; their effect on bee behaviour and the risk posed by sub-lethal doses.

The brief was to cover honey bees, bumblebees and solitary bees. However, there is very little data relevant to bumblebees and solitary bees with the majority of the information used in the risk assessments having been derived for honey bees. The BBKA's principal interest is in honey bees, nevertheless it is concerned about the fate of all pollinators, including bumble and solitary bees; the lack of data and the potential effects of the three insecticides on them is a cause for concern. It should be noted that the brief given to EFSA appears not to have included the use of the substances in products used by amateurs e.g. in gardens. Thiomethoxam is used in garden products in the UK.

The risk assessments considered three main routes of exposure and noted the following conclusions:

- ❑ **Exposure from pollen and nectar.** Only uses on crops not attractive to honey bees were considered acceptable.
- ❑ **Exposure from dust.** A risk to honey bees was indicated or could not be excluded, with some exceptions, such as use on sugar beet and crops planted in glasshouses, and for the use of some granules.
- ❑ **Exposure to guttation fluid produced by treated plants.** The only risk assessment that could be completed was for maize treated with thiamethoxam. In this case field studies show an acute effect on honey bees exposed to the substances through guttation fluid.

All of the above is quoted from the press release issued by EFSA available at http://www.efsa.europa.eu/en/press/news/130116.htm?utm_source=homepage&utm_medium=infocus&utm_campaign=beehealth

The reports are full of data and interpretations of the data and the conclusions summarised above, however they only give a part of the picture. The sentence '*only use on crops not attractive to honey bees were considered acceptable*' is not reproduced as such in the conclusions of the assessments for any of the three substances. This needs clarification. The assessments identified data gaps and because of these data gaps the evaluations could not be completed for some aspects. It should be recognised that as and when these data gaps are filled there may be no risk of exposure for the parameter being risk-assessed.

So what happens next at the EU level? The reports will be considered by the European Commission which will decide whether there needs to be a proposal to change aspects of the regulation of these substances at the EU level. The EFSA reports have identified data gaps and presumably new research work will need to be carried

out. The EFSA reports contain much information which has been generated in European countries other than the UK. The EFSA reports all comment on the difficulty of extrapolating data from monitoring work done in any one country because it may not reflect the practices and conditions in other countries.

So where does this leave us in the UK? Some studies, including field studies on the levels of exposure found in crops in field conditions have already been completed and some are due to be completed very soon. These results will be examined by the Advisory Committee on Pesticides (ACP) and their advice on the evidence will be considered by Ministers. If it is concluded that restrictions on the use of neonicotinoids are necessary we are assured by the Chemicals Regulation Directorate (CRD) that these restrictions will be introduced.

The reports indicate the following authorised uses of the three neonicotinoids in the UK. Note: this does not include amateur (garden) uses.

Substance	Crops	Product Name
Clothianidin	Cereals (wheat, barley, oats, rye, triticale, durum wheat)	Deter
	Maize	Poncho
	Sugar beet, fodder beet, beet seeds	Poncho Beta
Imidacloprid	Cereals (winter wheat, winter barley, oats)	Tripod Plus
	Sugar beet, fodder beet, beet, mangolds	Gaucha
	Mustard	Cruiser OSR
Thiamethoxam	Oil seed rape	Cruiser OSR
	Sugar beet, fodder beet, beet	Cruiser SB
	Fodder rape	Cruiser OSR

Oil seed rape is the most likely crop in the list above which has the greatest potential for honey bees to forage on in the UK and it is important that the data gap identified by the EFSA reports on the potential for exposure from the nectar or pollen of treated plants is filled as quickly as possible. This will help give beekeepers reassurance that there is little or no risk, or in the event that an unacceptable risk is identified risk mitigation measures are put into place as soon as possible. The publication of the EFSA reports on the three neonicotinoids is an important milestone in the assessment of the risk that the substances may cause harm to bees but there is still much work to be done.

The BBKA is awaiting an official reaction from Defra and the CRD to the publication of these reports and will continue to press for urgency in dealing with these matters. The additional field research, shortly to be examined by the ACP, is an important part of this process. Work must be undertaken as soon as possible to fill the principal remaining gaps in our knowledge. It is necessary to fully understand the level of risk and put into place any further risk mitigation measures, however stringent, to protect our honey bees and other pollinators.

David Aston, NDB, Chairman BBKA



Spring 2013 Convention

Harper Adams University College, Newport, Shropshire TF10 8NB



Friday 12th April – Members Day
Saturday 13th April – Public Day & Trade Show
Sunday 14th April – Education Day

LECTURES FROM LEADING SPEAKERS

Kim Flottum; Francis Ratnieks; Maryann Frazier; Norman Carreck; Steve Martin;
Paul van der Linden; Geoff Williams; Tom Salter; Ken Basterfield; Giles Budge;
Margaret Thomas; Glyn Davies; Ivor Davis

There's something for Everyone!

COURSES & WORKSHOPS FOR ALL LEVELS OF EXPERIENCE

Microscopy; Advanced Microscopy; Anatomy & Dissection Microscopy; Queen Rearing;
Pointers to buying Microscopes; Disease Recognition; Making the most of the Nectar Flow;
Handling Techniques; First steps in Beekeeping; Plants and Bees; Candle Making;
Making and Selling Cosmetics made with Honey & Beeswax; Introduction to the SEM; Food Safety Certificate;
How to pass the Basic; General Husbandry; Advanced Husbandry; Module 1; Module 5; Food Hygiene Certificate;
Patchwork & Quilting Fun Day; Beekeeping Art; Beeswax Flowers;
Lace Making Demonstration; Tile Factory Visit; Nature Walk

N.B. Booking is required for most courses

Queen Rearing Only: Diane Wakeling, 9 Tudor Avenue, Maidstone, Kent ME14 5HH
01622 687938 • e-mail: dianewakeling@bluyonder.co.uk

All other courses: Ruth Homer, 5 Malters Cottages, Litton Cheney, Dorchester, Dorset DT2 9AE
01308 482483 • e-mail: workshopconvenor@live.co.uk

Tickets On Sale week commencing 7 January 2013

BBKA Members: £16 in advance – £18 after 31 March

Other Association Members: £18 in advance – £20 after 31 March

Public: £22 (Saturday only) in advance – £24 after 31 March

Buy through the web-site or by post sending cheque, members' names and numbers and addressed
C5 envelope for return to: Christine Hayward, 19 Kings Road, Leiston IP16 4DA – 01728 832487

On-site accommodation, camping and catering:

June Hughes – june.hughesbees@btinternet.com or 01256 464280

Visit – www.bbka.org.uk for more details

General Enquiries: Tim Lovett – tjl@dermapharm.co.uk

Notes from a Clifftop Apiary

Infinite are the moods of the sea. Those torrential late November and December rains that flooded the river valleys of south Devon stained the inshore waters of Lyme Bay a thick mud-red. Waves looked hacked and chiselled under the south-westerlies, and all the way out to the horizon the sea reflected a brilliant hard light. Plodding up the hill to the allotment was like wrestling with invisible forces. Under the battered blackthorn hedge the hives looked vulnerable and beleaguered. There were rows of rain drops hanging under the roofs and damp stains streaked the brood boxes. Later in the dusk when the wind had dropped I went back up there; found a vast quiet after the tumult. Nothing moved. Every leaf, every twig, perfectly still. The hives murmuring. Far out in the darkness of the sea there were lights of ships separated by miles from each other, twinkles on the horizon signalling a particular kind of loneliness. This seemed a special sort of end to an unruly day. After the rough times come moments when the keeping of bees on the top of a cliff above a southern sea becomes a privilege.



Honey bees are studied quite extensively at Princeton University. James and Carol Gould are researchers there and they have published a book called *Nature's Compass*. It is about the astounding capacity of wild creatures to navigate their way over the surface of the globe. Curlews fly 6,000 miles non-stop along invisible bird-flying lanes in the sky as they travel from the South Pacific to Alaska. Spiny lobsters crawl in an antennae-to-tail conga for 30 miles along the ocean floor. Idaho salmon travel 900 miles and ascend 7,000 feet in elevation seeking and finding the tiny creek in which they hatched. And bees ... bees apparently do not like to fly over water. In one experiment a food source was placed in a boat, forager bees having been fed on the source and released. At the hive the dance was observed to be vigorous, but the observing bees did not pursue the food. The authors' interpretation is that the bees decoded the distance and directional cues, placed the location on their mental maps, understood that it was in the middle of an adjacent lake and refused to act on the information. When the site being signalled was on or near the farther shore, then the bees were willing to fly to it. Perhaps, then, forager bees retain a mental memory map of the areas surrounding their hive in the same way that we carry in our head a map of all the land features which surround our own houses.



