Beetalk December 2020

General info and news about bees

Hello and welcome.

Beetalk is a compilation of news from across the bee keeping word.

Its not affiliated to any beekeeping group so you wont get things like the next meeting and what we are doing and such like.

We hope that the articles provided will be useful to anyone interested in the a rewarding hobby and in some way we also hope that you may gain some pleasure in reading some of the article that are included.

Also we intend to include articles that may be helpful to anyone new to this wonderful hobby.

Being based in Lancashire it would be great for any contributions from Beekeepers from the county. But as stated above, please nothing about your association or group.

Hope you enjoy. And to everyone of our readers. Have a great Christmas and all the best wishes for the coming year, both in health, wealth and happiness, and may your beekeeping year be a great one.

Editor

If you have any articles that you think may be useful to have included in Beetalk.

Please e-mail them to the editor

at

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Winter Preparations.

To survive the winter, your bees need to have at least 40 pounds of stores accessible to the colony within the hive.

Some beekeepers will only now be removing the surplus honey for extraction and that task provides the opportunity for the beekeeper to assess the stores level and decide what (if anything) is going to be removed for extraction and what, if any feeding has to be undertaken to ensure the required amount of stores for the Winter. As a rough guide, a full super of honey weighs about 30 pounds but rough guides are no replacement for accurate weighing. Remember that winter feed syrup strength is 2 pound of sugar to one pint of water.

Leaving too much honey on your hive(s) or over feeding them is not a problem providing that drawn comb exists for storage and it will never be wasted but bees dying of starvation is a problem so feeding (if required) should commence now.

Bookers for sugar

To repeat the phrase – all beekeepers have short arms and deep pockets – they do not like wasting (or in some cases) spending money so at this time of the year if potential feeding might be required, we all look at the prices of sugar in the supermarkets.

One option that is available is purchasing sugar in bulk from Bookers Trade Suppliers in Stoke. Whilst normally, only retailers can use the company, the BBKA negotiated access/membership for beekeepers. All you need to do it go along and present your BBKA Membership Card and they will issue you with a Bookers Access Card. I have confirmed that with the store.

Comb Storage

When you have extracted your honey or removed boxes of combs from your colonies, remember to store them away safely and protect them from vermin and wax moth. Beekeepers are ingenious new ideas but either stacking the boxes and taping around the seams or storing the supers in sealed plastic bags does work and as was is more valuable pound for pound than honey, the extra time is a useful investment for next year.

If you are in any doubt about what to do or generally, just need some help, all you have to do is ask because the strength and one of the best attributes of your Association is that there is always someone who will willingly help or advise you.

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In the summer season, forager bees face difficult decisions. The blooming time of various plant species is distributed unevenly over the summer months. While in April and May e.g. rapeseed and fruit trees are in bloom, herbs like thyme and lavender take over later in the season. However, even during a single day, diverse flowers bloom at different times, and the nectar content varies over the day. Honeybees have evolved an accurate time sense to cope with this problem. Honeybee foragers can determine the time of day with an accuracy of about 15 minutes. An experienced forager has learned when it is worth flying to a certain flower patch, and which flower – depending on the time of day – to choose there. Even when the foraging bee discovers a novel patch of flowers, it can recognise the flowers worth visiting according to the time of day.
In order to discriminate between flowers, bees do not only use colour and scent, but also the shape of blossoms and whole plants. Bees can even identify blossoms according to abstract properties like central or axial symmetry [1] and the number of petals [2], and thus categorise them [3]. This ability enables bees to be flower-constant. Flower constancy is not only advantageous for the plant, because it is then fertilised with the correct pollen, but also for the bee, because she gets better in handling the blossom with each visit. Thus the foraging efficiency is increased, because the bee can extract nectar and pollen faster each time it visits.
All those cognitive abilities are facilitated by a 1 milligram pinhead sized brain. It permanently integrates visual, olfactory and tactile information, controls flight manoeuvres, navigates accurately over several kilometres and, simultaneously, memorises flower properties and recalls them at the appropriate time of day. The ability to remember a combination of ‘what, where and when’ is called episodic memory and was, until recently, believed to be restricted to mammals and food-caching birds. Honeybees are, so far, the only invertebrates in which this ability has been shown [4,5].
We are already taking advantage of the honeybee’s learning aptitude: beekeepers mark their hive entrances with colours and shapes to help bees find the correct nest when many hives are close together in the same apiary. Behavioural scientists train bees to use colours, shapes and scents to navigate mazes, in order to learn about the bees’ cognitive abilities. Not all bees are similar: some individuals are very clever and learn quickly, while others are forgetful and stubborn.

Bee Stings

A couple of weeks ago, I was stung by both a bee and a hornet while working in the garden. My arm swelled up, so I went to the doctor. The clinic gave me cream and an antihistamine. The next day the swelling was getting progressively worse, so I went to my regular doctor. The arm was Infected and needed an antibiotic. The doctor told me, 'The next time you get stung, put a penny on the bite for 15 minutes.'

That night, my niece was stung by two bees. I looked at the sting and it had already started to swell. So, I taped a penny to her arm for 15 minutes. The next morning, there was no sign of a bite. We decided that she just wasn't allergic to the sting.

Soon, I was gardening outside. I got stung again, twice by a hornet on my left hand. I thought, here I go again to the doctor for another antibiotic. I promptly got my money out and taped two pennies to my bites, then sat and sulked for 15 minutes.

The penny took the string out of the
bite immediately. In the meantime the hornets were attacking, and my friend was stung on the thumb.

Again the penny. The next morning I could only see the spot where the hornet had stung me. No redness, no swelling. My friend's sting was the same; couldn't even tell where she had been stung.
She got stung again a few days later upon her back---cutting the grass! And the penny worked once again.

