Beetalk June 2023

General info and news about bees

Hello and welcome.

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

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 the 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.

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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FEEDING BEES WITH BAKERS' FONDANT

Bakers Fondant has been used for sometime by the commercial and hobby beekeeper with good results. It can be a life saver this time of year following our worse season for a long time, our bees were struggling to bring in sufficient food of their own so its our job to lend a hand to ensure that they survive. Bakers Fondant is a soft sugar paste used in the confectionary trade as a coating on cakes and buns. It normally contains about 75% sugar, 15% glucose and 10% water.

1. No mixing or preparation.
2. Easily transported, no leaks or spillage.
3. Easy to feed at any time, so useful for emergencies.
4. You can feed many colonies in one day, with no separate feeders.
5. No need to feed by mid-September, so no problem with going to the heather.
6. By feeding fondant later, it allows brood rearing to continue into the Autumn, whereas feeding syrup will often fill the brood area and stop the queen from laying. Young bees are essential for good over wintering and an early start.
7. No need to over feed in the Autumn as it is easy to top up colonies in winter or early spring.
8. Very little work by the bees, no processing of sugar syrup.
9. No fermentation of under ripe stores
10. Fits in well with Varroa treatment.
11. No leaks or spills, so no robbing.
12. Can feed with supers on the hive. If supers are left on the hive, there is protection against wax moth.

How to apply Bakers Fondant How to apply Bakers Fondant The amount to apply will vary considerably - a small colony or nucleus will only need a small amount but a large colony low on stores might need a box full. It is available in 12.5kg boxes, 1.5kg bags and 340g special containers to use in your Apidea These are designed to prevent your bees from getting stuck in the fondant.

Suggested method of feeding Suggested method of feeding

1. Cut the fondant to suitable size and place directly on top of the queen excluder, leaving covered with polythene to stop it fom drying out. If you keep wetting your large knife, its helps to prevent sticking.
2. Place an eke on the queen excluder, or a redundant Ashforth feeder placed upside down will do.
3. Place any wet or dry supers on top, if you choose, this will give the bees access to clean them out, prepare for the spring and to prevent wax moth, fermentation and dripping.
4. Alternatively, cut a small piece about the size of an egg, a puff of smoke over the feed hole in your crown board and push it onto the top bars and place the fondant on top with eke as above.
5. Beware of other types available. Many other icing sugar/ pastes contain chemicals as a fixing base unsuitable for our bees delicate stomachs.

FORMIC ACID FOR VARROA AND TRACHEAL MITE TREATMENT

Understanding How Formic Acid Works.

• Mixing 3 parts 85% acid with 1 part water will create a 65% concentration; this concentration makes queen and brood losses rare. Formic acid fumes, at a concentration below the level causing damage to adult bees, kill mites but not bees.

Bees are somewhat capable of regulating a minor overdose through hive ventilation.

• Slight mortality of emerging bees, drones and larvae are signs of this mite killing concentration of fumes. This concentration must be reached by evaporating a sufficient daily dose of acid; mites will survive if this level is not reached.

A lot of dead brood is a sign of an overdose.
A Formic acid treatment kills 70-90% of the mites in each 7-day mite brood cycle. Treatment over several mite cycles is required. The required daily dose may vary with local conditions and equipment used. Standard Treatments For Varroa and Tracheal Mites Standard Treatments For Varroa and Tracheal Mites

For Tracheal Mites: Soak an absorbent pad with 30ml For Tracheal Mites: of 65% Formic acid and place on top bars. Three treatments at intervals of five to seven days. Remove used pads each time. Daytime temp should be above 10C.

• For Varroa Mites: Soak an absorbent pad with 40ml of 65% Formic acid and place on top bars. Five to six treatments at intervals of five to seven days. Remove used pads each time. Daytime temp should be above 10C. Safety Precautions

Safety Precautions When Handling Formic Acid.

Keep the acid in the original container. Do not pour the acid into other soft plastic containers.

Use rubber gloves, boots, pants. If available use a mask and goggles, when handling the acid.

Always have plenty of clean water on hand to wash equipment and clean up spills.

Use common sense and follow government and manufacturer's instructions on handling acid.