Not long ago a full page advertisement for MI6 appeared in our Sunday paper. This caught the eye of a certain person in this household. I catch her glancing across at me, then back to the paper, then me again.

'I think you should apply,' she says.

'You think I should join MI6?'

'You're just right. They're looking for ordinary. They don't need hyper-intelligent. And they want people who don't talk much.'

'And what would I be spying on here in Devon?'

'You're always looking out to sea. You can keep watch. For enemies. And your cover is perfect. Beekeeper. Disguised in a suit, head-to-toe.'

'But exactly who would I be ...'

'And if you have to follow a suspect inland you can take some of your bees with you in a matchbox and attach micro-

messages to their legs, like they did with pigeons in the First World War; and they'll home-in on your clifftop headquarters. Perfect again!'

She smiles, obviously pleased with her idea. I sit back and close my eyes, realising yet again why it is I spend so much of my time up at the allotment, with just the murmurs of bees, the cries of gulls and the distant crunch of the shingle.

'You realise,' I say, 'If I'm in MI6, I'll not be coming home from the allotment and telling you all about what I've been up to?'

'Really?' she says. 'Surprise me with something new.'



It's not often Wife accompanies me on visits to the Branch Apiary. On one particular day I had a specific errand.

'This is a bumpy lane,' she remarks, 'Where are you taking me?'

'To the Mating Apiary.'

'Really? Oh.' There is a silence while she absorbs this. 'Well,' she remarks finally, 'you're a dark horse. You certainly know how to show a girl a good time.'

Not being sure she has understood the set-up, I emphasise, 'It's the Branch Mating Apiary.'

She is silent for a moment. 'I know. You just said that. Do all you beekeepers come down this lane? With your wives?' I am about to try to explain when she says, 'Are you going to tell me what is going to happen there, or are you leaving it to my imagination?'

I'm still not sure to this day if she was disappointed or relieved at the way things turned out.

Rowland Molony,
East Devon BKA

The editor has been letting me get away with indulgent diversions on the periphery of beekeeping for too long now. It is time to bring it to an end. Notes from the Clifftop have never been about practical beekeeping; I left that to the legion of researchers and lifelong bee-handlers who know infinitely more about the craft than I ever will. I owe a debt of thanks to my wife, who was always percipient enough to realise that it never was her, but some fictional figure out of my imagination. I shall go on housing colonies of bees under a blackthorn hedge above Lyme Bay, go on staring out to where sea and sky meet, and go on listening to the noise that waves make on shingle. We are at the apex here of a great bite out of Southern England, where soft deposits from millennia past — sands and chalks and muds — have been swept away into the sea over thousands of years. Nothing lasts for ever, and that is a right and natural thing. One day the spot where I sit in the summer sunshine and nail up bee frames under wild cherry trees will be gone too, collapsed and washed away by time and the sea.



Changing Combs Using a Shook Swarm

At the Spring Convention in 2012, the event that attracted the most interest was the workshop (repeated three times due to demand) on Changing Combs; over 10% of all of the attendees at the convention attended this workshop. This brought home to me just how many beekeepers are in need of support on practical matters of beekeeping rather than the more esoteric issues. The editor has therefore asked me to provide some detail on just how to carry out a 'shook-swarm' to help those who want to try the technique this season.

Why change combs?

Let us first of all look at the reasons for and benefits of changing combs. There are several including having old comb, a high proportion of drone cells, possible disease or distorted or misshapen comb; all of these predicate a change of comb. Clearly if the comb is old and discoloured then it becomes increasingly difficult to see eggs and larvae; this is also true if the comb is distorted or misshapen (perhaps because of poor bee space management or because the comb was collected as part of a swarm). The discipline of changing comb regularly also helps minimise disease risk and promotes good hygiene and husbandry.

Methods of changing combs

There are several methods used including partial frame replacement where three or four combs are replaced each year, or the Bailey comb change where a brood box with new comb is placed on top of the old brood box. Neither of these is totally effective as a disease control method and both can take a long time to effect a complete replacement of the brood combs. By contrast, 'shook swarm' is a very effective disease control method as well as being a relatively quick process. However, it is seen by some as a cathartic process as it does result in brood loss, although this is rapidly made up once the queen starts laying again.

The 'shook swarm'

As with many aspects of beekeeping, proper preparation can make a major contribution to success; in this case it is necessary to have a spare floor, framed queen excluder and brood box with new foundation fitted in every frame. If you have clean, disease free drawn comb then that can be used but otherwise use fresh, undrawn foundation. Good husbandry these days suggests that the spare brood box should previously have been disinfected by scorching or some other method and the new floor and queen excluder should have been similarly treated. I prefer to use a framed (and preferably wire) queen excluder as they are more rigid, and therefore more reliable, than slotted excluders.

Ideally the shook swarm should be done on a warm day when there is a good nectar flow but, as predictability has never been a strong feature of our weather, you may have to improvise in this respect (more later). The colony also needs to be a viable one with a laying queen and brood in all stages. The first manoeuvre is to move the existing brood box and floor to one side and place the spare floor on the stand where the hive was previously. Place the queen excluder directly onto this floor making sure that it is the right way up with regard to bee space. Then place the spare brood box on top of the floor and remove four or five frames from the centre of the box (figure 1a).

Now, move back to the colony, open it up and quickly examine it to find the queen. If you find her, place her in a queen cage and keep her safe in your pocket (a breast pocket is best). If you do not find her straight away, keep looking as you carry on with the next procedure. Take one of the outside frames and after having examined it for the queen, holding it firmly, line it up on a diagonal in the space in the spare brood box where you have removed the frames (illustrated, using a new frame, in figure 1b and 1c). Gently raise the frame until the bottom bars are just below the top bars of the new frames and then give it a quick, firm, downward shake into the gap. This may need a little practice but is best achieved by starting with the arms bent and then locking the elbows in a straight position. Done correctly, virtually every bee on the frame will be shaken off into the spare brood box and the old frame can be put to one side. Do this repeatedly for each frame in turn trying hard to avoid knocking the frames against either the brood box or the new frames as this will make the bees more active!

If you were successful in finding and caging the queen, now is the time to release her into the new brood box. If you were not successful in finding her you must hope that she has gone in with all the other bees. A thorough examination of all of the old frames and the old brood box will help to reassure you but perhaps you should also make a mental note to improve your queen recognition skills for next time! Now you will be able to appreciate the reason for the queen excluder between the floor and the brood box. What you have, in effect, is a colony which has swarmed (or to be more accurate, absconded) from its previous home, albeit with a little help from you. However, a brood box full of undrawn comb is not the ideal home for an active queen, keen to lay, to find herself in and it has been known for a colony to abscond in this situation. The queen excluder helps to minimise the risk of this happening until there is new brood (and hence brood pheromone) to keep the colony together. Once all of the combs have been shaken into



Figure 1. (a): New brood box and frames on a spare floor are placed in the original hive site. To remove bees from their existing frames (b) hold the old frame diagonally in the open space in the centre of the hive and (c) shake the bees off into the gap using a sharp downward motion. Photos by Ian Holmer.