I wanted to share this marvelous information in case you experience the same problem. We need to keep a stock of pennies on hand.
The doctor said that the copper in the penny counteracts the bite. It definitely works!
Please remember and pass this information on to your friends, children, grandchildren, etc.
No record of origin. (The editor cannot vouch for the efficacy of this treatment and has been advised that it may be an 'Urban Myth'.....Does anyone have more information, or even experience?

A sting in time saves mind.

BEE venom has long been thought to help against arthritic swelling, and even offer a 'cure' for cancer. Now scientists claim it can improve our brain function.

A peptide toxin in bee venom called apamin can block certain central nervous system channels. Apamin can make nerves in the brain hyper- excitable, causing convulsions and respiratory paralysis, but it can also lead to improved learning and memory.
Scientists have been aware for a while that certain bug venoms were effective in treating brain disorders like MS but now researchers at the University of Bristol say they have learned how to identify when the
apamin binds to particular channels in the brain. This may help to develop medications that can mimic what apamin does in the body.

"Drug design depends on knowing the target," Professor Neil Marrion of the University of Bristol's Physiology and Pharmacology department, said. "Our findings provide a new approach to designing a therapeutic agent that could help with the treatment of a number of conditions."
● Arthritis sufferers may soon be able to take their bee-sting medicine in the most delightful way, with no spoonful of sugar required.

Scientists from the United States and China have discovered the first intact fossil of a mature eudicot, (a type of flowering plant whose membership includes buttercups, apple trees, maple trees, dandelions and proteas).

The 125-million-year-old find,described in the journal Nature, reveals a remarkably developed species, leading the scientists to argue for an earlier origin of theeudicots—and perhaps flowering plants in general."This fossil named 'Leefructus mirus' opens up a new way of thinking about the evolution of some of the first flowering plants,"said Indiana University Bloomington biologist David Dilcher, the Nature paper's American co-author. "We are also beginning to understand that the explosive radiation of all flowering plants about 111 million years ago has had a long history that began with the slower diversification of many families of eudicots over 10, perhaps 15 million years earlier." The fossil shows the above-ground portion of a mature plant. A single stem leads to five leaves, and one leads to a fully developed flower. The entire fossil is about 16 cm (6.3 in) tall. Leaves are innervated by branching veins, and the small, cup-shaped flower has five petals.

"I think Leefructus had attractive flowers to advertise for pollinators to visit," said Dilcher, when asked to speculate. "There were no bees at this time, so I think that flies, beetles or extinct types of moths or scorpion flies may have been involved in its pollination. Leefructus was found in the volcanic ash beds of an ancient lake. I think it was living near a lake, perhaps in a wet or marshyarea much as buttercups do today."

Like the branching relationships of the tree for this group, the Ranunculaceae is at the end of several branches going to the other families, such as the poppies. As a result, the scientists believe that prior to 122 to 124 million years ago, several families of flowering plants had already begun to diverge. How much older the eudicots are we do not know yet, but this fossil suggests their origin certainly goes further back in the Cretaceous, perhaps even into the Jurassic.

The profusion of flowering plant species in the second half of the Mesozoic Era, the age of dinosaurs, eventually led to flowers' domination of other types of plants in all but Earth's harshest climates. Evolutionary biologists believe the diversification of flowering plants also supported the radiation of a wide range of animal species, particularly pollinators and seed eaters, from beetles and bees to hummingbirds and bats. The profusion of flowering plant species in the second half of the Mesozoic Era, the age of dinosaurs, eventually led to flowers' domination of other types of plants in all but Earth'sharshest climates. Evolutionary biologists believe the diversification of flowering plants also supported the radiation of a wide range of animal species, particularly pollinators and seed eaters, from beetles and bees to hummingbirds and bats. Until now, most fossil information about the earliest eudicots has come from fossilized pollen,the plant equivalent of sperm. Despite pollen's small size, pollen grains have provided crucial information to paleontologists. But pollen can only tell scientists so much. What scientists know about the earliest eudicots comes from a few pollen records off the coastof West Africa and the lower Cretaceous sediments in southern England about 127 million yearsbefore present. They know that much can be learnt from pollen, but the Leefructus fossil showsthat there is no substitute for a megafossil record if we are to understand the evolution of early flowering plants.The age of the Leefructus fossil was determined by analyzing the ages of surrounding rock viaArgon 40/39 and Uranium-Lead dating methods.

This research was supported by grants from the Chinese Ministry of Education, the "111" Project, China's National Natural Science Foundation, and Shenyang Normal University.

Reference:

Ge Sun, David L. Dilcher, Hongshan Wang, Zhiduan Chen. A eudicot from the Early Cretaceous

Granny knew best.

When your grandmother did her spring cleaning or her laundry and used a fine white granular substance which was not soap powder? It is likely that she was using soda crystals or, to give them their technical term, sodium carbonate decahydrate (Na2CO3.10H20 for the scientists amongst us). These are a derivative of Soda Ash and dissolve really quickly in water (hot or cold).