Temperatures below 20C are recommended for work with Formic acid. High temperatures may cause dangerous exposure from acid fumes to humans and bees alike. It is wise to have a partner on standby some distance away from the site but within sight of the operator in case something goes wrong. If possible this partner should have knowledge of what is to be done so that he/she can spot if something is going wrong. Ideally this partner should also be dressed in safety gear Always consult the relevant DEFRA leaflet before contemplating this procedure.

HONEYBEES NEED WATER

To sustain a healthy colony, honeybees require large quantities of water in addition to nectar, pollen, and propolis. It is estimated that a typical hive colony gathers and uses 44 pounds of water per year. Water is used to dilute ripened honey by nurse bees as theyfeed the developing larva (brood). Water is also used to air condition the hive especially important during hot, dry weather (like we had last week). Water brought into the hive is distributed in a thin layer among the empty wax cells and the bees generate a vigorous movement of fresh air by "fanning" their wings. The resulting evaporation results in an "evaporative cooling" effect. The division of labour between foraging bees separates some bees that collect nectar or pollen or propolis or even water. Water gatherers have an easier job than the others as they usually find a large water source and can quickly fill their "nectar stomach" and return to the hive. Observers have measured up to 100 water trips per bee per day. Bees will use any water source that is convenient and this includes a dripping faucet, the dew forming on lawn furniture in the early morning, or even a muddy puddle. In suburban neighbourhoods bees often find birdbaths and children's wading pools and this can cause neighbourhood problems. Polarized sun light is reflected from pools and ponds and the bees are attracted as their eyes can recognize these water sources. Pools are often located in the sunlight. The beekeeper needs to take steps to divert the bees away fromneighbour's pools and there are several ways that this may be done. An alternate water source such as dripping faucet or wide pan with stones or floats (to prevent bees drowning) should be furnished closer to the hives. In extreme cases it may be necessary to cover temporarily the entire pool surface until the bees are diverted. It appears that bees prefer water that contains some minerals as they choose tap water to filtered or distilled water and probably get more minerals than they need from that mud puddle. During the cold winter weather, while bees are not flying, plain sugar or a soft sugar candy is often fed right on top of the frames. Bees need water to eat this carbohydrate for their survival. Otherwise it's like licking a lollipop without saliva. They can glean some of the water from their respiration that condenses on the cold hive walls for this purpose.

RISK ASSESSMENT IN BEEKEEPING

Risk Assessment is based on the Health and Safety Executive's (HSE) five step system. 1. Identify the hazards 2. Decide who might be harmed and how 3. Evaluate the risks and decide on precautions 4. Records findings and implement them 5. Review the risk assessment and update if necessary When members of the Association attend outside events or demonstrate beekeeping it is now assumed that a formal risk assessment has been carried out but if this has not been done the member(s) doing the demonstration could be personally liable if an incident occurs. It is not possible to hide behind the insurance provided by BBKA as, sooner or later, it will be a prerequisite that such an assessment has been made before compensation is given and also affect the amount to be awarded. (See following article) If legal proceedings were to follow then a risk assessment previously undertaken would be a substantial defence. If the event has been organised by others we still have to carry out our part of the risk assessment. For example, when we attend events at Rufford Abbey we do not expect to have to make arrangements for first aid, safe electrical wiring, parking, fire risk of working in a tent, etc. An extreme example would be if someone was stung and went into anaphylactic shock – the staff at Rufford could be expected to be responsible for calling the medical services to deal with this. But we are required to check that this would be would be done by the organisers. Obviously we are responsib done by the organisers le for assessing the unique dangers posed by our activities – safety of the observation hive, control of members of the public viewing the hive, use of hot wax to make candles, dealing with stings, etc. however unlikely this may seem at the time. The organisers of any event in which the Association is involved could, in the future, require a written risk assessment as a condition of us taking part. Risk Assessments have been done by me for "County Apiary Demonstrations" and "Using Observation Hives" so copies of these documents should be present whenever these activities are being carried out. (Please contact me for copies. Ed.) The maxim is – if it can happen then sooner or later it will. It is not expected that all risk will be eliminated by undertaking a risk assessment– merely that the risks will be identified and hopefully reduced. The current culture of trying to get rid of risk is usually the result of a poorly conducted assessment by someone who does not understand what is expected. Because of this much good work is being undermined and we should hope to carry out this task in a sensible way. Identify the hazards There is a need to work out h Identify the hazards ow people may be harmed. When manipulating colonies of bees on a regular basis is it easy to forget basic safety. Any apiary should be checked with an eye open for any hazards. This is particularly so when novices or members of the public are in the vicinity. Some hazards are obvious but when you ask other beekeepers often you find more which you had not thought of. Here are some examples (these have actually happened in Nottinghamshire!) • a beekeeper sliced his hand badly with his hive tool • a novice attending an apiary meeting was severely stung as he was not properly attired • walkers on nearby footpath stung (this went to court) Decide who may be harmed and why For each hazard i Decide who may be harmed and why t should be clear who might be harmed. This will help decide the best way of managing the risk. This does not mean listing everyone by name but rather identifying groups of people (eg. experienced beekeepers, novices, general public, passers by). But remember: • some people will have particular requirements (eg. novices, people in wheelchairs, casual visitors) • people carrying out legitimate activities nearby (dog walkers, horse riders) • members of the public attending shows Evaluate the risks A common sense means to assess r Evaluate the risks isk involves the use of a matrix square comparing the severity of the event with the likelihood that it will happen