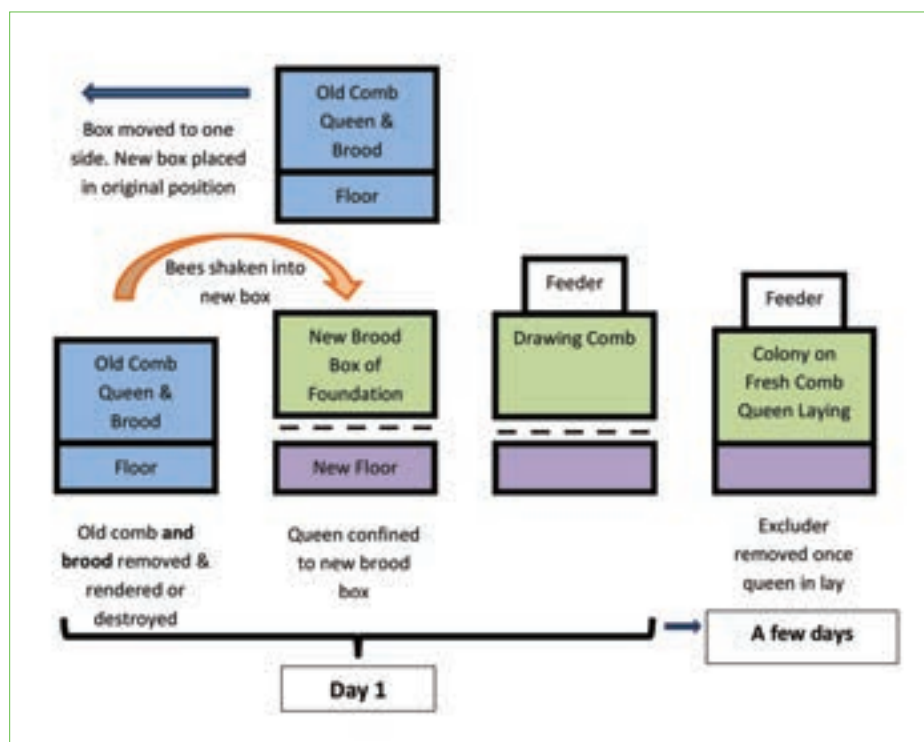


Figure 2. The shook swarm procedure summarised by Ian Holmer.

the new brood box, place a cover board and roof onto the colony until you are able to feed it. Figure 2 summarises the shook swarm procedure diagrammatically.

Feeding the 'swarm'

What will make the new colony feel at home is for the wax building bees to draw out some comb and for the queen to start laying eggs, and you can help them in this respect by providing a source of food right there in the colony. So, in the early evening place a rapid feeder directly onto the top bars of the hive so that if there is not a reliable nectar flow the bees can use the feed as a substitute. (There is debate as to whether the syrup should be thick, i.e. 2:1 or thin, i.e. 1:1. Many say that it should be thick but as that is 'storage' strength I personally prefer a 'consumption' strength of 1:1). After feeding, make sure that the roof is replaced firmly and that the colony is secure from robbing. In general, feeding will only be needed for a few days. Once the queen is seen to be laying satisfactorily, both the queen excluder and the feeder can be removed, but if the nectar flow is at all unreliable it may be worth continuing to feed until the new colony is well established. It is particularly important to remove the queen excluder as it may reduce the amount of all-important pollen that the bees can bring in.

Tidying up

After carrying out your shook swarm you will be left with the frames from the old brood box complete with brood in all stages and varroa mites in the sealed cells. If you have a solar wax extractor, these frames can be put straight into it but otherwise you may need to be sure that the varroa mites are killed before you do anything else. This is best done by placing the frames in a freezer for 48 hours (first obtain permission from the household manager!). The frames can then be stored until they can be put into a steam cleaner, they could be fed to any chickens that you may be acquainted with (chickens love bee larvae, but if you do not kill the varroa first then bees will find the frames and take the varroa mites back to the hive with them). As a last resort, the frames can be burnt on a bonfire.

And then?

In general, shook swarming is a very effective method of changing combs and, at the same time, of substantially reducing the varroa mite population of a colony. The percentage of mites that will be removed will depend on the time of the year at which you carry out the procedure.¹ Additionally, the process removes all of the larvae which are varroa damaged thus making an additional contribution to the overall health and wellbeing of the colony. Some beekeepers choose to apply control techniques after the shook swarm has been carried out to take advantage of the broodless period though I personally feel that this is unnecessary.

In general, shook swarming is considered to be a spring activity but it is worth noting that in countries such as Denmark it is often carried out in the autumn using pre-drawn comb to shake the bees onto. We have tried this technique in the UK with some success as varroa populations were low the following spring and colonies are able to concentrate on foraging rather than combating varroa.

Ian R Homer, Dorset

References

1. Martin S. A population model for the ectoparasitic mite *Varroa jacobsoni* in honey bee (*Apis mellifera*) colonies. *Ecological Modelling*, 1998; 109: 267–81.

Simple Plant Propagation: Layering

Last month I covered the technique of grafting and I now propose to deal with layering as a vegetative (clonal) technique for producing additional reliable forage plants for our bees. The method is very useful in cases where rooting of cuttings is difficult, or where seedling offspring would not come true or would not produce nectar and pollen reliably, such as holly, rhododendron, camellia etc.

In its simplest form layering takes place naturally when a low lying branch has constant and stable contact with moist soil. Figure 1 shows a self-layered variegated holly, *in situ* with the parent tree, and detached ready for transplanting.

Quite a number of old trees can be seen in what appear to be natural groves. Very often these will have started as one tree whose branches descend under their own weight until they lay on the soil and formed roots from where new trunks grew around the original tree. Contact with the parent tree, shrub or plant maintains sustenance and keeps the layered stem alive while rooting takes place. The layer is only detached from the parent shrub or tree once substantial roots have formed. It is a slow process but usually very reliable.



Figure 1. (Top) Self-layered variegated holly, *in situ* with the parent tree and (below) detached, ready for planting. All photos by Ken Basterfield.

Each year I visit York for the residential one-week NDB Advanced Bee Husbandry Course. Near the living accommodation at the university is a broad leaved lime tree *Tilia platyphyllos* that appears not to sucker and which has a deliciously strong scent to its flowers. Last July I layered some of the lower branches and I look forward on my return next July to find six or so well rooted layers. Patience is required.

Timing

From April to August are the usual times for this activity, though it can be done at most times when the wood is growing.

Textbook

A good guide is the *RHS Plant Propagation* by Philip McMillan-Browse, ISBN 185 732 9031; second-hand copies can be found for about £3. Another excellent text is Alan Toogood's *Propagation*, ISBN 0 460 04377 3, published by J M Dent & Son in 1980, with more recent updates also available.

Methods

I will describe the three simple methods:

- **Ground-layering** for when the branch is low and flexible enough to be brought down to the soil.
- **Air-layering** where the branch will not reach down to the soil.
- **Tip-layering** which is appropriate for very young wood.

Suitable material for ground- and air-layering

Choose young wood from last year's growth as old wood is less likely to form roots. A stem length of eighteen inches is suitable for air layering, but more is needed for ground layering, i.e. eighteen inches plus enough to reach down the ground.

Wounding

The stem is wounded where roots are required to form. The wound will start to heal and the new tissue, where the callous forms, is where the roots usually originate. The wound should be near or at a leaf node, as shown in figure 2. Note that the stem has been twisted for convenience in the photograph to more easily show the wound on the underside. Other methods of wounding can be used.



Figure 2. A wounded stem.

Ground-layering procedure

1. Strip the leaves from the chosen stem for about 12" so that you will not bury leaves, just the bare stem, leaving 6" of leaves at the tip.
2. Wound the stem 12" from the tip, i.e. halfway along the stripped stem, by slicing the bark off for about 2" along the lower side of the stem, preferably on a node. Apply hormone rooting powder to the wound if you want to. It can help.
3. Lower the stem to the ground to see where it will touch. Loosen up the soil at this point to a depth of about 5" to make a short trench into which the stem can be lowered.
4. Peg the stem in the bottom of the trench with a bent piece of wire or two and firm the soil around the stem with the 6" of leafy end protruding, as shown in figure 3.
5. The soil can become quite dry at the base of a greedy shrub or tree, so you will need to water well and regularly to encourage rooting.
6. Examine in a year's time. If there are substantial roots then sever the stem on the parent side. Tie on a label with the parent plant name and variety or with detail of the original location if you do not know what it is called.
7. In the dormant season, carefully dig up the layer with its root-ball, soil and label attached and pot up or plant out in the intended final position. Job done!



Figure 3. The stem has been pegged stem in a trench and soil firmed around it.

Air-layering procedure

This can be done when the stem will not reach the ground, by creating a ball of moist sphagnum moss around the wounded stem and enclosing this in polythene. Proceed as above for stages 1 and 2 then follow the steps below.



Figure 4. Air-layering. The wound is covered with a ball of moist sphagnum moss (top) and this is wrapped in soft polythene and taped with PVC (bottom).

3. Pluck sphagnum moss from the lawn, (yes, most of us have some!) and make a moist ball of the moss about 2–3" long around the wound as seen in figure 4 (top).
4. Use a 6" square of soft polythene sheet to enclose the moss. Wrap tightly at the ends and seal it to the stem with PVC tape (electrician's tape) as shown in figure 4 (bottom). The rising sap will keep the moss moist.
5. Continue with stages 6 and 7 as for ground-layering.

Figure 5 shows an experimentally opened four-month old air layer. The roots are definitely present, but they are too small for the layer to be severed. It was re-enclosed in moss and polythene to continue its root development.