They have many uses around the house, in the garden and, as they are free of bleach, enzymes and phosphates, are just perfect for cleaning up around our bees. Soda crystals have been used for generations to clean, loosen dirt, cut through grease, limescale and soap scum plus they soften hard water. As beekeepers we are surrounded by all the above in various forms if you consider beeswax, propolis which sticks to everything and general grubbiness surrounding our beehives whether they be in the garden or a field, on a low loader or on the top of building, the children, cows or pigeons! Beekeeping suits and overalls can be washed in the washing machine in the usual way. If you add a handful of soda crystals to roughly half the quantity of your usual detergent, you will find that any sticky propolis is removed, your suit will come up nice and clean AND you will lessen your environmental impact by reducing the detergent used as the soda crystals soften the local water. Less limescale deposit on the inside of your washing machine and pipes leads to a reduction in repair bills, so a big thumbs up all round to soda crystals! Propolis gets everywhere in the summer months when it is warm. We find our gloves, hive tools, smokers and bee-suits covered in this marvellous substance, but how to remove it? A good soak in a solution of soda crystals will dissolve the propolis and any beeswax that has come with it (1lb:1gallon / 500g:5litres of water is an approximate ratio which gives an antibacterial pH of 13 so I am told).

Adding a squirt of washing up liquid will help disperse any scum. Do please wear appropriate protective clothing including rubber gloves as the solution will be mildly corrosive and do not use anything made of aluminium as the soda crystals solution will attack the metal, pit it and ultimately eat their way through. Soda crystal solution is ideal to disinfect your hive tool(s) between apiaries or between hives – best to keep it in a plastic container, an ice cream tub or a bucket with a lid. You will find that the Association tools are kept in such a way at. The solution should get changed everyfortnight or so to prevent re-spreading the deposit. Try not to get the soda solution on your hands as it might irritate – there are plastic inspection gloves available if you need them. The use of a nylon scrubbing pad will not scratch your hive tool and will help remove any deposits.

This same mix can be used to clean all the parts of the hive too. Brood and super frames, when stripped of thei foundation and comb, can be soaked in the solution to remove the old wax and propolis and a gentle scrub with a cheapo washing up brush will complete the job. After soaking the frames, rinse them in fresh water and hang them up to dry. Excess soda will be absorbed by the wooden frames and as they dry a white fluffy dust might appear, especially on the exposed ends. Soak the frames in diluted white vinegar and the soda will be neutralised. Wooden floors and crown boards can be given a good scrub with the soda solution and then scorched with a blow torch. Polystyrene and plastic hives can also have a good scrub down with the soda solution, but don't scorch these ones! Your smoker can also be given the same treatment, but keep the bellows clear of the liquid. Put plastic queen excluders in a hot mix, it will bring them up clean and spotless as they clearly cannot be flamed like the metal ones. Make a point to clean seasonal equipment like bee escapes, mouseguards and super frames as soon as the items are removed and scorch wooden parts (after a good disinfect if required or a good scrub down with your soda solution). Do not store dirty equipment, it is not worth it and you may need it sooner than you imagine! If, , you manage to deposit honey in the strangest of places when extracting, or if you use a hot air gun to uncap your supers and those small melted dots of white wax fly around the room, a hot soda solution will clear it all up in no time and clean the floor at the same time – not recommended for waxed floors though, as the wax finish will be stripped off. Vinyl or ceramic tiles will clean up beautifully and you could give the grouting a good going over with an old toothbrush at the same time! The kitchen sink will gleam as grease, fat and wax will just disappear with a soda crystal solution rub over and a hot mix flushed down the drain will keep the pipes clear of bloc ages and fresh(er) smelling. Talking of smells – you can take astrong soda solution to your dustbin (good idea to do this before the summer..) to loosen and remove dirt, grime and sludge – good for the inside of water butts too. The deposits from a melted beeswax candle on a favourite table cloth or item of clothing can be removed with an overnight soak (check washing labels first though) and the wax will be removed without damaging the material by scraping, scrubbing or using a hot iron and brown paper.There are plenty more ways to use these magic crystals. We use them for cleaning paintwork in the house, cleaning windows, glassware, the barbecue gets a good going over before it is first used in the summer and mopping over the porch floor with a hot solution brings it up beautifully.

Old fashioned maybe, but our grandmothers definitely knew best!

EXTRACTION.

We are beginning to get towards the end of the beekeeping season, unless you are one of those people who take your bees to the heather moors for a late crop. Assuming that you are not, the main crop of honey will be in the supers by about the middle of July. It may well be a little early this year as it has been such a strange year. Once the flowers stop yielding in quantity, it is time to think about extracting your honey, but not in too much of a rush. We seem to generally extract around the beginning of August which is why I'm including this information this month. The honey must be 'ripe'; that is the water content must be below 20% and preferably around 18% before you consider removing it. There is an instrument called a refractometer which will measure the water content, but it is not an item of equipment that your average beekeeper with only a very small number of colonies will have, and it is quite expensive. An alternative way to test then: If the bees have capped over all the honey you can be sure that it is ripe, but if some is uncapped, lift the frame up, and holding it horizontally over the hive, give it a good sharp shake. If the honey remains in the cells you can be fairly confident that it is safe to extract, if the honey flies out, leave it a little longer. Once you have ascertained that the honey is ripe there are a number of processes involved:

1. Clear the bees from the supers to be removed. The usual method for the beekeeper with one or two hives, is to use Porter bee escapes. Ensure that they are the right way up and always use two, as one can get blocked. Leave them in place forone or two days and the supers will then be empty of bees. There are other methods but space does not allow me to discuss those. A few words of warning:

Ensure that the ends of the sprung metal are the distance of a matchstick apart, no more and no less. The supers must be completely bee proof or bees will find their way in and remove your precious honey crop before you can get back to it. If there are several supers being removed from the hive the bees will need somewhere to go and space to stand, so it may be necessary to give them an empty super, below the clearer board, into which they can clear.

2. Remove the supers from the hive(s). A job best done in the evening. Keep them covered and remove quickly to a bee-proof place. Remember they may be heavy so use a wheelbarrow or something similar and take care when lifting.

