



Bee Talk

Newsletter of The Blackburn and East Lancashire Branch of
The Lancashire & North West Beekeepers Association
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Registered Charity

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Editorial

SEPTEMBER 2005

JONATHAN BALDWIN

It saddens me to report the death of Jonathan Baldwin. He died on Thursday the 4th. of August. Although Jonathan did not attend meetings in the last few years, he nevertheless gave good services to our society and it was through his good offices that we had the use of Samlesbury Brewery.

The funeral was on Monday 15th August and our association was well represented. I shall certainly miss him he was always ready to talk on the very technical side of beekeeping.

Our condolences to wife Lucy and children.

BRIDGET IS MOVING

Bridget Beattie is leaving us in October this year. She and husband John have bought a property in a small village some miles South of Bergerac, and intend to live there permanently.

We wish her and John all the luck in the world with this new adventure. I am happy to tell you that Bridget is to continue her involvement with us and will continue her work with BBKA in Education. She intends to start beekeeping again in France, but being a good little beekeeper she will use the local bees.

HOLDEN CLOUGH

Since our last issue of Bee Talk it has been decided to rehash the running of The Ken Preedy Memorial Apiary (Holden Clough). No whacking great changes, but sufficient we think to make a great difference.

David Rayner and Paul Aldred are now joint Apiary Managers The Duty Men (Labourers) are under the strict control and instruction of the managers. They are all people that have shown a lot of interest in the apiary over the years. These managers are Bill Ainsworth. Michael Birt. John Zamorski. Ken Gaiger. Phil Ottewell. Judith Driver and David Bush. All association members will be welcome on the days that a Duty Man is there.

A list of dates will be published in the next issue of Bee Talk. Things look to be working already. The supers have been removed and uniting has been done so the hives are more or less set up for Winter with a good chance of the bees gathering the heather honey for themselves.

SUGAR

Some two months ago I was listening to Radio Four's, "Farming Today" programme, at some ungodly hour because I could not sleep. Three quarters of the discussion was taken up with the question of sugar quotas. It's very involved and a world wide problem, but there seems to be a determination to get rid of some if not all sugar subsidies. We, in this country, pay three times more for our sugar than it costs on the world market. That should 'bee' good news for us if it comes into being.

INVERTED SUGAR

On the sugar subject. I am told that the best food we can give to bees is inverted sugar. I know adding honey or Golden Syrup to our sugar syrup is supposed to invert it but I don't know the proportions and it sounds expensive if a lot of feeding is required. Is there any one out there who knows a safe, easy and cheap way to invert sugar?

Bees can and do invert the sugar we give to them and make it into a kind of honey. It is a costly job for them and causes stress. We know that stress is the precursor of all sorts of maladies in both animals and vegetables. It must be the biggest curse to the health and wellbeing of mankind. So if we can remove some of the stress from our furry friends we should do so.

EXTRACTION TIME

is now upon us. So here is a bit of advice to all beginners especially those who may wish to borrow the Association's 'Radial Extractor'. (Michael Birt is in charge, ring him if you need it). Whenever you use extraction equipment, whatever it may be, always use COLD water for the first clean to get rid of the wax particles. Then use hot soapy water for the final clean.

THE WINTER CLUSTER

SURVIVING

How well our bees survive the winter will have a big influence on the following summer's honey crop.

Assuming that the colony has been well fed in the Autumn and has a young queen, then the colony should survive provided it has been kept dry i.e. no leaking roof.

The colony enters the winter with about 25K - 45K of bees, and this will dwindle to 9K -14K by the beginning of March. Brood rearing will begin slowly in January as the days start to lengthen. The cluster will not increase in size until about late March or early April.

WARM AND COLD BLOODED

The winter cluster operates as a cold-blooded system, but like most matters concerning the honeybee it never ceases to amaze. For the brood itself is warm blooded whilst the adult bees are cold blooded.

Bees will not fly when the temperature drops below 10°C so during the winter the cluster develops a cold blooded approach. With falling temperatures the cluster becomes tighter and more compact in order to preserve heat. Because the larvae are not cold blooded the brood temperature must be constant at 30 - 35°C

REFUELING

The fact that the cluster can hold its internal temperature is due to the individual bees moving from the outside to the inside of the cluster and vice-versa. During this period the bees can refuel with stores from the central area of the cluster. Most food is consumed at temperatures lower than 5°C.

The bees generate heat by eating stores and using food as energy to raise the temperature of their bodies. This they achieve by contracting the flight muscles in their thorax without moving their wings. The cluster itself varies in density.

WINTER BEES

When brood is being raised, the outer surface is often more dense than the central area around the brood. The winter bee lives longer than the summer bee, and survives because it is not active like the bees born in the summer. The type of bee that survives the winter best, is one suited to its environment i.e. the indigenous bee, namely the *Apis Mellifera Mellifera*. This bee has larger fat bodies in its abdomen than the Italian type bee and consequently can survive prolonged spells of wet or cold weather when it is confined to the hive

LESS DYSENTERY

The *Apis M.M.* also has an increased amount of an enzyme called catalase. This enables the bee's rectum to hold greater quantities of faeces during the winter. These bees when confined for a long period during winter bad weather are less likely to develop dysentery.

Bees from southern regions do not develop an increase in catalase if brought to a cold climate.

HEFTING THE HIVE

Winter bees are best left alone provided they have been well

prepared for winter as mentioned earlier. They should be checked for stores in late January or early February. Some beekeepers can judge the amount of stores left by hefting the hive. I find this difficult as my hives are made out of different types of timber and have different types of floors. I check my stores on a cold day when no bees are flying. I lift the crown board gently and see if there are sealed stores in the outer frames - if stores are present leave well alone for another month before checking again. If the colony needs stores, use candy and place it above the brood.

By Gordon Hartshorn Courtesy BEES

Because the larvae are not cold blooded the brood temperature must be constant at 30 - 35°C

THE SUGAR ROLL

To assess the number of varroa mites there is a simple, non destructive, immediate test I know, called the Sugar Roll and it is quite fun.

ICING SUGAR

All you need is 2 honey jars, a way to close one jar top leaving 3mm holes (either a bit of plastic greenhouse mesh or a bit of an onion bag or (easiest) the little bag that comes in each packet of clothes washer tablets or a jar lid punched with holes from the inside). Plus a packet of icing sugar.