Figure 5. A four-month-old air-layered holly opened to determine its progress.

Tip-layering

Looking at an extensive bramble patch one would think that loads of blackberries have fallen and seedlings have sprouted, but it is not usually the case. Blackberry seeds are not particularly fertile and natural propagation takes place when a new extending cane tip descends to the ground, and forms roots at the tip where it touches the soil. The very new young wood of the tip growth has a much greater propensity to root compared to older ripened wood; indeed blackberry cane tips can begin rooting within a fortnight.

Connoisseurs of blackberry pies will know that blackberries come in a variety of shapes, sizes, vigour and sweetness, and they can ripen during different seasons. In fact there are about 250 varieties out there in the wild and a few selected ones in cultivation. Do not make do with the miserable, hard, sour specimens. Why not propagate the best you find as you come across them and transfer them nearer to your apiary for you and your bees? Tip-layering is the easy way to achieve this and it is much simpler than the methods described above. It will work for most vigorous cane fruits, briars and similar plants and is really a variation of ground-layering.

Method

Sink a 6" clay pot into the soil near the chosen bramble tip. The drooping cane should already be trying to turn upwards at the tip. Loop the tip into the pot and cover with soil. Use a bent wire to hold the loop in place if necessary. Keep the pot moist.

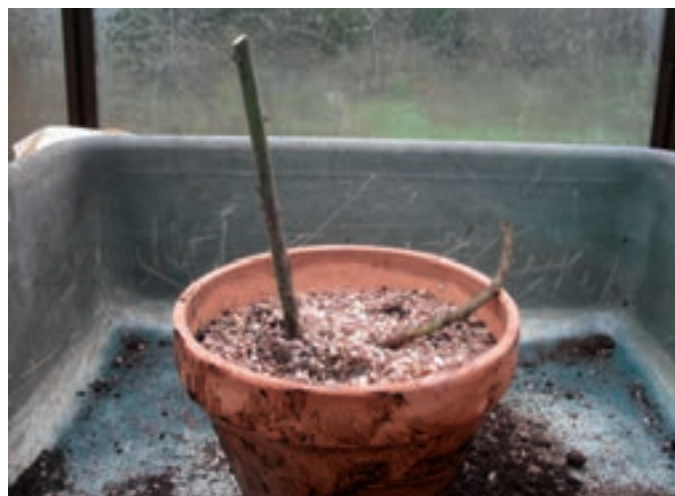


Figure 6. Tip-layering. The upturned tip of a bramble cane has been looped into the pot and covered with soil. This has been allowed to root and then removed from its parent plant.

Sever from the parent when well rooted; this can be as soon as two months. As it is rooted into a pot (see figure 6) you can transfer it at your convenience; you do not have to wait for winter dormancy to do this. Notice how much more vigour is in the rooted tip vertical growth compared to the old parent cane seen, lower down, on the right.

In May's BBKA News I will cover semi-ripe wood cuttings. This will be followed by an article on ripe wood cuttings in August BBKA News, then the final article in the series in December BBKA News will be on root cuttings.

Ken Basterfield,
NDB

Learning From Others: Making Skeps

Warwick and Leamington BKA organised a skep-making training day at the National Beekeeping Centre at Stoneleigh on Saturday 15 September 2012. The room was absolutely crammed full of eager beekeepers, who had come from many different branches.

We were given a large sack of specially robust and long straw (the same as used by thatchers), some strong binding (thin strips of bamboo or specially prepared blackberry cane), a hand-made tool (which looks a bit like a potato peeler) for threading the binding/stitching and lots of water. I was really excited and expected to transform the sack of straw into an amazing skep in just six hours!

I had to work hard just to get a place on the course as it was so heavily oversubscribed that a second course, complete with its own waiting list, had been scheduled for November. I was one of the lucky ones as someone had dropped out, allowing me to fulfil one of my ambitions.

It turned out to be a fairly straightforward but highly labour-intensive craft. How wrong I had been; after six hours my skep resembled a place mat. I now understand why shop bought skeps are so expensive. I can see that I will need to spend many winter evenings with my sack of straw, stitching away before I achieve my finished skep. However, it was rewarding and I know that my skep will last a lifetime and may even become a family heirloom. Well they do say beekeepers are highly optimistic and somewhat eccentric!

Our tutors explained that we could also make coasters, placemats and even bird-nesting boxes for wrens, so we need not stop at skeps; the world is our oyster!

Many fascinating conversations took place during the highly professional training. Mike Townsend started by sharing the ancient history

of skep-making and the three tutors moved around the group offering practical assistance and words of encouragement. We were given very clear instruction throughout the day. The pace and level of information was just right.

Some of the conversations were quite compelling. For example, I learnt that the lady sitting next to me had learnt to belly dance and had been white water rafting. Her daughter, sitting two seats away had ridden ostriches in Africa; it all happens in Warwickshire!

I even met the person whose swarm I had in June 2012. This was news to him but the swarm collector had tried a whole day to trace the owner before presenting the swarm to me. I started beekeeping in June of last year so this wonderfully calm colony has been my introduction to this amazing pastime. We can of course share queens and I will be happy to give him a nucleus. I shall be eternally indebted to him and to my mentor.

The organisers encouraged us to run skep-making courses back at our branches so my mentor and I hope to arrange this locally. It is a great way to encourage partnership-working and, dare I say, cross-pollination between the branches; we too can be busy bees!

I would thoroughly recommend that you try making a skep yourself as I am told they are far better than cardboard boxes for catching swarms. They do not disintegrate in the rain and they last for many years. How nice to think that we are upholding a traditional craft that has been around for so many centuries!

Jeanette McGarry,
Warwickshire BKA,
Solihull Branch



A selection of photos of skep-making progress throughout the day. All photo by Diana Phillips.

Freeman & Harding

We look forward to seeing you at the Spring Convention!

- A family run business
- Quality British made Honey Jars
- 10% discount for BBKA members
- Trusted by Beekeepers throughout the UK.
- We deliver Nationwide



Supporters of the BBKA, offering sponsorship, discounts & prizes to Associations and BBKA members.
Help us to support your Association!
To order please contact us on 01322 351315 or visit our website www.freemanharding.co.uk

buzz

Beekeeping Supplies

Have you discovered Buzz Beekeeping?

We are designers and retailers of quality apiary clothing for the recreational beekeeper.

Our ever growing range includes:

- Full Beekeeping Suits
- Jackets & Smocks
- Replacement Veils
- Lightweight Vests
- Gauntlets



Discounts for clubs and associations

To find out more about buzz and to view our full product range visit www.buzzbeekeepingsupplies.co.uk or call us on 01934 712286

Save 10% off all online orders using code **BUZZBBKA**

QUALITY, AFFORDABLE HONEY EQUIPMENT



Since 2008, Agri-Nova has been the exclusive distributor of stainless steel honey equipment manufactured by the Italian family business, Giordan.

We can offer a full range of items at very competitive prices tailored to your requirements – our range of extractors are particularly popular and have earned a reputation for excellent quality, reliability and value-for money!

- Manual, motorised or drill-powered Extractors for National, Manley and other frames
- Storage tanks, honey buckets and stands to suit all sizes
- Heating cabinets, wax melters, pedestal heaters
- Filtration and bottling equipment
- Uncapping tanks and trays, knives
- Smokers, hive tools



SO WHATEVER YOU ARE LOOKING FOR ASK US TODAY!

AGRI-NOVA
bee TECHNOLOGY

7 Belmont Hill, Newport, Saffron Walden, Essex CB11 3RF
T: 05600 756944 • F: 05600 756945 • E: clive@agri-nova.biz
W: www.thebeebusiness.co.uk

Agri-Nova Bee Technology is a trading style of Agri-Nova Technology Ltd.

Patterson's Page

The September 2012 issue of *BBKA News* carried an article by Lilian and John Valentine about the experiences of setting up teaching apiaries at the Vale and Downland BKA (V&D). I was impressed by the way they approached what can be a very difficult thing to achieve. I have been involved with the teaching apiary at Wisborough Green (WG) since it was started in the mid-1960s and have experienced many of the problems associated with teaching at the hive, some of which Lilian and John addressed.

Each BKA is different with varying resources and personnel and, as with everything in beekeeping, there are many ways of achieving the same result. I see a lot of teaching facilities using equipment and methods I would not use, but just because someone else does something different it does not mean they are wrong, they are simply doing what is best for them in their circumstances. To an outsider, the methods used by V&D might seem regimented, and it is much easier to manage teaching if you have a structure.