		LIKELIHOOD		
		1 (Low)	3 (medium)	5 (high)
SEVERITY	5 (high)	PLAN		REDUCE
	3 (Medium)	NO ACTION		MANAGE
	1 (Low)			

The weighting to put on these will vary from venue to venue but that too should be documented. 3 is a break even score.

SEVERITY	**CATASTROPHIC** – imminent danger exists (death/illness wide scale)
	CRITICAL –hazards can result in serious illness, severe damage to property, equipment and injury
	MARGINAL – hazard can cause illness or damage (results will not be serious)
	NEGLIGIBLE – hazard will not result in serious injury or illness
PROBABILITY	**PROBABLE** – likely to occur immediately
	REASONABLE PROBABILITY – may occur
	REMOTE – may occur
	EXTREMELY REMOTE – unlikely to occur

Record findings and implement them Putting the res Record findings and implement them ults of the risk assessment into practice will make a difference when conducting beekeeping activities. Putting down the results and sharing them with other members of the Association encourages safer practice. When writing down results keep it simple. The risk assessment must be suitable and sufficient andmust be capable of being understood by other people and implemented by them. By carrying out risk assessment it must be possible to show that:
a check has been made
• it was investigated who might be affected
• all the significant and obvious hazards were dealt with taking into account the number of people who could be involved
• the precautions are reasonable and the remaining risk is low A plan of action needs to be made to consider different things.
• a few cheap and easy improvements that can be done quickly, perhaps as a temporary solution
• long-term solutions to those risks likely to cause the worst problems
regular checks to make sure that the control measures stay in place • clear responsibilities – who will lead on what action

♦

Renew risk assessment and update if necessary Renew risk assessment and update if necessary enew risk assessment and update if necessary Sooner or later new equipment, substances and procedures will be introduced that could lead to new hazards. It makes sense therefore to review what is taking place on an ongoing basis. Every year a formal review should take place. This review should consider:
• have there been any changes?
are there improvements still needed?
• have members spotted a problem?

♦ has anything been learnt from accidents or near misses? During the season if there is a significant change the risk assessment should be checked and if necessary changed.

SWARM COLLECTING – CAUTIONARY NOTES

Collecting a swarm has got to be one of the most satisfying parts of beekeeping, especially if it's large and not one of yours. There it is hanging from a single branch, five feet off the ground, one tap and a cup of tea later and you've boxed a swarm and have the best machine known to man for drawing out the much needed comb. But what if it's hanging ten feet up a tree, or it's integrated in the soffit and the gutter? There are a thousand different scenarios that bees can get themselves into. In today's world of health and safety and the 'you sue me, I'll sue you' culture that we live in, are you sure that the British Beekeepers Association's insurance will cover you for any mishap? It will definitely not cover you for personal injury and was the swarm worth six weeks off work with a broken ankle? The insurance says it covers you for beekeeping activities including swarm collection, but we all know when it's time to pay up insurance companies have a tendency to bring out the rule book and the small print. Were you qualified to remove the roof tile, that caused a leak, that ruined the roof, that collapsed the ceiling that fell on the owner - who was very grateful when you removed the swarm but can see a large payout coming his way? Was the ladder you used the correct one for working in that environment? It may well have been good enough when you fixed your own gutter but did it comply with the British Standard for anything other than personal use on your property? When it slipped and went through the conservatory or the windscreen of the new Jaguar car, were you trained to work at height? (That came in during 2005). We then come to the really grey area of having to dispatch a swarm or a colony that have established themselves in a chimney or roof and there isn't a viable way to get them out other than to use a chemical of some kind. Wasp killer will do it, but unless you're registered and trained you will only be able to get amateur use only and using that on someone else's property is it still deemed as amateur? What if you have killed the bees, do you know what the legislation insists you do then? A qualified pest controller was fined £15,000 in 2008 for not following the correct procedure. I am not trying to put anyone off collecting swarms but please be aware of the possible consequences that may or could happen, people always appear so grateful when you get the swarm, but when it's all over they then start to think differently! Don't put yourself in the firing line and please don't put yourselves at risk. If in doubt don't let your ego get the better of you, tell the occupier to phone a qualified pest controller who specialises in wasps and bees including bumblebees.