Put 3 teaspoons of the sugar in one jar then take an outer brood frame and check carefully the queen is not there, then bump the bees off into a square cornered box and knock the bees up into one corner, then pour into the jar until it is half full. The bees are a bit surprised you are doing this and only a few flyaway.

KICKING AND STRUGGLING

Cover the jar with the mesh and fix it with a rubber band. Turn the jar sideways and roll it in your fingers. The bees turn white almost immediately. Continue remorselessly until all are coated. Now fill the other jar half full with water and set the first jar upside down on top. Sugar trickles through for about 5 minutes as the bees continue to kick and struggle.

FLOATING MITES

The sugar dissolves and mites float, clearly visible. (Last week I got 65 from an untreated hive, about a 50% infestation).

Release the bees at the hive entrance and they fly or crawl in, except for any bees damaged by varroa. Do give it a try.

Robin Dartington, Courtesy of Hertfordshire BKA and BEES.

WELL I NEVER!

The Australian record for honey production is held by a western Australian beekeeper who harvested an average of 375 kg of honey from each of his 400 hives in one year. That's about 150 tonnes of honey

HONEY LAUNDERING

Strange things are happening in the world honey markets. Illicit honey, death threats and drama. Does this sound more like some mafia racket? Well it most likely is.



NEPAL

Let us look at some facts. Nepal does not produce surplus honey, yet last year it exported

1,000 tons of honey to India.

In Canada, Alberta's provincial apiarist has received emails from exporters of honey from countries in South east Asia, Africa and the Middle East, none of which are considered major exporters and in other parts of the world beekeeping suddenly became all the rage, indeed, as Bee Culture pointed out, Singapore suddenly became the fourth largest exporter of honey in the world, and it has no bees at all.

DEATH THREATS

In Australia, there are reports of death threats after a senior figure in the Australian honey industry tried to expose a racket concerning relabelling Chinese honey, his car then suffered a mysterious brake failure. Evidently over 2,000 tonnes of Chinese honey was shipped to Australia, relabelled and shipped to the USA.

All this started happening after the world banned Chinese honey. Experts believe that even now that the ban has been lifted, there is still a huge backlog.

CHECK YOUR BRAKES

If you are offered any finest Singapore honey, you know what to do. Check your car brakes!

From Apis UK.

CLIMATE CHANGE

ADAPTING

Climate change in many countries could mean that beekeepers must also adapt their beekeeping practise. Gone are the days when a beekeeping author could write 'start feeding your bees in October' etc, or 'ensure you have placed your mouse guards by November.'

4000 BUMBLE BEES

Frogs have begun spawning in Britain as early as October, oaks are coming into leaf three weeks earlier than they were 50 years ago and there were an unprecedented 4,000 sightings of bumblebees by the end of January this year.

Scientists, who also noted that people were mowing their lawns earlier, have concluded that spring now arrives ahead of schedule. The findings were submitted to scientists at the UK Phenology Network by hundreds of paid observers across the country and have been combined with environmental data over three centuries.

SIX DAYS EARLIER

The report, published in the BBC Wildlife Magazine, provides startling evidence of how nature is reacting to rising temperatures and changing rainfall patterns. Authors of the report have calculated that spring starts around six days earlier for every 1C temperature rise but not all species are affected in the same way.

For example for every 1C temperature rise, oak trees come into leaf 10 days earlier compared to four days earlier for the ash, its main competitor for space.

In an example of the ecological balance being upset, these changes also affect caterpillars, which are developing earlier to meet the need to feed on the trees' young leaves.

MIGRATORY PATTERNS

This may also have an effect on the migratory patterns of birds that feed on the insects, which can more readily adapt to climate change.

The findings suggest that there won't be a smooth progression towards a warmer climate, with all species advancing in unison, but rather that different responses may disrupt the complex linkages in nature. The authors of the report predict more drastic changes if, as expected, global temperatures rise between 2C and 6C.



It is now warmer than at any point in the past 1,000 years and nine of the 10 warmest years have occurred in the past decade.

England's beech woods may disappear along with animals such as Scotland's capercaillie and snow bunting - both birds which prefer a cold environment. The landscape may also change because of shifting rainfall patterns, more extreme weather and rising sea levels, the report predicts.

Arable farming may migrate to the west as parts of East Anglia become too dry to cultivate. Britain may be invaded by new animals and plants. Among birds, the candidates include the black kite, cattle egret and hoopoe. All of which reside in Spain.

From Apis UK

AN ASSOCIATION MEETING

BILL'S APIARY

On Sunday July 24th some fifteen or sixteen members turned up at Bill's apiary to hear him discuss honey production. It was not so much

CHECK THE DATES

Take a look at the notices on Pages 18 and 19. There are meetings at Holden Clough as well as meetings at various member's



about the 'mechanics' of honey production, more bee and hive management in order to maximise the honey crop. You can read more about this meeting in Helen Howarth's report on on page 8

homes.

GIVE IT A TRY

If you have never been to one of these meetings, you really should give it a try. There is something for everyone - from ninety one year old Jack Armistead who has been keeping bees for over sixty years to the newest recruit with only a few weeks experience. No-one is ever 'Put down' and no question is too simple or basic.



If you want to break the ice and meet up with fellow beekeepers, come along to the barbecue on September 18th. (See details on Page 19) They are always good fun and an ideal way to make the acquaintance of other members.



THE ITALIAN CONECTION

JENI'S JOTTINGS JULY 18TH '05.

It's May, and at last some good weather with all the meadows full of spring flowers, plenty of goodies for the bees. The old apple tree near the hives was full of blossom and was a great favourite.

THE BUZZ

While keeping an eye out for swarms it was rather a nuisance as the buzz from that one tree drowned out all the other noises. I rely on hearing a swarm or a change in the noise level when I'm working around the place. It's part of being in tune with what is going on and it not only applies to the bees but all the rest of the livestock, as well as the wild life. I quite often prod 'Bigg' the boarder collie at night and say 'fox' which has an instant reaction, or in the



d a y
tell 'Beck' t h e
other collie to bark as a buzzard
is circling too near the chickens.
Her bark warns the chickens
to take cover and tells the buzzard to seek
another hunting ground.