Many BKAs found they could not cope with the huge influx of new beekeepers — some capped their numbers, some stopped taking new or potential beekeepers, others discontinued beginners' courses. Also, many BKAs are experiencing a high 'churn rate'. We improved this situation by introducing a Preliminary Group outside scheduled meetings where all new or potential beekeepers start. When they reach a certain standard they can come to the scheduled meetings, but those who are not going to continue are filtered out at this stage. We tightened things up by using standard equipment, only teaching one way and introducing ability groups. The reason we only teach one way is because all beekeepers, especially beginners, get very confused if confronted with several methods. We teach them the 'basics' and good handling so they can explore different methods at home if they wish. All ten of our demonstrators have been trained by us so advice and techniques should be reasonably consistent. A teaching apiary is where the theory is put into practice; the two must work together. Some BKAs have a mentoring system, but we gave that up a long time ago. We have a busy programme at the WG apiary and that is where our teaching takes place. We found those who were potentially good beekeepers were capable of quick learning and only needed occasional help and advice; it was the less able that wanted constant mentoring and in some cases would not inspect their colonies unless the mentor was there and effectively did their beekeeping for them. I know mentoring works elsewhere but that was our experience.

V&D have two apiaries, one for beginners who manage their own colonies under supervision and one for everyone else. It is in the early stages that habits are formed and I think it is much better to have an intensive programme like theirs. We do a similar thing, but in the main apiary. This gives new beekeepers good grounding and us the assurance they are able to handle a colony on their own at home. V&D's apiary is fairly new but they are making good use of it, including opening it to non-beekeepers. This is a bit more involved than it might seem as you need to make sure you only have a small number of people round one hive and they need protective equipment.

Using only one kind of hive, in our case single brood box National, makes management easier. It might sound attractive to have several hive types so comparisons can be made, but we had five types at one stage and it was a nightmare. Compatibility is a huge problem and, far from learning, we found confusion took over.

You often need different types of bees and extracting equipment if you go down this route. However, I believe the number of colonies available is important; people go to a beekeeping meeting to learn, and the hands-on approach works best. We now have over 190 members and around 40–45 colonies, but they have reached 68 of varying sizes. First-timers will need four or five comb colonies, then developing colonies for their next couple of inspections and full honey producing colonies as experience grows. We have a queen-rearing group and can have up to twenty mating nucs. You must cater for everyone so there is a natural progression, otherwise they will lose interest. We get beekeepers handling colonies entirely on their own.

The success of a teaching apiary relies heavily on support from the committee and members. There is much work to do outside meetings and this needs to be done by reliable people. At WG one person monitors varroa five times per year and another couple do the feeding — both important roles that take pressure off the apiary manager. Teaching apiaries and apiary management vary considerably; I have seen everything from a couple of ramshackle hives to a pristine setup with a programme of renewing hives on a five-year rotation. I am the apiary manager at WG and I like to have some things that are not quite 'right', such as a colony with chalk brood, so we can show members conditions that need attention. This emphasises the importance of teaching at the hive; politics often determine whether a BKA has a teaching facility and how it is run, but if you have nothing learning becomes more difficult.

Roger Patterson, Wisborough Green BKA



BeeCraft
The Informed Voice of British Beekeeping

The ideal gift for
the Beekeeper in your family

Buy a Gift Subscription and with every
new Paper Subscription get the
iBeeCraft Digital Subscription for free.

Digital Edition now also viewable on
all iPads™ and iPhones™.

**£25* for one year or
£48* for two years** *New subscriptions only

*All prices include UK delivery. Cheques payable to Bee Craft Ltd.
Option for Digital Edition must be requested at time of ordering.
For Overseas delivery or to pay by credit/debit card visit
www.bee-craft.com/jhop or phone 01733 771221

Bee Craft Subscriptions
107 Church Street, Wemington, Peterborough PE4 6QF

A Funny Thing Happened at the Apiary

Each year BBKA sponsors the National Honey Show essay class. There were a number of interesting essay entries in 2012 and we will be publishing a selection of these during 2013, starting with this entry by Margaret Edge.

A Mentor's Tale

About three or four years ago my husband began mentoring a young chap who was very interested in keeping bees. He is head gardener of a local country estate with its own kitchen garden, orchard, woodland and farms. His employers, the lord and lady of the manor, were customers at the plant nursery where my husband works. They knew he had kept bees for a long time and asked him if he would like to put one or two hives in the walled garden. He jumped at the chance. All those lime trees!

We got to meet J (remaining anonymous) the head gardener and arranged to take two colonies there in the early spring. The walled garden is very old and the orchard was the place the lady of the manor decided they should be situated. I went along to help with the move and to take pictures of this auspicious occasion. J had big plans for this area. With permission, wild flower seeds would be sown around the trees to encourage and benefit all pollinators.

J was very enthusiastic about the apiary and a keen spectator but a bit on the nervy side so when my husband went to do his weekly inspections J would just be given a frame to hold or the smoker or the hive tool while he asked hundreds of questions. In his borrowed smock and bright yellow 'Marigolds' he looked the part and a two hive inspection turned into a Sunday afternoon out. The lady of the manor was very impressed but she did not come to watch.

Sometime during the season he joined the local beekeeping association and came with us to meetings. J was very keen, with permission from the lady of the manor, to have his own colony alongside ours. But would the hive be his or the lady's? And who would get the honey?

A decent year weather-wise meant the mentoring was going well and soon J was 'going through' with confidence though still with a borrowed smock. He endured the odd sting quite well.

Soon J had his own colony to work through and the lady of the manor was soon expecting oodles of honey. She had bought J all the equipment he could possibly need including his own smock! My husband supplied the bees.

One Sunday my husband (who continues this story) and J went to do their usual after lunch inspections with both going through their own hives at the same time. The day was not particularly warm and the bees were a bit 'crawly' and 'clingy'. J suddenly shouted that he had been stung and said: 'Can you finish this hive off for me?' 'Yes. Go and sort yourself out', I said.

A few minutes later when I looked up J was in the corner of the walled garden with his jeans round his ankles removing bees. Luckily he was well away from the hive, and me! By the time I had finished going through the hives J was back and that is when he

told me where he had been stung. I said: 'You had better ask your wife to rub them better!'

On the following Sunday I rang him to see if he was up to that afternoon's inspection. He said yes without hesitation. As we were getting the equipment together he said that on the day after the stings he was still in quite a bit of pain so had gone to the doctors. After explaining to the doctor (male, thankfully) what had happened he had a look and removed a sting! The doctor asked him how on earth he managed to get stung in such a delicate area. J explained, proudly, that he was a beekeeper. The doctor then said: 'What were you wearing? A thong?'

The moral of this oh so true story is: don't dress too trendily by wearing 501's that are done up with buttons. Wear jeans with a zip! This all happened a couple of years ago. J is still keeping bees and has gained his Basic Examination certificate — and a full bee suit!

Margaret Edge,
Chesterfield and District BKA



Gormanston 2013

Annual Beekeeping Summer Course

At the Franciscan College, Gormanston, Co Meath

Sunday 21 July to Friday 26 July 2013

Guest Speaker: Flemming Vejsnæs who is a biologist (M.Sc) with focus on pollination. In 1991 he became the beekeeping adviser to the Danish Beekeepers' Association, which has a membership of 4,500 members.

This annual beekeeping course is internationally renowned attracting beekeepers from all parts of the world. The range of lectures and workshops has universal appeal both for the beginner and the advanced enthusiast covering a wide programme in the practical and scientific areas.

Full Cost: En-suite rooms €405, Single rooms €335, Rooms with 3 cubicles €320, Dormitory €305 – no increase from 2012 prices (€20 reduction if full fee paid before 1st July 2012)

Full details from:

Gerry and Mary Ryan, Deerpark, Dundrum, Co Tipperary.

Tel 00353 (0) 62 71274 or

00 353 (0) 87 1300751 or 00 353 (0) 87 9745115

E-mail ryansfancy@gmail.com

Bees Throughout The Ages

Beekeeping activity in Ancient Greece and Rome

In Ancient Greece and Rome beekeeping was an important activity. Although bees were kept in large numbers in Rome, such was the demand that honey and wax were imported from other parts of the Empire such as Spain and Corsica. Early agricultural treatises including Varro's *De re rustica*, and Vergil's *Fourth Georgic* provide an insight into beekeeping during this period.