DANCING INHERITED FROM DADDY

In the dance world, not all bees are equal. In a colony of bees at any one moment, each element has a special task, be it laying of eggs (the queen) collecting propolis, or scouting for nectar and performing dances (the round dance for nearby forage, the figure-of-eight dance if it is more than 100 metres away), to increase her comrades enthusiasm for a good source or diminish it when the supply is running low. However, some foragers master this type of communication perfectly, while others are noticeably less gifted. Wolfgang Kirchner and his team, at the University of Bochum, have discovered in their research into bee behaviour, that specialisation even extends to the dances. The workers must perform several types of dance, but those that are more gifted for one type of dance are less so for another. The most surprising thing is that this 'gift' is hereditary! All the workers in a hive have the same mother but they may have different fathers. At any given time there will be sisters and half sisters. Kirchner's team examined the dancers' genes after noting the frequency with which each bee practised one or other of the dances. The result was astonishing! The 17 groups of 'true' sisters were noted and sorted according to their preference for each type of dance. The results showed that the predilection for using the figure-of-eight dance over the round dance or vice-versa was significantly related to the sibling grouping. For Kirchner's team, that proves the importance of genes inherited from the father. According to which father she has, a forager will be more or less specialised in one or other of the dances, more or less assiduous in the performance of two communication codes that are related but different. If it were not the genetic inheritance, you would have to suppose that true sisters can recognise each other and regroup inside the colony to practise a kind of nepotism in certain activities! Impossible!" says Kirchner, "How on earth would they manage it?"

USING EKES

The Eke – a term that always brings a picture of a person (politically correct term) standing on a chair clutching the hem of their skirt to avoid a furry rodent! But in the bee world it is a small box or frame with the same external dimensions as a hive box but shorter in height. The dictionary gives two meanings to 'Eke': verb (used with object), eked, ek·ing. - to increase; enlarge; lengthen. verb phrase, eke out, to make (a living) or support (existence) laboriously: they managed to eke out a living by farming a small piece of land, to supplement; add to; stretch: to eke out an income with odd Jobs. The derivation of the word is Old English eacan; related to Old Norse auka to increase, Latin aug're to increase, Greek auxánein to increase, amplify. Originally in beekeeping a skep was used "to eke out" or stretch your resources because when bees were kept in straw skeps a "cap" or smaller skep was often placed on the top for honey production (much like supers today) If the cap became nearly full then the beekeeper would add a ring of straw (about 2-3 inches deep) between the skep and the cap. It is this ring, which was constructed in the same way as a skep, which was known as an "eke". There is a complication to this in that if the ring was placed underneath the skep, then it was known as a "nadir" as opposed to our supers which go above. Incidentally super comes from Latin, super- and means above or beyond. Today skeps can still have a use in either the 'nadir' or 'super' position in the following ways:

Varroa treatment

When Apiguard® is placed above the brood frames one is needed to give a free space for the fumes to dissipate over the top of the frames and to allow the bee's access to the tray so they can spread it through the hive. Originally it was recommended that you only needed a shallow eke to provide just a couple of bee spaces above the tray but recent research has found that a larger space is needed for effective control. Now I use a 50mm eke to allow better circulation of the thymol fumes.

To surround a feeder

One can be used over a crown board to house a contact feeder or a piece of comb that needs "emptying" of stores or brood. As an insurance space and super barometer

As an insurance space and super barometer

Storage is always a problem and so I tend to leave my Apiguard® treatment ekes on top of each hive under the roof. This provides an air space into which the bees can expand should the supers get full and more importantly on removing the roof the wild comb will tell me they need more room – even before I have lifted the heavy super(s) off. To lift the brood box off the floor.