ONLY ONE SWARM

It's been a very strange year so far with the bees. Normally at the end of May I have swarms going off all over the place and can't keep track of where or which hive they've come from. This year I've had ONE swarm! and it very conveniently hived itself into a hive, I had cleaned out and left in the apiary. I was very pleased as I was eating my dinner at the time. Apart from that one swarm, nothing, very odd! but perhaps it's because the beginning of June was quite cold again.

I heard today, I'm not the only one to have had just the one swarm, so that news in some ways makes me feel happier.

It's a problem here having no association or contacts with other beekeepers as you have in England. You don't realise how fortunate you are in that problems and ideas can be exchanged and help provided etc.

LOSING STOCKS

For instance at the moment there is a problem of losing stocks. I've had quite a few unexpected losses and I've had the 'old beekeeper' (who the original stocks came from) ring me up for advice as he has lost a great number of stocks again this Spring.

IL DOCTORE

"Queen failure" he says, "hit lots of bees" Why? he wants to know, as he is worried and upset by this. Jake helped him out at one time, visiting an out apiary of his that had AFB. The old chap always referred to Jake as "il Doctore" after that. I'm afraid I haven't got the knowledge to advise him on this, but I've heard there's a similar problem in England with Queen losses. If you have more information it will be gratefully received....

REGULATIONS

Another thing to create a lot more work are the 'new' (they might only be new to Bardi) EEC regulations regarding extracting facilities.

Like the bees, the officials from the AUSL (health department) only come out when the sun shines. So instead of me knowing what was needed in the winter months when I would be getting on with indoor jobs. They came up in the spring, the busiest time of the year. So now to conform with all the new regulations it's out with the non toxic washable paint, new neon lights??, hot water and a fly screen for the door (which is brilliant).

ALL IN TRIPLICATE

Loads of hassle. Loads of forms to fill in. A plan of said room, a list of equipment down to the last plastic bucket and a letter to the Mayor to ask for permission to use said room. All in triplicate with lots of official stamps on every thing. Plus two visits by officials, The end result is I now have a certificate (delivered by the civil police) to say I can extract honey in the extracting room. So to day with the help of Michael and Lynda Costello we made good use of said room by extracting nine supers, which will amount to about 100 kgs. of fairly thickish honey, probably plenty of dandelion in it.

TAKING HOME THE HONEY

This is to keep some of the Summer customers happy who are all ready hassling me. Many of them are only here in the Summer and like to take some honey home with them. Many like to get stocked up for the year not only with honey but all the local produce from this area, like cheese, salami, prosciutto ham, porcini mushrooms etc.

The second crop of herba medica is just starting after the gap which occurs after the first cut of hay. The equivalent of your June gap when all the Spring flowers are finished. I am hoping that this year there is more rain to keep things growing and the bees can fill some more supers for me. I hear it's been good weather in England so I hope you've all got some good honey too.

Very best wishes for a good season.

Tante Salute Jeni.

CLEARING SUPERS

by Jim Crundwell

REMOVING THE BEES

Before honey can be extracted it is necessary to remove the bees. There are several ways of doing this:

1. VIOLENCE

This involves repeatedly banging super down onto an upturned roof until they are all out. Sometimes this works very well, but because there is a deal of skill and judgement involved, this method should not be attempted by the untrained.

2. BLOWING

Blowing the bees out with a jet of air works, but it does need suitable equipment.

3. CHEMICALS

The bees can be driven out using a chemical which is repellent to bees (usually benzaldehyde) but again it requires judgement and skill and does not always result in the complete removal of the bees. A fact that you may later regret: when the supers are brought indoors, these bees will emerge and fly to the window.

ALARMED NEIGHBOURS

If they are then let out, they will return with reinforcements, besieging the premises or alarming the neighbours. In the event of bees being taken inside with the supers, do not let them out and by the next morning they will form a cluster like a small swarm which can quite easily be brushed into a box and taken back to the hives.

4. CLEARER BOARD

This involves using a clearer board of some kind inserted over the brood box and beneath the supers. The clearer board incorporates some kind of valve arrangement, most commonly one or two Porter Bee Escapes, which prevent the bees returning to the supers once they have passed through on their way down to the brood chamber. It usually takes one or two days for all the bees to clear and so requires advance planning. If the bees have failed to clear after a couple of days, it may be due to the escapes getting blocked for some reason and you will need to start again. If by some mischance there is any brood in the supers, the nurse bees will not leave it.

FOAM RUBBER

When the supers have been placed over the clearer board it is vital to check thoroughly for any gaps where bees or wasps can get in and rob the honey from the undefended supers. Check all round and seal any cracks or holes using strips of cardboard or pieces of foam rubber jammed into the gaps.

AN OLD SHEET

Because the WBC hive parts do not always fit too well, it is advisable to drape an old sheet or something over the supers and then jam the lifts down over the sheet before replacing the roof. Remember if you use a crown board for a clearer board you will still need to cover the top with something bee-tight. It is best to regard the clearer board as a separate piece of equipment. I think it helps if it is made with a deeper frame (say 18mm) on both sides to give more clearance and allow for any brace comb that may be present.

MEETING AT HODGE HUT

Nelson 24 July 2005 A Talk given
by Bill Ainsworth on Honey production.

FEEDING THE COLONY

With the aim of Producing Honey you need to look at keeping big stocks of bees capable of collecting the stores. The beekeeping year should start in August. If by the end of August the year's crop of honey has been taken off then you should be ready to feed to build the colony up to give plenty of bees for the winter and so that by October there will be plenty of stores for the winter.

IN SPRING

Over the Winter the beekeeper must make sure he has enough equipment ready for the Spring. For each hive there should be a duplicate brood box complete with frames, foundation can be fitted when needed so keeping it fresh, two supers similarly set up with frames, a crown board and possibly a roof. By the end of March start feeding with full strength syrup, being 2lb sugar to 1 pt water. Giving a little every 2 or 3 days especially when the weather is poor should convince the bees that food is now coming in and the queen will start laying. By the end of June there should be strong colonies capable of collecting honey. In May June July there will in all probability be swarms and preventative measures should be taken to prevent the loss of bees.

THE CURRY METHOD.

With this method you need to find the queen. This has been discussed previously but there is an alternative when you cannot find the queen.