Hives

The Roman hives are thought to have been made from cork oak bark, fennel stems or wicker-work. The inside was smeared with cow dung. Varro recognised the importance of situating the hive close to water. Surprisingly, the accounts include recipes for sugar syrup and sweet cakes based on his recommendation to give bees food to prevent them using their stores. In ancient Greek and Roman ruins, there is also evidence of top bar hives, which are based on a cavity covered with wooden sticks. During honey collection, beekeepers burnt cow dung to smoke the hives!

Uses of honey and wax

Romans liked mixing sweet and savoury foods so honey was used widely in a range of recipes. For example when preparing vegetables a mixture of honey, vinegar, salt and water called Oxymel was used.

Wax was used in medicine as a broth-like mixture for the treatment for dysentery and as a skin softener. It also served a practical function as a tablet; small wooden frames were filled with wax, and a sharp instrument such as a bone or metal stylus was used to mark the wax.

Aristotle and bees

Although Aristotle, the famous Greek philosopher, never kept bees himself, he made many important and detailed observations which can be found in his text titled *History of Animals*. He documents some interesting views on the reproduction of bees which were clearly not well understood; there was the belief that bees did not give birth and fetched their young from flowers!

He correctly worked out that bees developed in the cells of the comb. The fact that there are three groups of bees including the worker and drone bees was also correctly identified, although the queen bee was mistaken as a king. He knew that the bees collected material from flowers but it was suggested that honey originated from the atmosphere rather than from flowers! His proof of this was the fact that there are times when flowers are abundant but little honey is produced and other times when combs are filled very rapidly in a matter of days.

Vergil and the legend of Aristaeus

One of Vergil's major works is called *The Georgics*. In the fourth book in this series, he documents the life and works of bees which are presented as a model for human society. In the second half, there is an epyllion (a short narrative poem) which includes the story of Aristaeus and the bees.

Aristaeus, a beekeeper, was the son of the water nymph Cyrene. When his bees died he sought the help of his mother. She advised him that the old god of the sea, Proteus, could show him how this

disaster could be prevented but would only do so if compelled. Aristaeus was instructed to find and chain him which was difficult as Proteus could assume a number of different forms. However, if his captor was strong enough to hold him throughout these changes he would eventually give in and answer what was asked.



An illustration showing the concept of Bugonia (from the Greek for 'Ox birth'), whereby swarms of bees arose from the carcasses of dead animals.

From *The World History of Beekeeping and Honey Hunting* by Eva Crane, with permission of IBRA.

So Aristaeus did as he was told, found Proteus at his favourite haunt and seized him despite the terrible forms he became until he eventually returned to his normal shape. In answer to the question, Aristaeus was told to sacrifice to the gods, leaving the carcasses of the animals at the place of sacrifice. Nine days later he was to return and examine the bodies. When he returned, he found to his surprise a great swarm of bees in one of the carcasses. He was never again troubled by the disease or loss of his bees.

Next time, I will focus on the fascinating role of bees in different religions. In particular, on scriptural references from the monotheistic faiths of Judaism, Christianity, and Islam.

Dr Ahmir Ahmad

ahmir@drbeekeeper.co.uk

www.drbeekeeper.co.uk

Manufacturers of Quality Beekeeping Equipment



Solway Bee Supplies

www.solwaybeesupplies.co.uk
01557 860400

Full Range of Bee Hives manufactured in our own workshop
Western Red Cedar Hives and Plywood Hives available.

Beekeeping Sundries & Accessories also available:
Frames & Foundation, Bee Feed, Feeders, Honey Jars,
Honey Extractors, Varroa Treatment.
Even more available online.

Solway Bee Supplies, Unit E, Kempleton Mill,
Twynholm, Kirkcudbright DG6 4NJ

www.solwaybeesupplies.co.uk
sales@solwaybeesupplies.co.uk
01557860400

On the Bookshelf

Understanding Bee Anatomy

Understanding Bee Anatomy: a full colour guide

Ian Stell

The Catford Press; 1st edition (15 Oct 2012); 200 pages

ISBN 978-0-9574228-0-3

This book has only been published recently (October 2012) and is a fund of knowledge. The author is a Master Beekeeper and a medical doctor. He says in the preface that he was stimulated to write the book by preparing for the BBKA modules on bee biology. The book is lavishly illustrated with a range of photomicrographs of bee preparations (low power), stained histological sections (high power using a compound light microscope) and higher power scanning electron micrographs (SEMs). There are also drawings to illustrate some aspects, often alongside the microscopic photographs; these make for easier understanding of the part of the bee being described. This all adds up to a remarkably comprehensive survey of the structure and function of a bee.

Many of the structures of the bee are remarkably beautiful when looked at under the light microscope. Even if you are not planning to take the biology module, making preparations of bee parts to examine can be very rewarding. A good example is the photograph of a tongue, showing the hairs and the spoon-shaped flabellum (figure 3.90, page 67). Making a tongue preparation is something that most beekeepers can do, but the histology and SEM studies are beyond the majority of beekeepers, which is why such a book can be so valuable.

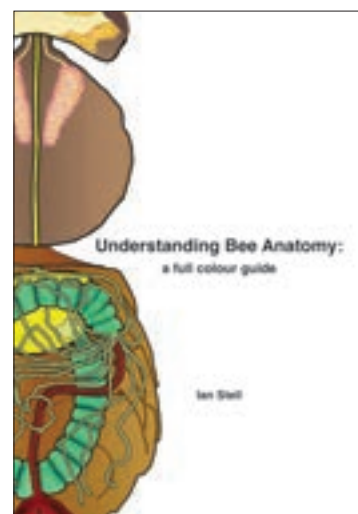
Each chapter covers an anatomical part or physiological system of the bee. Starting with the Cuticle (chapter two), Head and Neck (chapter three), the book moves on to cover the thorax, abdomen, legs, wings, then the circulatory, respiratory, digestive, and neurological systems and finishes with the queen and drone.

The senses are covered in chapters two and three; the Cuticle and the Head and Neck chapters. Here I have a slight criticism. Overall the index is most unhelpful. Although the term 'sensilla' is included in the index, there is only one reference for the sensillae (this is to page 38, which is in chapter two) and this section covers several types of receptors, including some on the antennae. The antennae are, however, covered in more detail in chapter three — Head and Neck where the placoid, trichoid and basiconic sensillae and the Organ of Johnston are described. Three of these four structures are referenced in the index, but they are not listed under 'sensilla' just under their full name; this is not helpful when looking something up.

Some of the best pictures and descriptions I think include those of the compound eye with SEMs of the hairs on the surface of the facets of the eye, on page 45, followed by the drawing of an ommatidium and then several histological sections of the ommatidium showing the cones, the retinula cells, pigment and the basement membrane, shown on pages 46–48. Another favourite image of mine is also in this chapter and shows the ball and socket joints where the antennae fit into the head (see pages 50–51). These are quite beautiful. The section on the bees' legs is another excellent section. The legs and feet are very complex and these illustrations do help one understand their structure. For example, figure 6.48

on page 129 shows a light microscope image of the lower leg with a section through to illustrate the position of the Arnhart gland, which secretes the footprint odour.

I think this book is of value to those hoping to take the BBKA modules or the NDB examination and is of general interest for anyone just wanting to find out a little more about these amazing little creatures. Most beekeepers interested in this kind of detail will be familiar with Snodgrass (*Anatomy of the Honey Bee*), Dade (*Anatomy and Dissection of the Honeybee*) and Goodman (*Form and Function in the Honey Bee*). This book is closest to Goodman but offers a slightly different approach and covers a wider range although in slightly less detail.



Pam Hunter, Central Sussex BKA

Insect Pollination

Readers interested in the Insect Pollinators Initiative might like to read the report from the international workshop *Insect Pollinators: Linking Research and Policy*, which took place on 14 February 2012. It was organised by the UK Science and Innovation Network in collaboration with UK partners, including BBSRC and Defra. It is available through the News page on the Insect Pollinators website at <http://www.insectpollinatorsinitiative.net>

The workshop brought together 59 scientists, policy-makers and stakeholders from across Europe to discuss insect pollination from four different perspectives: pollinator diversity, pollinator health, pesticide impacts on pollinators and the economics of pollination. Researchers around the world are engaged in a variety of projects to understand fully the problems facing pollinators and to support the development of new strategies and interventions. The concept for the workshop grew from the need to understand the different messages coming from various media and lobby groups regarding insect pollinators, their role in pollination, their decline and speculation as to how this might affect global food production, and to identify gaps in pollination research. The report includes a summary of recommendations, followed by the detailed reports from each of the four working groups.