3. Uncap each frame. Use a sharp knife, which you may dip in very hot water and then dry, an uncapping fork or there are methods using hot air which melts the wax away. Ideally it is best to have a grid of some sort into which the capping's fall and which will allow the honey to drain through.4. Put the frames into the honey extractor. If the extractor is the tangential type, extract some honey from one side of the frames, stop, take them out and turn them. Extract the honey from the other side of the frame completely, turn again and finish the first side. This will prevent the comb from being forced out by the pressure of the honey in one side. If the extractor is the radial type this turning is unnecessary. Run

he honey through a double sieve into a settling tank with a honey tap on it. The honey can be filtered through a cloth at this stage or this can be postponed until the end processing takes place. There are a few general points about extracting which should always be borne in mind: It tends to be a rather sticky process, so a little planning, before starting, pays dividends. Honey is a food so must be treated hygienically at all times. Do not put supers of honey directly. Do not put supers of honey directly onto the ground.Ensure that the extracting room, whether it be a kitchen, utility room or purpose built

facility, is cleaned thoroughly before starting the process. Banish any pets from the room. (This advice may apply equally to partners.) All extracting equipment i.e. uncapping set-up, extractor, sieves, settling tank must be stainless steel or food-grade plastic, and must be clean. Honey is hygroscopic. This means that it will readily absorb moisture from the atmosphere, so at all stages, once uncapped, it must be covered and air excluded from it. When storing, fill the containers. Having extracted the honey there will remain the capping's and the wet supers. The latter should be put back, preferably onto the same hive that they were taken from, over a crown/clearer board with the holes left open. In a few days the bees will have cleaned out the comb and the dry supers can then be removed and stored. The capping's, too, can be returned to the bees for cleaning. I find a Miller type feeder works well. Take out the strip of wood or Perspex, which normally prevents the bees from getting into the syrup, so that the bees can get into the main section, and give the capping's a stir occasionally. The main problem which can arise during the honey harvest is robbing, which is difficult to stop once it starts, so be extra careful not to

Varroa - A Brief Guide.

MITES reproduce on a ten-day cycle. To breed, a mated adult female mite enters a brood cell just before the cell is capped over, where she remains in the brood food until the cell is sealed. About four hours after capping she begins to feed on the immature bee and, after about 60-70 hours of entering the cell, the mite starts laying eggs on the larva which hatch into several females and, typically, one male.

Spread.

Mites can easily move between bees within the hive. They depend on adult bees for travel between colonies through the natural processes of drifting, robbing and swarming. Varroa can spread slowly over long distances in this way. However, the movement of infested colonies by beekeepers is the principle means of spread over long distances.

Mating.

Mating between mite offspring (usually brother and sister) occurs within the cell. Mature female mites leave the cell when the host bee emerges. Males and any remaining immature females die, unable to survive outside the sealed cell. With heavy infestations numerous female mites may enter the same cell to breed. The mites have a preference for reproducing within drone brood (10-12 times more likely). In fact in their original host, Apis cerana, they are only able to reproduce within the drone brood, but are also well suited to infest worker cells of the Western honeybee.

Bloodsucker

The adults suck the haemolymph (blood) of adult honey bees for sustenance, leaving open wounds. The compromised adult bees are more prone to infections.

In winter, when brood rearing is restricted, mites over-winter solely on the bodies of the adult bees within the winter cluster, until brood rearing commences the following spring. During the summer, female varroa mites may live for two to three months. During the winter, or broodless periods, they can live much longer, feeding on adult bees. Mites cannot survive more than a few days without bees to feed on. As well as causing physical damage by weakening the larvae and adults by feeding directly upon them, they also act as a vector for a number of honeybee viruses and the feeding process may stimulate latent infections to become highly virulent to the bees they affect.

Lifespan

The life expectancy of mites depends on the presence of brood and will vary from 27 days to about five months. During the summer mites live between 2-3 months, completing 3-4 breeding cycles. Developing mites pass through two juvenile stages, known as protonymph and deutonymph, before becoming adults. Development time from egg to adult for males is 6-7 days and, for females, 5-6 days. Each female lays 5-6 eggs, the first being a male followed by 4-5 female eggs laid at regular intervals of 30 hours.

Increase

Mite numbers can increase between 12 and 800 fold over a season. Researchers agree it is wise to try and keep varroa infestation in the hive below 1,000 mites.

Wild Bees.

There are around 150 wild bee and wasp species found in Lancashire, many very small and very similar. Indeed, many can only be identified with certainty by examining dead specimens under a microscope. Assuming they are large enough for us to see them, we can tell bees and wasps apart from flies as the former both have two pairs of membranous wings, except for a few wasps that lack wings altogether, while flies have only one pair. Telling bees from wasps sounded a little harder, as many bees deliberately mimic the appearance of wasps. Wasps generally have the narrow wasp waist, while bees don't. They differ in how they feed their young, as wasp larvae are carnivores, fed on caterpillars, aphids and other animal material, while solitary bee larvae are given larval food made from pollen and nectar. Solitary bees, like honey bees and bumbles, tend to have hairy bodies to help pollen to stick to them, while wasps, which are not aiming to collect pollen, tend to be smooth.

Although we would not be able to see it without a microscope, some solitary bees have adapted to carry pollen in their crops. Their nesting habits sounded varied and fascinating, and it is thought that the availability of nest sites is a limiting factor on some species. Some are truly solitary, one female making a nest, provisioning it with nectar and pollen, laying an egg, sealing it, and going on to start again elsewhere. The young bee left in the nest is wholly reliant on environmental warmth and stored food.

They may hatch in the autumn, but remain underground until the spring, or over-winter as pupae. Some species nest individually but close to others of the same species, giving the appearance of a colony though without any of the social organisation of a honey or bumble bee.