THE TARANOV METHOD

This method works best when the stock is well advanced towards swarming with capped queen cells. Working on the principle that the queen will not re-enter the hive once she has left it, but will form a swarm with the bees that intended to leave naturally anyway.

A CAPPED QUEEN CELL

You will need a floor, brood box, a full set of new foundations, crown board and roof. Move the 'old' hive onto the a new location and put the new hive with no foundation in it onto the old site. Place a board in front of the new hive sloping up towards the entrance but with a gap of about 4" or 10 cm from the entrance. The board can be covered in a cloth and a few pieces of wood nailed to the underneath for the bees to cling to. Find a good capped queen cell and brush all the bees from it onto the board and place this frame in the 'new' hive.

NEW FOUNDATION

Shake all the bees from the old hive onto the board and place the frames in the new hive (now on the old site) removing all the queen cells as you go, leaving just the chosen one to emerge and take over as Queen. Some bees will go into the new hive to take care of the brood and the queen cell. The old queen and a good number of bees will collect under the board. These can be hived into the new hive on new foundation just like a normal swarm. If there is no nectar flow the 'swarm' will need feeding

Thanks for the afternoon Bill, and thank you Jeanne Ainsworth and Sai Birt for the refreshments. *Helen Howarth.*



PROPOLIS

Most readers of this magazine will be fully aware of the nature and use of propolis as used by their bees. The bees take advantage of its antibacterial, antiviral and antifungal properties in protecting the colony against disease. Indeed, propolis has been shown to kill *Paenibacillus* larvae, the most important bacterial disease of bees.

At least 180 different compounds have been identified so far in propolis:

Resins	Flavonoids, phenolic acids and esters	45-55%
Waxes and fatty acids		23-35%
Essential oils (volatiles):		10%
Pollen (proteins)		5%
Other organics and minerals		5%

WIDE RANGE OF PLANTS

The chemical constitution of propolis is highly variable because of the wide range of plants visited by bees and this variability has been the subject of research as scientists try to establish propolis standardisation which is of obvious value to the pharmacological industry.

These types of study are particularly valuable with respect to practical applications in therapy. Research now is trying to connect a particular propolis type to a specific type of biological activity and formulate recommendations for practitioners. In this respect, a study of propolis is of immense value.

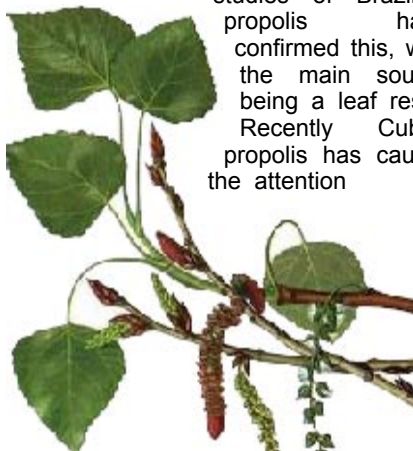
ANCIENT TIMES

As the most important chemical weapon used by bees against pathogenic micro organisms, propolis has been used as a remedy since ancient times by humans and in some countries is still one of the most frequently used treatments for stomach ulcers, wounds, burns, sore throats and tooth problems.

In temperate zones all over the world, the main source of propolis is the poplar, mainly

the black poplar *Populus nigra*. For this reason, propolis from tropical zones where the poplar cannot survive have a different chemical composition and comprehensive

studies of Brazilian propolis have confirmed this, with the main source being a leaf resin. Recently Cuban propolis has caught the attention



POPULUS NIGRA

of researchers and again this differs from both European and Brazilian propolis. Undoubtedly there are other ecosystems where bees will produce propolis with more different chemical compositions.

INFINITELY VARIABLE

Despite these different chemical compositions, the actual type of activity is similar and at times amazingly so. However, in order to use the substance correctly in application it is important to have detailed and comparative data on every type of biological activity combined with chemical data. The bio tests have to be carried out with both chemically well characterised and standardised propolis and this is where the problems lie. Propolis is infinitely variable. It is this problem of standardisation that is now driving much of the useful research and comparative studies are especially valuable if we are to progress our knowledge of applications in therapy. Studies of this kind will enable scientists to relate a particular type of propolis to a specific type of biological activity and so formulate recommendations for practitioners. The future of propolis in apitherapy is huge.

From Apis UK.

VARROA UPDATE

Most readers will be aware that in order to keep the high cost of authorised varroa treatments down many beekeepers 'cheat' and divide up their anti varroa strips (Apistan, Bayvarol etc) so halving their costs (at least). Instructions on the packs tell us that this practice should not be followed for a number of

reasons. (Increased speed of resistance, lessening of effect etc). However recent research results by a New Zealand scientific team have shown that in the case of Apistan the percentage of varroa killed remained high regardless of the size of the strips that were tested. In fact there was no reduction in kill rate until the strips were reduced to 12.5% of their original size. The results also suggested that the practice of using Apistan at half the recommended rate (as many beekeepers do) will not lower the level of active ingredients to such an extent that will dramatically speed up the rate with which resistance develops.



The research is reported in the magazine New Zealand Beekeeper April 2005 and was carried out by RM Goodwin, MA Taylor, HM McBrydie and HM Cox of HortResearch. Ruakura, New Zealand. The programme which covers more than just this project started six months ago and will run for three years.

From Apis UK.

THE NECTARY

Like airborne tankers, bees don't exactly drink nectar, they just full up with it and transport it back to the hive where other worker bees make it into honey. On each flower visit it is the nectaries the honey bee seeks out for nectar. Rather than an easily recognisable organ, such as a flower petal or an ovary, a nectary is simply a small group of cells that secretes a sugary solution.

PLUMBING

All plants have two plumbing systems: water is transported upwards through the xylem from the roots to the leaves and a sugary supply of energy is transported from the leaves, where it is manufactured, to all other parts of the plant via the phloem. Depending on which plumbing



system makes the greatest contribution to the nectar, the nectar can contain anything from 5% to 50% of sugar in varying combinations of sucrose, glucose, maltose and fructose. Bees prefer the nectar sugary and thick-bumblebees are less fussy.