To lift the brood box off the floor

Sometimes when changing floors you find that the brace comb below the frames is too long for the new, slightly shallower floor and so an eke can be added to avoid crushing bees. Also queen cells may hang from the bottom of frames and an eke can help avoid their damage.

Provide a top entrance

In the artificial swarm procedure when you do not have a new floor an eke with a hole cut in it can be placed on top of a sealed crown board with the old brood box on top – the Demaree method.

Emergency brood box.

Adding an eke to a super will accommodate brood frames or you could put several ekes together.

Box conversion

A 75mm eke will allow the larger 14X12 frames to be used in a national brood box. No doubt there are more uses so an eke is a useful addition to your kit so make one for each hive you own. An eke can be as simple as four planks of wood 50 mm – 100 mm wide nailed together to form a rim the same size as the hive box.

TYPES OF QUEEN CELLS	
Supersedure	to replace a failing queen.
Swarm	to continue the colony after the old queen leaves with a swarm.
Emergency	to replace a queen that is lost, either to accident or by beekeeper division of the colony.

SOMETHING TO THINK ABOUT

Our real problem in beekeeping is not our strength today;
it is rather the vital necessity of action today to ensure our strength tomorrow.

BEES – WILD OR DOMESTIC?

We all know that a swarm in a public place can be taken by whoever gets there first, but that a bee swarm on private property can only be taken with the permission of the owner of the property. This convention is rooted in the old common law of property and the ownership of chattels. An animal of a species which is generally tame and has become accustomed to association with human beings is known as a 'domestic' animal: McQuaker v Goddard [1940] 1 KB 687.

As long ago as 1682, the British Courts decided that animals can be owned like other movable chattels and the owner retains ownership of the animal even if it strays or is lost: Putt v Roster (1682). In contrast, an animal of a species that has not become accustomed to association with human beings is classified as a 'wild' animal. 'Wild' does not necessarily mean savage in nature, but includes animals of a timid nature that are not classified as domestic (Kearry v Pattinson [1939]). Bees, when not living in a man□made hive, are classified as 'wild'. A person can gain ownership of a wild animal by one the following means: per industriam (by industry); ratione impotentiae et loci (by weakness and location); ratione soli (by the soil); or ratione privilegii (by privilege). The first and the second ways of gaining ownership of wild animals have relevance to beekeepers, and are explained below. Per industriam relates to gaining ownership by your own efforts such as lawfully taking or taming it, or confining it so that it cannot return to its natural liberty.

Ownership remains until the animal regains its liberty and has not `the mind to return': Case of Swans (1592) 7 Co Rep 15b. Ratione impotentiae et loci relates to a landowner gaining ownership of a wild animal by virtue of the location of the animal on the landowner's land and the inability of the animal to escape due to their weakness. It is referred to as the doctrine of 'weakness and location'. This most commonly relates to the young of wild animals born on the land until those animals can fly or run away: Case of Swans as above. Generally, a domestic animal that has reverted to the wild state does not become classified as a wild animal.

However, in the case of bees, bees that have left the owner's land and swarmed onto the land of another cease to belong to the owner and revert to being wild animals (ferae naturae). They are then free to be taken by the owner of the land: Kearry v Pattinson [1939] 1 KB 471 under the doctrines of 'weakness and location' as discussed above. T P W 733 However, where a swarm of bees have landed on public land, they are free to be taken under the doctrine of per industriam, or 'by industry' as they have reverted to being 'wild' and do not belong to another person by reason of being on their land.

As can be seen, unlike most other animal species, the classification of bees as 'wild' or 'domestic' animals changes depending on the circumstances and the legal issues a beekeeper is facing. Bees are considered to be domestic animals when it comes to the law of liability for animal nuisance (mansuetae naturae): Stormer v Ingram (1978), domestic animals for the purposes of ownership laws when managed by a beekeeper, but wild animals for the purposes of ownership laws if they have left the hive and swarm.