A few species show the beginnings of social behaviour and something approaching a worker caste, as the first larvae to hatch tend to be mainly female, and help the queen raise further eggs.

Some are mining bees, digging burrows in the ground, which may be the cause of those little piles of sand we sometimes see. Their choice of ground may seem bizarre, as while most like light soil, some specialise in hard and stony areas, and others in damp and even marshy ground.

It is amazing their nests do not flood. Some potter and mason bees build little chimneys over the nest entrance, maybe partly to shed rain.

Other species nest in hollow stems. The last eggs to be laid block the exit for the first to be laid, which would tend to hatch first, and the bee compensates for this by laying female eggs first, which take longer to mature, and the faster developing males near the exit. Some species nest in crevices.

Some species nest in crevices in woody stems. Some will adopt purpose built bee nesting boxes, or use features of buildings like thatch, or natural objects like empty snail shells, which they may cover with bits of vegetation to hide or shade them. Gardeners will know the leaf-cutter bees, which take discs from the leaves of plants like roses, fly back to their nest with the piece of leaf rolled between their legs, and use the leaf segments to line the nest.

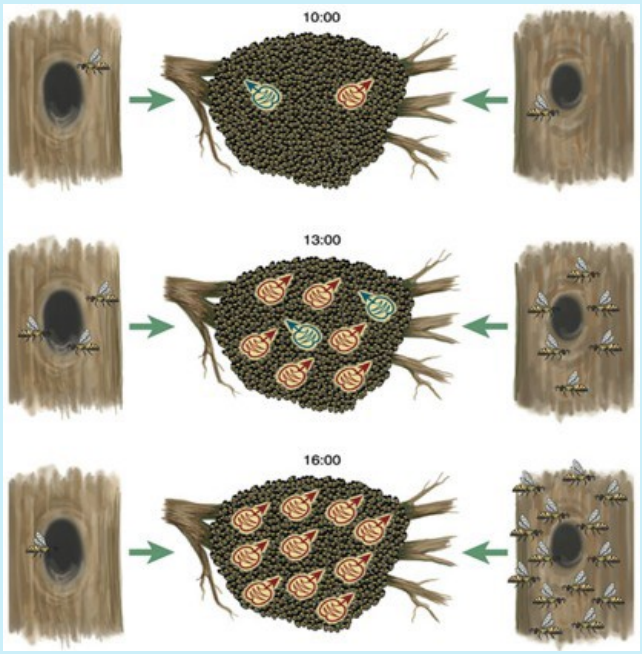
Some species are cuckoos, laying their eggs in the nests of other bee species. These may be highly species specific as to their host, and may mimic the appearance of the host species. It is thought that before entering a bumble bee colony to lay, the cuckoo queen may hang around the fringe of the colony for a while to acquire the colony scent. Some cuckoo bees are less hairy than the average bee, not needing to collect pollen. The larvae of some cuckoo species kill the host larvae.

We are aware of the value of honey bees and bumble bees in pollination, but some solitary bees are also important pollinators.

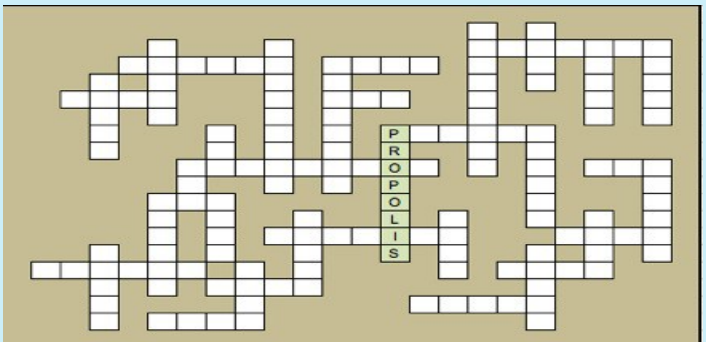
Tongue length varies across species, so different bees feed on different plants. Their facial structures vary according to the length of tongue they have to accommodate, those with long tongues tending to have long faces.

Solitary bees can sting, though the smallest ones could not penetrate anything as thick as human skin, but it didn't sound as though they were very inclined to do so. Sadly, most enjoy no legal protection, even though some are much more rare than water voles or great crested newts.

SWARM SITE SELECTION



Scout bees tune their strength of waggle dancing in relation to site quality, which accelerates the reaching of a quorum at the best available site. Here, scouts locate two potential nest sites, one with a large opening (*left*) and one with a more desirable small opening (*right*). Each scout bee then returns to the swarm (*green arrows*) and performs a waggle dance for her site (*top centre*), but the scout from the superior right tree performs more waggle dance circuits (*red symbol*) than the scout from the left tree (*blue symbol*). The result is that three hours later, the number of bees committed to the right tree has increased six-fold, whereas support for the left tree has increased only threefold, and the majority of dances favour the right tree (*middle*). After three more hours, the number of scouts at the right tree has ballooned, and dances in support of this site have excluded the left-tree site from the competition (*bottom*)



ACROSS	No of letters
A NASTY IMPORT FROM THE USA	3
WILLIAM BURROUGHS CARR	3
ACTUALLY MEANS 'TO STRETCH'	3
THE PROTECTING — — — —	4
BEE HOME	4
LETS AIR INTO THE HIVE	4
A STING DOES, JOHN	4
MEANS BEE TIGHT, NOT BEE QUICK	4
TO WHICH WE SHOULD ALL BELONG	4
HOLDS A VERTICAL WAX WALL	5
PROVIDES THE PROTEIN	6
BERTIE WOOSTER'S CLUB	6
AKA HUMBLE	6
MITE DO SOME DAMAGE	7
HEAD/THORAX/— — — — — — —	7
USED TO BE A MASSEY FERGUSON?	9