APHIDS

Nectaries can be situated practically anywhere on a plant. Some plant species, for example the maples and limes, have nectaries inside the flowers. Species like oak and willow, which are wind pollinated, have no nectaries but are still visited by foraging bees, this time attracted by the sweet honey dew excreted by phloem sucking aphids. For species with nectaries, their location on the plant is important in an ecological context, because when honey bees forage from floral nectaries, they also help with pollination. Some extra-floral nectaries on the other hand are visited by ants who in turn keep the plant free of harmful insects.

'The Essex Beekeeper' courtesy of BEES



BEESWAX

Beeswax is a product of the bee hive which is secreted by worker bees, from wax glands beneath segments of the abdomen. Bees use it for building new comb and capping off ripened honey. Humans use it in cosmetics and pharmaceuticals, candles, polish, waterproofing and to make foundation comb for beehives. As a general guide, for each 60 kg of honey extracted from the hive about 1 kg of beeswax is produced. It melts at 63° C to 65° C and solidifies at 60° C to 63° C, depending on purity.

WAX SEPARATORS

Two main types of extractors are used to separate wax from honey and hive debris:

1. solar extractor
3. cappings reducer or melter

SOLAR EXTRACTOR

Solar extractors are insulated containers painted with a dark colour inside and covered with a single or double sheet of glass. The wax is placed on gauze or an excluder above a draining tray, and the molten wax flows into a mould. These melters are cheap to operate, but their efficiency is low. Residues are usually further processed in the wax press, while the wax from the mould is often remelted in the cappings melter.

CAPPINGS MELTER

Cappings melters are commonly built of stainless steel and have an electric heating element in the base. The element is completely covered with water and the wax cappings added. Gently boiling the water will melt all of the wax which is held for a few hours slightly above the melting point (70° C) to allow contaminants to settle out.

By adding water into the bottom of the melter, the liquid wax rises until it flows out through a 1 to 3 mm gauze strainer into moulds. Moulds should have tapered sides to allow the wax to be easily removed.

PRODUCING CLEAN WAX

Use rain water if possible. Avoid excessive heating, that is vigorous boiling, direct steam or long periods in solar wax melters in summer. Use stainless steel, tin plated, aluminium or plastic containers. Avoid iron, brass, copper or zinc vessels as they tend to discolour the wax.

Collect the first portion in one mould when pouring the wax until all the small particles of contamination have stopped. Good, clear wax follows until near the end, when more dirt and water appear. It is advisable to collect the first and last wax and return it to the next load. Avoid severe cracking of the block by pouring the wax into moulds at a temperature just above the setting point (63° C). Slow cooling helps prevent cracking so the moulds should be covered after filling. Avoid putting wax for export in hessian bags it will not be accepted. However, new synthetic bags (similar to fertiliser bags) are ideal.

CAUTION

Never heat beeswax over naked flames — it is a serious fire hazard.

DISEASE WARNING

To avoid transmission of disease, make every effort to prevent robbing. Honey from cappings could also contain disease organisms and as boiling or steaming will not kill spores of American brood disease, it is essential to prevent bees from having access to cappings, honey or old combs. If you send your old combs, cappings, or slum gum to be refined, ensure bees cannot gain access to them.

Do not dispose of old combs, cappings or slum gum at your local rubbish dump, unless you arrange to have the material buried immediately. If you do not plan to extract the wax, burning is a good method of destroying old combs, wax and dried slum gum.

RENDER UNTO CAESAR

Sometimes when you try to translate a



phrase into another language it doesn't quite have the same impact, does it? For example, the French version of the English tongue twister "She

sells sea-shells on the sea shore." Comes out as: "Elle vend des coquilles de mer sur le rivage de mer."

By the same token when you tell your friends you have spent £101 on buying six pure bred Queen bees, they look at you with a puzzled expression and then someone says, "Do you mean you just spent £101 on perishing insects?" This is because they don't speak your language.

"No, no," I reply, "you don't understand, these are pure-bred queens!" They still look at you as if you came from Mars but when you say, "It is an investment. It will increase my honey-yield per hive and increase my income by 20%," the light goes on.

"Ah, I see; more money!"

I do not consider myself an evangelist for beekeeping but like many of us my enthusiasm sometimes provokes interest in the subject. A few weeks ago I had the opportunity to preach the word to a friend who had bought a Red Mason Bee nest and was intrigued by the subject. I took him to see some of my bees and he thoroughly enjoyed the day out but seemed sceptical when I tried to explain some of the simple economics of beekeeping.

There are two ways of approaching the subject of bees and money.

System A – Keep bees and spend money.

System B – Keep bees and make money.

In case any of you have got religion and believe it is sinful to make money out of

bees (by this principle, I doubt there are many Vegan beekeepers) read no further, all you need is System A.

Some of us, not having won the Lottery or being blessed by a highly successful career in the similar pursuits of stock-broking, managing loose women, drug dealers or professional footballers, see beekeeping as a way of boosting our finances whilst enjoying the more esoteric aspects of the Craft.

According to System B, there are Ten Commandments of Beekeeping which apply (I found them on the top of a mountain carved on some old slabs of stone which I was going to use as hive-stands).

- Law 1. Thou shalt not treat your bees like the children of thy loins, clothe them in fine raiment and talk to them with tongues (the technical expression is anthropomorphism but the spell-checker and I can't agree how to spell it.)
- Law 2. On the other hand Thou shalt take good care of your bees and your beehives and preserve them from all evil.
- Law 3. Thou shalt Market thine honey and all manner of things that shall flow from ye hives with great fervour and joy.
- Law 4. Thou must not seek advice from Ancient beekeepers for they speaketh with no concord - liken until the builders of the Tower of Babel.
- Law 5. Thou shalt spend thy shekels wisely and render ye a full accounting unto thine computer.
- Law 6. Thine enjoyment shall be leavened with the need to add to thy store of shekels.
- Law 7. Thou shalt covet thy neighbour's queens as well as their spouse (used to be "wife" but this should also apply to lady-beekeepers.)
- Law 8. Thou shalt keep thine ear pressed firmly unto the earth and await the glad tidings of Thorne's Sales, that thou may make frugal increase of thine equipment with all dispatch.

Law 9. Thou must never turn aside from an offer of pasturage for thine hives. For the time shall surely come, and the wisest of us know not when, that the Grand Sanhedrin (called the Allotments Committee) look upon ye with disfavour and instruct thee to quit thy plot.