Any questions about the report can be directed to Adam Vanbergen, who is also the Science Co-ordinator for the Insect Pollinators Initiative at ajv@ceh.ac.uk

Dr Adam Vanbergen,
NERC Centre for Ecology and Hydrology

Business Corner

A Matter of Resignation

There comes a time for all of us in everyday life, to take stock after a period of time in a given role. Unsurprisingly, this applies to those involved in the running of the BBKA. It is amazing how quickly the years flash by, particularly if you enjoy the task that you have taken on. However, new blood needs to be infused into the operation to ensure a healthy future. This succession planning argument is put forward annually to encourage people to consider standing for election to the BBKA Executive Committee as Trustees. But the purpose of this brief piece is to invite members to consider getting involved in the running of the Spring Convention.

In its 36 years existence the BBKA Spring Convention has grown and developed into the successful event it is today. From a small gathering in a tent at Stoneleigh, the event now spans a whole weekend and draws over 2,000 visitors to its current location at Harper Adams University College. To be absolutely clear, there is no implied criticism of the current

Spring Convention team, but we do need to plan for the future. In recent years we have developed responsibilities on the principle of division of labour, expanding the team to its present dozen or so members, each with a particular area of responsibility. Leaving aside the Chairman's role as general factotum with overall responsibility to the BBKA Executive Committee, key members look after the lecture programme, workshop and courses programme and the all-important trade show. Then there is hospitality and accommodation, stewarding, ticket sales, finance and the dreaded health and safety. These positions are currently handled with great competence but we need to look forward and start to find people to 'understudy' the roles with a view to taking over in a year or so. What we do not want is to find ourselves in a situation where team members 'throw in the towel' leaving gaps in the set-up. We cannot expect people to continue indefinitely and likewise, we owe it to the membership and the BBKA as a whole to ensure that the Spring Convention, as one of our 'crown

jewels', is kept vibrant and moving forward.

The nature of the work involved can be strongly seasonal, like ticket sales, or can be spread over a longer period, peaking at the time of the event, such as managing the lecture programme. Do not be put off by thinking that the tasks are daunting; while we strive to be more professional each time round, we are all basically enthusiastic amateurs. If you feel you might be able to help please get in touch with me by email at: tjl@dermapharm.co.uk or telephone on 01372 466525 for a chat and a chance to ask the questions that you, no doubt, will have about how it all works. *At present I have no resignations on my desk, but I know that there are those members of the team looking forward to 'retirement', and a chance to come to the Spring Convention as delegates and maybe even take in a lecture or two!* Please give this your consideration.

Tim Lovett,

Trustee and Chairman Spring Convention

Easy Fund Raising

Do you shop online? Did you know that Amazon, Viking, Marks & Spencer, Tesco, John Lewis, Argos, ebay, Debenhams, Boots, Asda, Apple and over 2,000 other well-known retailers will donate a percentage of what you spend online to BBKA when you shop with them, via the BBKA fundraising webpage at www.easyfundraising.org.uk.

How it works

Instead of going directly to a retailer's website, go to the BBKA easyfundraising webpage and choose the retailer you want to shop with. Then everything you spend with that retailer will earn a donation for BBKA. It is a really simple way to raise money. We all shop online these days so why not turn that shopping into donations? It is completely free to use and your shopping will not cost you a penny more. On average, each retailer will donate 2.5% of the cost of your shopping; some retailers donate up to 5%. Those donations soon mount up and when you have raised your first £2 for BBKA, easyfundraising will donate an extra £1 bonus to us!

Find and remind

Downloading the Find and Remind toolbar

makes it even easier to fund raise, as you shop. It tells you that the retailer you are shopping with is part of the scheme, how much of your final transaction they will donate and it reminds you to claim that donation! When you download Find and Remind, you will raise an instant extra 50p for BBKA.

Search and raise money

If that was not enough, there is a very easy way to raise even more when searching the web: by using the charity search engine easysearch another half a penny is donated to BBKA for every search you make. You can raise £25 a year on average, simply by using easysearch instead of Google or any other search engine. BBKA has its own search page through the easyfundraising website, so register as a supporter and set it as your homepage.

Please show your support for BBKA and register now at www.easyfundraising.org.uk/causes/bbka. It is completely free and it is an effortless way to raise research funds for BBKA. Thank you.

Jane Moseley,

Operations Director and General Secretary

Online Gallery: Share your photos with others

The online gallery is now live! This new facility enables members to post beekeeping and bee-related images onto the BBKA website. It is easy to use, but you must log into your account to access the facility. If you have not logged into the members area yet you will need your membership number and need to use the standard password (bbka_your family name eg; bbka_smith). All images will be presented to the Web Editor for approval to ensure that nothing is published which would bring the BBKA into disrepute.

Once you have posted an image to the Gallery it is available for you and other members to add as a link to any post in the Discussion Forum. For full details of the Gallery and the terms and conditions of use please go to <http://www.bbka.org.uk/gallery/>

Doug Brown, BBKA Trustee

Candles to Celebrate the Queen's Jubilee

The Queen's Jubilee candles were delivered to Buckingham Palace on 17 December 2012, being received by Chief Clerk, Mr Christopher Sandamas. They were accompanied by a loyal address from the BBKA and we have received a letter of thanks from Her Majesty through her lady-in-waiting.

The Queen's lady-in-waiting wrote: 'The Queen thought it was so kind of you to send her a present of six pure beeswax candles in honour of her Jubilee which she was pleased to receive. Her Majesty was very touched by your kind thought in sending her this special gift.'



Above: Chief Clerk, Mr Christopher Sandamas, receiving the Queen's Jubilee candles from Tim Lovett.

The Queen sends her best wishes to everyone in the British Beekeepers Association and I am to thank you again both for your present and your message of loyalty to Her Majesty in this, her Diamond Jubilee year.'

Many thanks again to all involved in this worthwhile project.

Tim Lovett, BBKA Public Affairs Director

Spring Convention Workshop Update



As at 7 February 2013, 58% of workshop places are booked with the following being fully subscribed:

Friday	Making Honey Bee Anatomy Slides
Friday	Examining Pollen under the Microscope
Friday	Candle Making
Friday	Handling Techniques
Saturday	Both of the Scanning Electron Microscope workshops
Saturday	Candle Making
Sunday	Anatomy and Dissection Microscopy

When a workshop is full the booking forms, which are available to download on the BBKA Spring Convention website are endorsed as such. Please check the website before posting booking forms to avoid disappointment.

Ruth Homer,
Spring Convention Workshop Convenor

BBKA Examinations Board Examination Dates 2013

9 November 2013 Module 1,2,3,5,7 Examinations
(Applications in by 30 September 2013)

Microscopy Certificate — Assessment takes place in
October/November 2013

(Applications in by the *new deadline* of 31 August)

Basic and Junior Certificate date by arrangement with the
County Examinations Secretary
(Applications one month before assessment — last assessment
31 August 2013)



www.beebasic.co.uk

All the protection you need, and more





Jackets from £36

Suits from £46

Call us for friendly advice, a free brochure, or visit our web site

5 Hillcrest Avenue, Pinner, Middlesex HA5 1AJ E-mail: sales@beebasic.co.uk ☎ 020 8866 3864

Free Delivery on UK order Prices subject to VAT 9am to 6 pm except Sundays

Classified Directory

The Beekeepers Quarterly

Group, individual & digital subs available
<http://bkqonline.co.uk>

Northern Bee Books
 for the widest range of books see
www.GroovyCart.co.uk/beebooks

Scout Bottom Farm, Mytholmroyd, Hebden Bridge HX7 5JS (UK)
 Phone: 01422 882751 Fax: 01422 886157
 Website: www.GroovyCart.co.uk/beebooks

Park Beekeeping Supplies
 Suppliers of quality Beekeeping equipment

Hives Extractors Package Bees Filtration Clothing Starter Kits

17 Blackheath Business Centre Tel: (020) 8694 9960 Email: parkbee@zenomato.com
 78b Blackheath Hill, Fax: (020) 8694 8217 www.parkbeekeeping.com
 London, SE10 8BA

Bee Books new & old

Beekeeping Study Notes (Mods 1-3, 5-8)
 £60 pack, UK postage £3.50

BBNO, Ash View, Tump Lane, Much Birch, Hereford, HR2 8HP
 Tel: 01981 540907 www.honeyshop.co.uk

Becky's Beezzzs

Order Now for 2013 Mated Queens & Nuc's
 Bee Keeping Equipment & Accessory Suppliers.