DOWN	No of letters
A COMMON MARKET DISASTER?	3
THE WORKER DOESN'T GET ANY	3
CAN HOLD A PRISONER AS WELL	4
A POOR AFTER-SWARM	4
OH, BROTHER	4
SYRUP OR CANDY	4
ALSO USED ON UNRULY HAIR	4
LOUD — — — — — UPSETS THE BEES	5
THE DRONE — — — — — THE QUEEN	5
NOT NECESSARILY GAY	5
ONE OF BP'S?	5
NOT A ROWNTREE'S JELLY FLAVOUR	5
THESE TYPES ARE NOT MADE BY OTIS	5
ABOVE	5
PROVIDES THE ENERGY	6
HAS A SIX WEEK HARD LIFE	6
BEES' BOTTOM WASHERS ?	6
'FOR THE CITY' (GIVEN)	8
ESSENTIAL GAP	8
A COMMON STRAIN OF BEE	9
OUR BEE SPECIES	9

STARVATION IN THE HIVE.

Could I ask you please to put out a reminder to all of the District Secretaries about members looking at the food levels of their bee colonies, and also highlight Varroa Management at this critical time.
I have been out inspecting quite a bit recently and almost exclusively have come across bees which are starving, some to the point where their demise was only hours away - I have even taken to carrying syrup in the car with me, as, in general terms beekeepers have nothing in stock for contingency feeding. In some cases I have had to pour syrup into empty comb and onto the topbars for the bees to feed to get them going again as they were at that 'creeping' point which signs almost imminent demise of the stock.

A very sad state of affairs I am sure you would agree? – These are not isolated incidents, but on some days are reflected in every site we visit.

Also in many cases I am seeing increased levels of Varroa - this becomes more and more 'visually' evident in colonies whom are short of food as the brood nest diminishes and the mites move onto the bees themselves. Again in some of the cases the Beekeeper had neither thought about, nor prepared to carry out any sort of Varroa controls, or doing much in the way of monitoring. Can I emphasise again that where insert boards are used with open Mesh Floors the boards must be made sticky before use, otherwise
A consistently low mite count will be realized, as the mites will simply walk off! Often back into hive to continue their quest.

I am seeing in lots of cases of people using icing sugar as a 'Varroa Treatment' it should be borne in mind that icing sugar is to be seen as a complimentary technique to other forms of Integrated Pest Management. As a standalone it rarely has sufficient knock-down to achieve the full controls on its own.

Unless it is done regularly, skillfully and with the correct open mesh floor In place, ie: with a sufficient drop beneath to ensure that the mites cannot return to the Hive, and sufficient cover onto the bees – the value of just sprinkling icing sugar onto top bars is very questionable, although in some cases it has helped to keep the bees alive by giving them something to eat.
Again something else which rears its head regularly is where a beekeeper has taken delivery of a Nucleus – filled up the complement of the Brood Chamber with foundation and provided no supplementary feed – the bees are sitting there, just surviving on the drawn comb with no hope of expansion to survive the winter.

Please, Please – Heft hives to check for weight, Look inside and see what is happening. Feed now to ensure winter survival unless hives are so heavy you can hardly lift them.
Keep an eye on the wasp situation and reduce entrances / set traps where necessary.

We are now approximately three weeks into a dearth of nectar, unless you are within flying distance of a specific crop which is providing something of value, and from what I can see in most areas a minimum of 10 days before the ivy comes properly into flower to be of use.
The link below will take you to the Fact Sheets Section of
Beebase where they will find information on many of the subjects outlined.

.https://secure..fera.defra.gov.uk/be...cfm?pageid=167

Beekeeping A Novices Guide
words and pictures by David Wootton
(130 pages in full colour £19.99 incl. Postage)

Being a bee book addict, over 300 at the last count, I was drawn to David Wootton's table at Stoneleigh earlier this year. Now I'm not a novice, but this book was a 'must buy' for the photographs alone. David is a professional photographer and many of the images are stunning.

The text is written for those taking up beekeeping for the first time. David relates his experiences from a few years ago when he took up the craft and has ensured that the explanations are simple and easy to follow. There are a few actions that the more experienced beekeeper may frown upon but that is true across the whole area of beekeeping.

Participants at 'Beginners Classes' must at times be bemused by the speakers quoting descriptions of the bees and beekeeping. Here is a book that will tell you the difference between supering and supercedure, a cast and the caste and other confusions.

This is a book that can be read by all the family and will no doubt stimulate even more people to learn about the craft.

More details can be found on www.beekeeping-book.com or from:

David Wootton Photography, East Farm Cottage, Nordelph, Downham Market PE38 0BG

Wasps and other Predators

Depending on the type of Spring weather the first wasps may be seen around spare equipment and in the apiary from May onwards. They are seasonal pests as far as the beekeeper is concerned. Both the common wasp (vespula vulgaris)and the hornet (vespula crabro) will attempt to rob colonies and both often get inside the brood chambers after passing the guard bees. It takes several honeybees to keep a common wasp out of the hive and even more to keep out a hornet.

The first common wasps to be seen in the Spring are the queens, which are much larger than their offspring, but both have the same markings of yellow andblack bands and therefore are easily distinguishable from the honeybee. The hornet, on the other hand, is a tawny yellow with pale brown antennae and at least 2.5 cm long. Once the latter are inside the brood chamber they will happily carry on robbing whilst the beekeeper handles the frame! The common wasp will attack the beekeeper on occasions but the hornet is rather docile towards humans.