Law 10. Study thy Craft. Look with gladness on new things and finally; Smite the Mite!

If you keep the Laws and make a determined effort to treat your bees with respect but focus on the concept of the Craft paying its way, you can succeed in supplementing your income considerably.

My friend asked how much profit I reckoned on making per hive. Without going into all the caveats about weather, vandalism, terrorists, swarming, disease, friends who want freebies and other horrors, I gave him the following formula – it seems to work for me but if you know better, please, please tell me.

One hive should produce between 30 and 120lb of honey, possibly less or more. The amount will depend on a lot of factors -see previous paragraph. As a cautious person, I would suggest – count on 40lb-50lb year-on-year and be pleasantly surprised by more. This allows for bad years. Set your price by what the market will stand. Locally I find that at a Farmer's Market, Craft Fair etc, £3 to £3.50 per lb is realistic. Health Food shops, Garden Centres and other places will want to pay you, say, £2.50 and sell it for £4.50. Your friends and neighbours (if you charge them) can be persuaded at £2.50 easily. So a well-managed hive should give you at least £100-120 gross profit from honey in most years.

Other hive products such as candles and beeswax polish will help to offset your costs. The market in propolis apparently nose dived some time ago along with typewriters, Andy Pandy and Political Commissars in Russia.

Costs include replacing equipment and wax, packaging (jars and labels etc) for the product, transport, bribes to neighbours who get stung etc. but if this amounts to more than 15% of your gross – take another hard look and see where you can save without

compromising quality. For example buy an "Open-All-Hours" type of grocer's delivery bike for £20 or £30 from E-Bay, tart it up, have your name and advert professionally sign-written on it and ride to your apiary and the pub instead of using the gas-guzzler. (Obviously you chain it to the lamp-post outside the pub.)

It is still an offence to ride a bike under the affluence of incohol, by the way.

Unfortunately costs can vary but even so, in normal circumstances, you should be left with at least £100 net profit per hive (I plan for £140). Twelve hives will give you a useful £100 per month – probably more. Pays for necessities like the Pinot Grigio,

Your set-up costs are reasonable – particularly if you avoid paying top price for equipment – but these costs need to be amortised against the profit in early years. If you make a conscious effort to maintain your equipment and colonies carefully, have a well-researched programme to replace queens and persistently find new markets for your product it will go a long way to producing a consistent profit.

Professional honey farmers tend not to buy-in queens, they breed their own. Once you have established the strain you want to work with, you should consider doing the same. Joining a bee-breeding group makes a lot of sense. Honey farmers in America, Denmark, Israel and other places often routinely replace their queens once a year. This makes good commercial sense regarding fecundity and significantly reduces swarming. If you can learn by this and apply it, you may find a similar advantage even if you do not want to amass the biggest apiary in England.

Finally remember, Profit is only a dirty word if you don't make it. If fact, running your hives to make a profit should encourage you to bring a degree of excellence to the way in which you keep your bees – with an obvious benefit to them too. Even, dare I say it, people who kept slaves in less enlightened times found it more profitable to ensure the well-being of their slaves. Sentiment combined with practicality is a good combination for those who know which factor to emphasise when the chips are down.

Mike Oliver *From Apis UK.*

MAKING US ALL CANNIBALS

By Geoffrey Lean, Environment Editor, The Independent - Sunday, 24 April 2005. Sent by John Salt

HUMAN GENES

Scientists have begun putting Genes from human beings into food crops in a dramatic extension of genetic modification. The move, which is causing disgust and revulsion among critics, is bound to strengthen accusations that GM technology is creating "Frankenstein foods" and drive the controversy surrounding it to new heights.

Even before this development, many people, including Prince Charles, have opposed the technology on the grounds that it is playing God by creating unnatural combinations of living things.

Environmentalists say that no one will want to eat the partially human-derived food because it will smack of cannibalism.

But supporters say that the controversial new departure presents no ethical problems and could bring environmental benefits.

In the first modification of its kind, Japanese researchers have inserted a gene from the human liver into rice to enable it to digest pesticides and industrial chemicals. The gene makes an enzyme, code-named CPY2B6, which is particularly good at breaking down harmful chemicals in the body.

Present GM crops are modified with genes from bacteria to make them tolerate herbicides, so that they are not harmed when fields are sprayed to kill weeds. But most of them are only able to deal with a single herbicide, which means that it has to be used over and over again, allowing weeds to build up resistance to it.

But the researchers at the National Institute of Agrobiological Sciences in Tsukuba, north of Tokyo, have found that adding the human touch gave the rice immunity to 13 different herbicides. This would mean that weeds could be kept down by constantly changing the chemicals used.

Supporting scientists say that the gene could also help to beat pollution.

Professor Richard Meilan of Purdue University in Indiana, who has worked with a similar gene from rabbits, says that plants modified with it could "clean up toxins" from contaminated land. They might even destroy them so effectively that crops grown on the polluted soil could be fit to eat.

But he and other scientists caution that if the gene were to escape to wild relatives of the rice it could create particularly vicious super weeds that would be resistant to a wide range of herbicides.

He adds: "I do not have any ethical issue with using human genes to engineer plants", dismissing talk of "Frankenstein foods" as "rubbish". He believes that European opposition to GM crops and food is fuelled by agricultural protectionism.

But Sue Mayer, director of GeneWatch UK, said yesterday: "I don't think that anyone will want to buy this rice. People have already expressed disgust about using human genes, and already feel that their concerns are being ignored by the biotech industry. This will just undermine their confidence even more."

Pete Riley, director of the anti-GM pressure group Five Year Freeze, said:

"I am not surprised by this. The industry is capable of anything and this development certainly smacks of Frankenstein."

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SMALL DUMB CREATURES

How can a bee or an ant colony carry out the complex tasks that they have to when no one is in charge and they only have small brains? A scientist at the West of England University may have an answer to part of it anyway.

THE U-BOT

In order to demonstrate that a group of dumb creatures can do clever things Dr Chris Melhuish developed the U-bot. This is a foot-high robot which glides around an arena on castors, carrying a U-shaped scoop in front of it. A U-bot carries only three instructions:

If nothing is happening, keep moving.

If you hit a large obstacle, take a turn and keep moving. If you've got a little something in your scoop, and you hit another little something, drop what you've got, take a turn and keep moving.