Wax Moths

It is at this quiet period of the beekeeping year that these moths, on occasion, occupy my thoughts – why? They might just have turned up in that stored comb – comb from which the honey had been extracted at the end of summer. There are two species – well described by their common names: the Greater Wax Moth (GWM) and the Lesser Wax Moth (GWM), the former being much the larger in both larval and adult stages. They are to be found wherever honey bees are kept. It is the larvae which cause damage to comb, especially comb in which brood has been raised as there, any residues - larval, pupae cast skins along with pollen and the wax itself - make up their diet. Their presence is readily detected as they tunnel through comb, as even in the early stages there is usually evidence of webbing along with faecal pellets. What can be done about these 'minor pests'? Though probably considered not so minor should they, 'under favourable conditions', take a hold of the comb! The length of the life-cycle of these moths varies considerably being much shorter under warmer conditions therefore, with stored comb every effort should be made to store it in as cool a place as is possible and storage outside most certainly reduces their activities. Frosts will kill all stages. Just some basic shelter, open□sided, secured against the wind and of course anything that might invade the boxes, mice for example. For myself, I keep them in my shed (it can get very cold in there), with sheets ofnewspaper between each box of frames and I check a few times until they are put back into use again come spring. Should I come across a larva I simply root it out. Opinions differ as to whether such comb is best stored dry or wet – wet meaning put away as taken from the extractor therefore retaining a slight deposition of honey that is said to put the wax moth off. The alternative is dry storage – my preference. There is a strong tendency for fermentation to take place on wet stored comb but it seems to not adversely affect the comb itself and when put back on the hive the bees take to it but, is there a risk that it might spark off a slight dysenteric condition and, just maybe, some granules develop thus initiating 'earlier' granulation of the newly gathered honey? Just perhaps! Also mentioned in the context of these moths is acetic acid and Certan; the latter being a solution of the bacteria – Bacillus thuringiensis. I have no experience of them but I am intrigued by the specific epithet of the bacteria. When the suffix ensis is used it follows a place name – there are many such examples in plant nomenclature, and the place name in this case is taken from a forested area in Southern Germany, Thuringia. Was this bacteria first identified in feral honey bees in that part of Germany I wonder? Larvae of both species may be found in active colonies, the moths, by stealth I should imagine, obviously gain entry to deposit eggs. In my experience the LWM larvae are seldom seen but, most years, I come across the activities of the GWM larvae. The tunneling larvae can be readily traced on the face of the brood comb and when rooted out move rather quickly; they are about one inch in length. It is said that the bees will/do remove larvae, also that the GWM larvae will eat the larvae of the LWM. There is seldom any evidence of either species in strong colonies. Sometimes I see a moth during a manipulation and just as I am aboutto bring down a finger they invariably perform a characteristic move – a sort of hop, skip and a jump requiring further attempts to dispatch. When larvae become fully fed they spin their cocoons and somehow scoop indentations in the wood of the frames, hive walls and floors, in the latter case especially where capping's and assorted debris accumulate or where trays are used below a screen floor. There is a condition, Bald Brood, which may cause some alarm when first noticed. It appears in worker cells the walls of which are extended slightly, inclined to be incurving and remains uncapped. This isn't a disease. It is seemingly due to the presence of the LWM larvae. On the few occasions my attention has been drawn to this, such cells invariably appear in fairly loose, small clusters among normal brood

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Gardening For The Bees! Foxglove

When we decided to become beekeepers 12 months ago I experienced a huge pang of excitement when I thought about surrounding the apiary with flowers that our bees would love. Without doubt, the first plant on my list was the foxglove. And it was top of the list for a number of reasons… • They come in a range of wonderful colours, each variety carrying a bountiful supply of nectar in the many flower cups that clothe the length of the stem. • The flowers open gradually over a number of weeks so there is a constant food supply rather than it all being used up over a few days. • Only certain insects (bees included of course!) will venture inside to reach the liquid treasure, so there is less competition for the nectar than with other, single, open flowers. • The plant is a joy to behold and testament to Nature's brilliant design process – the pattern on the throat of each flower shines in the ultraviolet part of the light spectrum (which insects can see) and thus acts like an aircraft landing strip to direct the bees inside. • Although we associate it with woodlands, the foxglove is essentially a hedgerow plant. It thrives best in dappled shade and is perfectly adapted to cope in sites where light varies throughout the day. These are just the conditions that should prevail around your apiary! • And finally, and probably the icing on the cake – the foxglove is a truly native British plant, of which there are precious few in your garden!