In recent years other types of wasps have been seen in this part of the southern UK. These tend to build nests in bushes whereas the common wasp often builds it nests in lofts of buildings. However, they will build a nest at the base (at ground level) of an external chimneystack or in the base of a tree. So long as there are no naked flames in the vicinity they can be killed by pouring some petrol (about half a cupful) into a funnel pushed into the entrance to the nest. Immediately close the entrance with some earth and let the fumes kill the bees and larvae in the nest. DO NOT IGNITE.

Hornets will build a nest in the corner of a barn or outbuilding as well as in disused house chimneys and often just under the chimney pot. If called upon to destroy a nest in a loft then do wear thicker protection than you have for inspecting honeybee colonies. That is to say, thicker gloves and maybe an old mackintosh over your bee suit.

In a loft I would use a normalwasp aerosol spray. If you cannot get to the nest because it is near the soffit then a wasp killing powder is a good idea, as they will take it into the nest from where they enter the roof. This will kill anything in the nest. Before wasp attacks get severe it is useful to make up a few jam or honey jars containing some sugar syrup. About 3 cm in the bottom is adequate. Cover witha lid made from clear polythene sheet (the type that enclose magazines posted to you, so save some) and puncture it in the middle with a pencil size hole. String or a rubber band will secure the cover.

You will discover that bees do not go down into daylight (They instead go up you trouser leg into darkness!), but wasps will. Once the first wasp goes into the jar it drowns and then ferments. They cannot find their way out. Within minutes you will find your first wasp in the trap. No honeybees will find their way into the jar. Place the jars adjacent to the hives being attacked and on the stands. The most important step the beekeeper can take to give the bees a fighting chance to defend their colony is to use a restricted entrance all year round.

That is to say, use an entrance only 8 cm wide. In other words keep your entrance blocks in all year. An alternative was to use the Gilbert louvre that was a design so that the entrance could be restricted down to just one small circular hole, or perhaps five or six such holes depending on the severity of the attacks.

It is a misconception that the removal of entrance blocks give better ventilation. I have seen, in Australia, hives suffer complete meltdown when entrance blocks have been removed because the bees cannot control the ventilation. Honey and wax runs out of the entrance under air temperatures of 40°C to 50°C. With a narrow entrance the bees have complete control of the hive ventilation.

Another pest commonly found inside and outside hives is the ant. Usually they do not seem to do any harm but I suspect they take honey to feed their own colonies. My approach to this problem is to put a ring of ant powder around the legs of the stands that the hives are on. This only works until the rain (what's that?) washes it away. As this places the powder 60 cm from the hive floor the bees do not come into contact with it.

Other predators are the large and small wax moths and the former leaves tell tale trails across the sealed surfaces of the honeybee brood. The corner of the hive tool may be used to lift up this trail cover and then the wax moth grub can be picked out and destroyed. Tapping on the wooden frame with the hive tool often encourages the moth grubto emerge. If they are not controlled by the bees or beekeeper then they bore holes into the frames and this is often at the join between the lugs and the vertical sidebars.

This weakens the frame and lugs break off, particularly if you are holding the lugs and shaking bees off for the purposeof finding queen cells. For this reason I would recommend always picking up the frames using fingers just inside the top of the vertical wooden bars. This is helpful also if the queen is under the lug as it stops you squashing her if you fingersare not there, but on the top bars themselves.

THE TRUE SIGNIFICANCE OF WINTER BROOD REARING.

The recent scientific confirmation of winter brood rearing in the honeybee colony has real significance for the survival of over-wintering colonies in the present circumstances. Despite the fact that there are many beekeepers who either never questioned the accepted wisdom of a hiatus in rearing brood in the bee colony inthe dormant period or who have rejected the concept out of hand; winter brood rearing in the presence of the Varroa mite takes on a whole new dimension.

The jury is still out on the causes of the massive bee colony losses world wide but there is increasing focus on the neuro-toxic pesticides such as Imidacloprid, Clothiniadin, Fipronil etc, in the areas where crops like maize and OSR are grown and where the seed and development of these crops is treated with these suspectsubstances.

There is little doubt that the nicotinoid pesticides are deeply implicated in colony losses, however the mystery of the losses deepens when despite the argument that pesticides are the culprit, heavy colony losses are also being incurred in areas well away from intensive agriculture. The issue of winter brood rearing becomes a critical factor when these late winter/early spring losses are addressed. Recent information coming from Germany advocates that the infestation level in any colony infested with Varroa should not exceed 50 mites at the end of December. A drop of 1 mite/2 days on the floor insert at this time seems to be a good indicator that a mite population of between 35-50 has been reached.

If a fall greater than this is registered the colony MUST be treated immediately. Even in Germany many beekeepers, up until the present time at least, still hold the popular belief that there is a hiatus to brood rearing in winter (personal correspondence), however notwithstanding it has been noted that colonies entering winter with low mite
infestations have a greater survival rate than otherwise. A simple calculation might drive home the critical importance of low mite numbers in colonies in early winter:

- Every larva produced as a result of winter breeding will be a target for a female mite, which will live for around two months.

♦

- The mite average reproduction rate is reckoned to be some 1:1 new mites per generation

♦

Consider a colony entering winter with a mite burden of 50; every 18 days the mite population will double; using mid December as a start date – best case scenario is that by mid January there will be 105 mites, by early February there will be 220, by the end of February 460, by late March 968 and by mid April 1800.