Following only those instructions, the fleet of U-bots, given enough time, can gather together a randomly distributed collection of Frisbees and assemble them in a pile in the centre of their arena. To the untrained eye they look purposeful and intelligent - just like ants and bees.

A SLUGKEEPER?

And they can do amazing things. Every beekeeper knows what a honey bee can do and that is part of the fascination of being a beekeeper. If they were duller creatures like slugs, for example, perhaps the interest simply wouldn't be there.

Ants, another of the hymenoptera like bees can also do amazing things and in Apis UK we have often reported on their exploits. Here is another example of just how a collective insect society can operate. A fierce species of Amazonian ant has been seen building elaborate traps on which hapless prey are stretched like medieval torture victims, before being slowly hacked to pieces.

With cunning and patience, *Allomerus decemarticulatus* worker-ants cut hairs from the stem of the plant they inhabit, and use the tiny fibres to build a spongy snare, Nature magazine reports. This ingenious feat of

engineering has only ever been observed in one other species of related ant, French researchers say. The ants cut hairs to clear a path under the plant stem, while leaving some hairs standing to form "pillars" on top of which the lethal platform will sit.

WOVEN PLATFORM

Using the plant hairs they have harvested, the ants weave the platform itself, which is bound together and strengthened using a special fungus.

When the ants have completed the chamber they puncture holes all along its surface, each just big enough to poke their heads through.

Then, hundreds of worker ants climb into the chamber and wait for an unfortunate victim.

Workers will hide inside the platform, with their mandibles just inside the hole and they will wait there for prey to come, "Anything with legs slim enough to fit through the carefully constructed holes will meet a miserable fate if they are foolish enough to enter the trap. They will catch almost anything that goes on the trap and they will grab anything they can - legs, antenna, etc.

PARALYSIS

Once the prey is well secured by jaws fastening all its extremities, it is stretched over the platform and scores of worker ants then stream out from inside the trap and sting it vigorously to cause paralysis. Once the creature is dead or fully immobilised, the ants will carry it to their nest, where they will dismember their prey before carrying it inside.

"Small insects will be immediately dismembered and transported to the nest but bigger insects will stay on the trap for up to 12 hours." The insects' legs have to be smaller than the holes otherwise they cannot get hold of them.

The ants must have something to catch - for example, caterpillars will have nothing to get hold of so they will not be preyed upon.

(Best be a caterpillar in your next life. Ed).

STORIES AND LEGENDS

A BEE KEEPER

The story goes that sometime ago the local wit farmer decided to treat himself to a meal in the local hotel. When he received his desert, he noted a small portion of honey in the centre and he called the owner and said, "I see you keep a bee".

CHRISTIAN LEGENDS

The Bible, particularly the Old Testament, is rich in quotations.

"A land flowing with milk and honey ... "
(Exodus)

"Go to the ant thou sluggard. Go to the bee, and learn how diligent she is. What a noble work she produces, whose labour kings and private men use for their health! She is desired and honoured by all, and though weak in strength, yet since she values wisdom she prevails."
(Proverbs)

TATE & LYLE

Samson's wedding feastriddle concerned bees that had made a nest in the rib-cage of a lion: "... out of the strong came forth sweetness." A well-known brand of golden syrup has an illustration of this on the container!

GARDEN OF EDEN

Christian tradition contains numerous legends involving bees. According to legend, the bee was blessed on leaving the Garden of Eden with the title "The handmaid of the Lord". A Breton legend tells of the tears of the crucified Christ turning into bees and flying away to bring sweetness into the world.

THE SAINTS

The saints are well represented. St. Gregory is responsible for opening the flowers on

12th March - a few weeks later on 21st March, St. Benedict summons the bees to search for nectar. According to legend, St. Bartholomew was martyred by being flayed alive and because of this fate he became the patron saint of tanners. In many parts of Britain, the apostle was also patron saint of beekeepers, probably because his feast day, 24th August, coincided with the gathering of the honey crop. Indeed, until the 1950s, the village of Gulval in Cornwall celebrated St. Bartholomew's Day with a ceremony for Blessing the Mead, while the annual St. Bartholomew's Fair in London was famous for its honey-coated apples. St. Dominic started beekeeping in Wales and,

when he returned to Ireland, gave his hives to St. David - the bees followed him to Ireland! Another Irish saint St. Gobnat changed a colony of bees into an army to drive away a local marauding chieftain.

SOULS OF THE DEAD

Bees were believed to be the souls of the dead returning to earth or on their way to the next world. This probably led to the widespread custom of "telling the bees" when the owner died. If the bees were

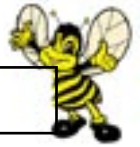
not asked to stay with their new master or mistress, it was believed that they would die or abscond.

"Childhood, people say, is the time when nobody dies. Something went from mine the day I saw Uncle Sam at the hives and heard him say, 'Bees, your master's dead. I am your master now'. With that he knocked on each hive, and from within came a stir and commotion. 'They know', said my uncle, and we went indoors to send for the relations and find some strips of mourning for the hives." (Bees are People by Ada Jackson - The Countryman - Autumn 1967)

Almost everywhere cultured peoples considered bees to be the symbol of chastity, purity, order, thrift and care. They were also believed to be an image of a human soul, due to their natural instinct can find the way home from distant places. They were also seen as an image of souls, that descend from the skies, wander for some time in the world and then return to the primary sources of their genesis.



BEE - NOTICES



SCHEDULE OF VISITS TO HOLDEN CLOUGH DURING 2005

DATE	DUTY MAN
August 28	Bill Ainsworth
September 11	Ken Gaiger
September 25	Michael Birt

PLEASE RING THE DUTY MAN IF YOU WISH TO ATTEND TO MAKE SURE THE VISIT IS AS SCHEDULED. STARTING TIME APPROX. 9.30am

TELEPHONE NUMBERS

Michael Birt	01706 222849
Bill Ainsworth	01282 614015
Ken Gaiger	01282 778887
John Zamorski	01200 427661
Apiary Manager	
David Rayner	01200 426898

ARE YOUR HIVES VARROA FREE?