How to grow foxgloves Most foxgloves thrive in light shade and love to be cool. Although foxgloves prefer lighter soils, they can survive on heavy clay with the addition of good compost and grit to the top few inches of soil. The fibrous roots spread out horizontally making vast mats to support the flower spikes, so mulch well throughout the spring & summer to retain moisture. Transplanting of foxglove seedlings from around your garden is best done in the cool of autumn or early spring and March or April is a good time to look in the garden centres for potted specimens to plant out immediately. The common foxglove, Digitalis There are some perennial varieties available as well as some, like the variety 'Dalmatian' that will flower in their first year from an early sowing. Stake tall varieties to keep them upright and remove the central flower spike after flowering to encourage other side shoots to form and produce more flowers. However, if you want the plant to self-seed and multiply, leave the flower spike intact on the plant so seeds can mature and disperse purpurea, is a biennial, seeding freely when happy. Since it does not produce flowers (nor, therefore, seeds) until its second year, you must plant them two years running to then have foxgloves every summer.

Saving Pennies removes the Sting ?

Some American advice……..

Carry some pennies in your pocket while working in the apiary. A while ago, I was stung by both a bee and hornet when working in the garden. My arm swelled up, so I went to the clinic.

They 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. But the doctor also told me "the next time you get stung, put a penny on the sting for fifteen minutes". I thought this was strange advice from a medical doctor.

However, that night, my niece was stung by two bees. I looked at the stings and they had already started to swell. So, I taped a penny to her arm for fifteen minutes. The next morning, there was no sign of the sting. We decided that she just wasn't allergic to the sting. A few days later I was gardening outside and I got stung again,

I thought, here I go again to the doctor for another antibiotic. I promptly got my money out and taped two pennies to my stings, then sat and sulked for fifteen minutes. The pennies took the pain out of the stings immediately, and the next morning I could only see the spot where I had been stung. No redness, no swelling. My doctor said that the copper in the penny counteracts the bite. It definitely works!

But is this an 'urban legend'? Unfortunately, there is no scientific proof either way.

The use of coins as a topical remedy for insect bites and stings has never been clinically tested. Folk medicine is rife with such suggestions, each is said by its proponents to eliminate the effects of a sting - from raw onion to toothpaste, even aspirin paste. There are medical studies touting the successful use of skin creams containing 'copper peptide complexes' - mixtures of copper and amino acids - to accelerate the healing of wounds.

But these carefully formulated ointments are a far cry from the random grimy penny which these days contains very little copper. The best advice is that the stinger should be removed as quickly as possible either by pinching or scraping off. Even a delay of a few seconds leads to more venom being injected.

Bee venom is acidic as it contains the highly acidic peptide melittin . Once the stinger is removed, pain and swelling may be reduced with a cold compress. The sting may be painful for a few hours, swelling and itching may persist for a week.

Question - What are Queen's Pheromones ?

Communication and Feedback

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

The Function of the Queen in the Colony

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

The Queen's Pheromones

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

Mandibular glands

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

Tergite Glands

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

Dufours Gland

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

Koshevnikov Glands

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

Tarsal Gland (Arnhart)

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

HOW WE CAN HELP CONTROL FOULBROOD

The European foulbrood (EFB) outbreak was a most unwelcome addition to a difficult season for beekeepers. We are all hoping for better weather in , but that is quite outside our control. What is not out of our control is what we all do with our bees to help defeat the disease in the coming season. Here are some suggestions:

1) Check all colonies for signs of disease. This is a vital first step which will enable any diseased colonies to be found as soon as possible. Try to make one of the early inspections of each colony a specific careful look at the brood just for foulbrood. Go through every brood frame, and shake off the bees so that the brood can be seen without being covered in bees. For EFB ensure that all the larvae are pearly white in colour, that they are lying curled up neatly at the bottom of the cells, and that the segmentation can be clearly seen. For AFB, look for sunken, greasy cell cappings, for perforated cappings, and for dried up remains stuck to the bottoms of cells. Full details of what to look for are in the National Bee Unit booklet "Foulbrood diseases of honeybees" available on the internet at https:// secure.fera.defra.gov.uk/beebase/index.cfm?sectionid=26 or in printed format directly from the National Bee Unit (telephone 01904 462510) If you have any concerns about the appearance of your brood contact the bee inspector immediately. The contact details are at the end of this article, and are in the Association directory.