♦

The adult bee population is of course meantime being parasitised and debilitated as well. Believe it or not
that is the good news.
Now consider a colony with a mite population level of just 200, which is quite low by the current accepted standards of the 'winter breeding hiatus' beekeeper advocate:

Initially each developing winter larva will be 'multiple parasitised', every 18 days the mite population will
increase dramatically and to boot each emerging bee will be a total loss to the colony:

Using mid December as a start date – best case scenario is that by mid January there could be 500 mites, by early February there could be 1250, by the end of February 3125, by late 189 March 7860 and by mid April – best case scenario 19,440. The figures postulated could be questioned but the order of increasing magnitude is indisputable.

By late April this hypothetical colony could be in real crisis or may have already succumbed. It is unsurprising that many colonies entering the winter with mite burdens of over 200, especially in the possession of beekeepers who do not carry out their anti-mite treatments diligently or correctly, fail to survive past late winter or early spring.

The phenomenon of winter brood rearing in the honeybee colony will be ignored at beekeeper peril. If age-old dogma can be cast aside, who knows, we in Scotland at least could really begin to take control of our colony health and winter survival. By ensuring that the mite has as few potential hosts on which to do her wicked work and really getting to grips with the necessary work of winter mite control – which entails any treatment method, applied at the correct time, that kills mites in the brood cells. Formic acid is, to date, the only substance which does just that.

Applied correctly around early April this treatment method could just be the tipping point to get your colonies through to summer to become an effective honey gathering force. The effectiveness of any late winter treatment will have to be closely monitored to ensure that the mite burden is as low or ideally lower than recommended. Thymol or oxalic acid treatment used correctly will achieve this
aim.

BEE KEEPERS' QUARTERLY.

The Bee Keepers' Quarterly published by Northern Bee Books is a somewhat weightier magazine that BeeCraft.
It carries articles on research; articles from bee keepers from around the world, (the editor lives and keeps bees in Messinias in Greece); articles on bee health; bee keeping development; the bee keeping season and much more besides.
Recent features have included colony losses; making a 'Langstroth' top bar hive; overwintering; new technology; Travellers' Tales and articles 'for the workshop', and there always a number of book reviews.
The normal cost is £28.00 pa, but through the Association it is just £18.00pa.
It needs a minimum of six subscribers for us to take advantage of the offer and John McKee, our Treasurer has kindly offered to facilitate it on our behalf.
So, send a cheque to John McKee at 27 Egmont Drive, Avon Castle, Ringwood. BH24 2BN along with the address to which you would like the magazine delivered and BKQ will wing its way to your door every three months.
Those who join and are already paying full subscription will a refund on their unused existing full price sub.
£18.00 per year is only 34 pence per week and the magazine is well worth it.
If anyone would like to read a few back copies to see what it is like, you can contact me through the web site or at BADS-BKA@gmail.com.

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The Queen's Bees.

As the Queen's official beekeeper gets busy with his bare hands, the words of Winnie the Pooh spring to mind: 'You never can tell with bees.' Sage advice, surely, from the bear of very little brain, as anyone who has ever been stung must agree. Here in Buckingham Palace's garden, however, John Chapple is in shirt sleeves as he lifts the lid from the first of the hives and removes the wooden frames filled with honey. He is wearing a veiled hat, but otherwise looks rather exposed. His assistant Andy Pedley has opted for a protective suit. Despite a liberal application of smoke to calm the bees, quite a few are still buzzing about. One heads for the nose of the Palace press officer escorting us. She tries to waft it away with her hand and is stung on the finger. Ouch!
Hugely experienced Mr Chapple is sympathetic but unperturbed. He knows his bees. Really, really knows them. And here in the most genteel of settings, he has chosen them accordingly. When asked to introduce hives to Her Majesty's garden two years ago, he chose a gentle species, Apis mellifera ligustica, commonly known as the Italian honey bee. 'I like my bees placid,' explains the affable apiarist. 'There's no fun in working with ferocious bees. These are very relaxed. If I get stung, I get stung, but we try to minimise it.' With a twinkle in his eye, he adds: 'Can you imagine what would happen if my bees swarmed at a garden party? I'd be straight off to the Tower!' As a precaution against such mishaps, he replaces the queen — bee that is — with a new one each May. 'They're less likely to swarm when there's a younger queen because she gives off a substance that suppresses the instinct.' All this is happening in a secret part of the garden, not visible to the hundreds of thousands of paying visitors who flock to Buckingham Palace.

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HIVE PRESERVATION

Last November I told you that the new formulations of Cuprinol (with BP as a suffix) have not been tested for use on hives and should not therefore be used.
I have now had confirmation from Ronseal that their 5 year wood stain is safe

PLEASE SUPPORT THE FOLLOWING.

NORTHERN BEE BOOKS

OVER THE PAST TWENTY YEARS OR SO WE BEEKEEPERS HAVE HAD TREMENDOUS SUPPORT FROM NORTHERN BEE BOOKS. WE WOULD LIKE TO THANK THEM BY PUBLICISING THEIR WEBSITE WWW.BEEDATA.COM

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www.beedata.com/beebooks.htm

UK Honey Labelling Regulations

Below is our simple advice on honey labelling. For more detailed information - go to the website of the Food Standards Agency. www.food.gov.uk

1. The Word "HONEY" is required.

2. The weight must be on the label - we will ensure it is the legal size and format.

3. You can specify the area where the honey is produced. For example, Lincolnshire, Forest of Dean, Scottish Borders.

4. You can specify the type of honey. For example, Heather, Borage. The honey must be at least 75% of that particular type.

5. If you are selling the honey, you must have your name and address on the label. It does not need to be complete but you should be able to be found from the information.

6. If you are selling the honey through a third party, you must have a lot number.

7. New for 2003 You must have a best before date on the jar. We suggest 2-5 years from now.

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

E H Thorne (Beehives) Ltd disclaims all responsibility for all consequences of any person acting on, or refraining from acting in reliance on, information contained above.

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