Visit our new on-line shop to view our full product range.

www.beckysbeesonlineshop.co.uk
 01264 351104 / 07973 423628

Distributors for Aulumgaard's Ambrosia Beesfeed, competitive quotes for pallet orders.

Caddon Hives National & WBC Hives
 made from Cedar

Includes:
 1 Apex Roof
 1 Crown board
 1 Queen Excluder
 2 Super box
 1 Brood box (14x12 available)
 1 OM Floor (WBC with feet)
 3 Lifts and porch (WBC only)
 Bee escapes, mesh & inspection tray, entrance blocks all included!

£189

Call: 01896 850 755 / 249 or visit
www.caddon-hives.co.uk

HONEY FOR SALE
 Delivery FREE if over 300 kg:

Rape, Light, Sunflower, Phacelia, Solidago, Medium Light £3.50;
 Dark, Forest/Lime £3.60; Acacia £4.95; Fir/Honeydew £5.10
 Pollen £7.40/kg; Package bees May/June £75

Email: allard.daalder@orange.fr Tel/Fax 00 333 86 47 61 99
 Your honeyest partner.

www.thebeeshop.co.uk
 Quality Beekeeper Clothing At
 Affordable Prices Full Suits,
 Smocks, Bee Vests & Veils
 Full beekeeper suit for under
 £50 (free postage)
michael.duckett@virgin.net

To advertise on this page
 please contact:
advertising@bbkanews.org

Diary of Events

8-9 March. Ulster BKA, 69th Annual Conference. Focused on real beekeeping issues and of interest to novice and experts. Email: ubkaconference@gmail.com or web: www.ubka.org

16 March. NW Forum for Queen Rearing, Truckhaven Carnforth. Details from Fred Ayres at bees@al-consulting.co.uk or telephone 01524 811978.

19 March. Pinner & Ruislip Beekeepers Beginner's course. Every Tuesday night, 7-9pm for 4 weeks. Contact Perry on 07984 426008 or email at perryforan@sky.com.

23 March. North of England Beekeeping Convention, The Beacon, Newcastle; 9am-5pm. Speakers; trade; book stands and displays. Application forms: www.nebees.org; all welcome.

3-5 April. Microscopy for Beekeepers 2013. University of Bath. Three-day course, residential option for those preparing for the BBKA Microscopy Exam; www.microbees.co.uk; Tel: 01373 300 748

6 April, Saturday, 11am. LBKA, Lincoln District. Sale of bees and equipment. County Showground, Scampton, Lincoln. Details tel: 01636 610349; 01522 522679; 01522 730365; or 01427 788550.

Imported Bees

Readers are reminded of the BBKA's policy to discourage the importation of queen bees and colonies from outside the UK. Prospective purchasers should satisfy themselves of the origin of bees offered for sale.

12-14 April. BBKA Spring Convention, Harper Adams University College, Newport, Shropshire.

27 April. West Sussex BKA 41st Annual Bee Market & Auction, Brinsbury Campus, Pulborough. Tel: Graham Elliott 01403 752493/ 07761349281; grahammt@tiscali.co.uk.

27-28 April. Southport & Formby Beekeepers. Introduction to beekeeping course; £100, plus practical sessions at branch apiary. Merchant Taylors' Boys' Sch, Crosby, Lvp1. julie285@googlemail.com.

11-12 May. Darlington Beekeepers Association, Beginners course, theory and practice; £50. Contact Roger tel: 01325 315741 or email darlingtonbka@gmail.com. Accommodation can be arranged.

6-8 June. Royal Cornwall Show, Wadebridge. Schedules available from 1 March from Sheila Sleeman, 01872 863842.

Your Letters



Natural Beekeeping – Is it Suitable for Beginners in Urban Areas?

Can you imagine, slabs of wild, unsupported honeycomb coming straight from a warm hive, attached only to a top bar? It will be very soft, delicate, needing extreme care when handling upright only, if tilted or shaken it will break off! Is 'natural' beekeeping really suitable for a novice beekeeper?

The interest in so called 'Natural Beekeeping' has been discussed in both *BBKA News* and *BeeCraft* where views have been expressed on the pros and cons between natural and traditional beekeeping methods. Established beekeepers from the London and Middlesex Beekeeping Associations are concerned that, especially in urban areas, the control of disease and swarming is most important. Responsible husbandry is paramount where there is a high concentration of both beekeepers and the general public.

'Natural' methods tend to allow the bees to develop without limiting their instinctive need to swarm and regular inspections are kept to the minimum. Surely only experienced beekeepers should try this way before passing judgement? Novice beekeepers should be advised against it until they have had a number of years practice with 'traditional' hives. Here are points that should help the reader understand the 'natural' way.

Principles:

There are websites explaining these, but basically this is all about keeping bees as naturally as possible; mostly identical to those of any beekeeper, regardless of the method.

- ❑ To allow the bees to build their own, unassisted comb.
- ❑ The use of top-bar hives are generally considered the best home for a colony.
- ❑ The avoidance of chemicals in the hive and environment.
- ❑ The idea of organic beekeeping is out of the question in the UK, except possibly in National Parks.

Advantages:

- ❑ Cheap to make a hive.
- ❑ They were designed for third world countries.
- ❑ All the wax comb built by the bees will be uncontaminated by chemicals, except for those brought in by the bees themselves.
- ❑ Brood nest will generally be on new comb.
- ❑ Time is saved as there are only a few inspections.

Disadvantages:

- ❑ The comb will be unsupported except along the top edge.
- ❑ Comb can also be stuck to the hive sides which will make it tricky to remove.
- ❑ Brood comb in any hive is kept at about 33°C and is therefore very soft and easily broken.
- ❑ Examination of the brood comb is difficult because it cannot be angled to good light in order to see eggs, larva and brood.
- ❑ Bees cannot be shaken off the comb for examination as this will cause it to break off the top bar.
- ❑ Identification of disease or other problems of the brood is hampered.
- ❑ To find queen cells, the bees need to be shaken off in order to locate them.
- ❑ Swarming is not controlled.

Conclusions

Most associations in London now strongly discourage 'natural' beekeeping for beginners due to the great difficulty in examining brood comb. Bees that are allowed to swarm naturally in urban areas can give beekeeping a bad name because of the alarm swarms can cause and with wild colonies becoming a nuisance by, for example, occupying chimneys and other cavities within houses.

The control of disease is the responsibility of all beekeepers, natural or otherwise, and if you cannot examine the brood properly, you will not be able to check for AFB and EFB. London's colonies are so close to each other, disease can spread easily and get out of control. Traditional beekeeping techniques, using removable frame hives, have been developed over the last 160 years to the benefit of both the bees and the beekeeper and should be recommended to all aspiring beekeepers. With a few years experience behind you, then is the time to take stock of your beekeeping methods.

Why make beekeeping difficult when modern techniques make colony management easier and the bees seem to be very happy?

John Hauxwell,
North London BKA



Mad March Hare Prices

14x12 Cedar Hives from only £175

14 x12 Cedar Nucleus Boxes £55

Get your bargain ply hives for Spring

National Hive in Ply from £54.99

14x12 Hive in Ply from £64.99

Much more on the website

www.fragile-planet.co.uk

Call us for a chat about bees: 01691 672869,

Or call in at:

Unit 5, Maesbury Road, Oswestry SY10 8HA



Everything For You & Your Bees

1000s of Frames
100s of Hives
Huge range of
Clothing, Tools
& Equipment

All in stock

**6 Frame Polystyrene
Nuc Hive Only £29.50**



www.paynes-beefarm.com

Tel. 01273 843388

Wickham Hill, Hassocks,
West Sussex, BN6 9NP

Are you looking to expand in the Spring? Looking to replace your Winter losses?

Visit iwantbees.co.uk for Queens, Nucs
and Full Colonies of the highest quality
reared and cared for by our dedicated team of professional beekeepers.



Huge range available from April through till August



IWantBees.co.uk

1913 THORNE 2013

MAKING QUALITY BEEKEEPING EQUIPMENT FOR 100 YEARS

CELEBRATING 100 YEARS OF THORNES!!



NEW CATALOGUE AVAILABLE 1ST MARCH

E.H.THORNE (Beehives) LTD

BEEHIVE BUSINESS PARK, RAND, Nr. WRAGBY, LINCOLNSHIRE, LN8 5NJ

TEL. 01673 858555

sales@thorne.co.uk www.thorne.co.uk

Follow us on Twitter @thornebeehives Like us on Facebook www.facebook.com/e.h.thorne