2) Do not try to hide the disease EFB is no respecter of beekeeping experience, and there is no stigma attached to finding it in your colonies. ,EFB was found in colonies of beekeepers with a wide range of experience. If you have any concerns about the appearance of your brood contact the bee inspec□tor immediately. All full and partner members are automatically insured with Bee Diseases Insurance for 3 colonies, and additional colonies can be insured for modest cost. .

3) Keep colonies strong and well fed. EFB in particular can be a problem to weaker colonies, or to colonies that are expanding rapidly in the spring. Keep a careful eye on the stores at your weekly inspections, and feed colonies that are very low on stores. If you have a weak colony it may well be better to unite it with a stronger colony early in the season.

4) Only obtain bees from trusted, local sources. With the increased demand for bees in recent years, unscrupulous dealers have sold infected bee colonies through adverts or online. As well as giving the buyer grief, such colonies can act to introduce disease into other local colonies. It is much better to buy colonies from people you know and trust. Locally reared bees will, in many cases, be better able to deal with the local conditions than bees from farther afield .If you must import colonies into the area, insist on a current certificate of health from the seller's local Bee Inspector.

5) Make every effort to prevent swarming. This is particularly important for all beekeepers with their bees in or close to each other. For the coming season all swarms in and close to each other will have to be treated with great suspicion of being infected with EFB. It is much better for us all if we can reduce this risk by redoubling our efforts to prevent our bees from swarming. A prime first swarm can take any beekeeper by surprise, but such a swarm is much less likely if you are doing regular weekly inspections and taking appropriate action to split the colony into two, in some way, as soon as you see eggs or young larvae in queen cups. Repeated swarming (casting) from a colony is down to bad beekeeping, and really cannot be tolerated if we are trying to control the spread of EFB through the control of swarming.

6) Treat all swarms with suspicion. If you do find a swarm of bees of unknown provenance keep it as far away from your otherbees as possible. Inspect it with full hygienic precautions-liberal use of washing soda solution use of disposable gloves, and frequent laundry of bee clothing. .

VARROA CORNER

If you used Oxalic acid in the winter, it should have killed the vast majority of mites in your hives. By February most queens will have started to lay and it is still worthwhile doing a mite count for a week at the end of Feb./beginning of March. This will enable you to treat with Apiguard in March, before they need supering and to know what mite burdens your colonies have before uniting. To get an accurate reading, first clean dead bees off the mesh floor by cracking open the gap between the floor and the brood box and putting the brood box to one side.
Brush or knock the dead bees off and replace. I also put insulation on the crown board to conserve heat/stores in February. I have 6 colonies overwintered. Of these, one is a martyr to varroa and another has a poorly performing queen. These will be dequeened in March and united with the smaller two of my other colonies to produce strong colonies to work the Rape which surrounds them. I feel that it is important to dequeen martyrs in March before they can produce drones as all our bees share their genes.

My experience of mite drops at the end of 2012 is as follows; All colonies had low counts in August, so I didn't treat any with Apiguard. One colony started having very high counts in October so I took a chance by using Bayvarol (pyrethroid) on this hive which dropped about 600 mites! In December,

I treated all colonies with Oxalic acid. The Bayvarol hive dropped only 30 mites which suggests that most of the mites in October were sensitive to pyrethroid. The other, previously untreated hives dropped between 100 and 12 mites. Not surprisingly, I shall be raising queens from the 12 hive which was also the strongest and most productive colony.

Mike and Judith got low to moderate drops with Apiguard in the Autumn and modest drops with Oxalic acid, suggesting their bees have some resistance to the mite. Keith used Bayvarol in the Autumn and got heavy drops from that. He also got heavy drops with Oxalic acid in December suggesting that his bees are not particularly resistant to varroa and that a lot of his mites are still resistant to pyrethroid. It is very difficult to draw exact scientific conclusions from such results but if we do nothing about selecting bees for varroa resistance nothing will happen.

Do keep monitoring natural mite mortality for one week in every month, preferably on every hive, to give yourself an idea of which colonies are starting to get into trouble and which, if any, just don't seem to get much varroa. Make increase from the latter colonies. If you start with clean colonies in the Spring you usually find that mite counts are pretty low until June/July when they tend to take off

PLEASE SUPPORT THE FOLLOWING.

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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.

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