Scrapings from hive floors can be sent to :-
Diagnostic Services
National Bee Unit
Sand Hutton
YORK
North Yorkshire YO4 1YW
They will send you a report and the service is free of charge

FROM THE TREASURER

Subscriptions for 2004 were due 1st November. The new full membership rate will be £14.00 and £2 for each additional family member. Associate membership remains at £4.00.

The rates for Bee Disease Insurance (B.D.I.) Are:-

First 2 hives £1.60 covered by subscription
up to 5 hives £2.40
up to 10 hives £5.65
up to 15 hives £8.15
up to 20 hives £9.90
up to 25 hives £11.50

Above 25 hives see Treasurer.

CHEQUES SHOULD BE MADE PAYABLE TO L. & N.W.B.K.A. AND SENT TO KEN GAIGER, 2 HIGHAM ROAD, PADIHAM, BURNLEY BB12 9AP
Telephone 01282 778887

MEMBERS SERVICES

Bayvoral £3.10 per pack of 4 strips
Thymol crystals £2.20 per 100 g
Beekeepers quarterly Annual subscription from the publisher is £24 - from our treasurer only £16.00 with a slight profit to our society.

The publication has just been expanded to include another publication - 'Beebiz'.
Talk to Ken Gaiger phone. 01282 778887.

Library. There is an extensive range of bee books etc. that may be borrowed.

Our librarian, Brian Jackson brings some with him to our meetings. Contact him on 01535 634503 for special requests.

COMMITTEE MEMBERS CONTACT DETAILS

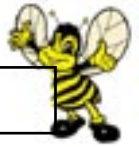
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John Zamorski	Hon. Sec	01200 427661
Ken Gaiger	Hon. Treas.	01282 778887



BEE - NOTICES



INFORMATION ABOUT 'BEETALK'

Planned Publication Dates: , September 2005, December 2005, March 2006, June 2006

LATEST TIME FOR COPY - 2 WEEKS BEFORE THE MONTH OF PUBLICATION.

Please contact Bill Ainsworth, 296 Scotland Road Nelson BB9 7YS Telephone 01282 614015 .

Good, crisp photographs or line drawings are always welcome

PROGRAMME OF EVENTS

DATE	TIME	VENUE	SPEAKER	SUBJECT
Sun 21st Aug	2.30pm	Ken Gaiger's	David Rayner	New Zealand Honey Farming
Sun 18th Sep	2.30pm	Angela Moyle's	Barbecue	Bring a bottle for the raffle and perhaps another to drink!
Sun 9th Oct	2pm	Castle Cement	Annual Honey Show	Get there in good time to set up
Wed 9th Nov	7pm	Ken Gaigers	AGM	Please try to be there

THEY'RE COOKING UP A BIT OF A DO!

What's more it's especially for you.

The Annual Barbecue is at Angela Moyle's on Sunday 18th September.

Give John Zamorski a ring to let him know you will be there so he can add an extra sausage and a hot dog.



MAKE A NOTE - NOW!

The rates for Bee Disease Insurance (B.D.I.) have been increased and the new amounts are shown on Page 18.

The new insurance fee should be included when you pay your subscription which WAS due at the AGM on November 3rd LAST YEAR!. Your third party liability insurance is a part of your subscription. PLEASE NOTE you are not covered until your subscription is paid

Scrapings

MAYAN HOT CHOCOLATE

When Cortez and his army arrived in the land of the Aztecs, they were unimpressed by the little dark brown beans many of the Aztecs were carrying, until they learned they were used like money! These beans were cacao beans, a popular trade item before getting ground, roasted, and made into hot chocolate. As popular as it was for the Aztecs, chocolate, or xocatl, was originally developed as a food by the Maya. Sometimes it was made without honey, as a bitter drink, and occasionally even contained chillies, to make it spicy. The Aztecs, Maya, and others also added a cinnamon-flavoured bark (canela) native to Mexico and Mesoamerica, but this is not readily available, so the cinnamon in this recipe is the oriental variety available in modern supermarkets.

2 ounces (squares) bitter, unsweetened bakers' chocolate.

1 cup hot water.

3 tablespoons honey.

Dash of salt.

3 cups hot water.

4 sticks cinnamon bark.

Chop the chocolate and heat it in 1 cup of water until melted. Add honey and salt. Beat the hot chocolate with a balloon wire whip as you add 3 cups of hot water. Serve the foamy hot chocolate with cinnamon-bark stick stirrers.

MEAD

Mead is basically honey fermented in water with some sort of flavoring added. There are literally hundreds of variations, but one thing they all have in common is that mead requires at least one year aging in the bottle before it even begins to taste good. After two years, it will be great. After three years, it will be fantastic. I don't think any mead has ever survived four years. It simply gets consumed somewhere between "good" and "fantastic." Here are six recipes that will offer insight into experimenting to create your own recipes. You can use various flowers, berries, extracts, spices, fruit, etc., but remember that mead must be aged a year.

LAVENDER MEAD (1 GALLON)

- * 2 lb honey
- * 1 pint lavender flowers
- * 1/4 tsp citric acid
- * 1/4 tsp tannin powder
- * 1 tsp yeast nutrient
- * Champagne yeast

Boil 1/2 gal water and add honey, stirring to mix. In primary, pour hot water over all dry ingredients except yeast. When water cools to lukewarm, add remaining water and sprinkle yeast on top. Cover with cloth and ferment 7 days. Strain out flowers and transfer liquid to secondary. Fit airlock. Ferment 60 days and rack. Refit airlock and allow to sit another 60 days. Rack into bottles and allow to age one year. [Adapted from a traditional recipe]

NO WORD FOR WASP

There is no word for wasp in the Inuit language. There has been no need for one as wasps cannot normally tolerate the cold conditions found inside the Canadian Arctic Circle.

However, In the summer, a wasp found its way north. The Inuit were amazed and had to be warned not to touch it in case they got stung.

This is a small but significant indication of climate change. The global warming process is occurring at a much higher rate in the Arctic than anywhere else on earth. The permafrost is cracking, causing all sorts of problems with power lines and roads. Polar bears became stranded on small islands after the ice melted and they were unable to get away.

There is an opinion that in the near future, shipping will be able to sail through the north-eastern passage across the top of Siberia in the summer and the melting ice may also result in 30% lower rainfall in the western US.

*Originally in The Times 8 November 2004
and later In Beecraft*

*From The Irish Beekeeper Courtesy of
BEES*



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