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Saturday 14th October
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THE ESSEX BEEKEEPER



Feeding sugar syrup
and putting on cages to protect from woodpeckers

Photograph by Jean Smye

Monthly Magazine of the Essex Beekeepers' Association

Furthering the Craft of Beekeeping in Essex
Registered Charity number 1031419

www.ebka.org

Issue No. 633

September 2017

Divisional Meetings Diary dates for September & October 2017

7 Sept	Thursday 8.00pm	Harlow	'Winter preparation' - Kings Church, Red Willow, Harlow CM19 5PA
7 Sept	Thursday 8.00pm	Romford	'Mock Honey Show' with Helen Kingsford. Chadwick Hall, Main Road, Gidea Park RM2 5EL
16 Sept	Saturday 2.30pm	Saffron Walden	'Taster Session for Prospective beginners' - Meadowfield, Thaxted Road, Wimbish CB10 2UY Enquiries info@swbka.org
18 Sept	Monday 7.30pm	Chelmsford	'Honey Show' - The Link, Rainsford Road, Chelmsford CM1
20 Sept	Wed 7.30pm	Dengie 100 & Maldon	Members meeting - Oak House, High Street, Maldon CM9 5PF
21 Sept	Thursday 7.30pm	Epping Forest	'Winter Preparation & Varroa Control' - Chingford Horticultural Hall.
24 Sept	Sunday 3.00pm	Braintree	Apiary Meeting - White Notley, CM8 1RN
27 Sept	Wed 7.30pm	Southend	'Fun Quiz Evening' - WI Hall, Bellingham Lane, Rayleigh, SS6 7ED
28 Sept	Thursday 7.30pm	Colchester	'Are you ready for winter?' - Langham Community Centre, School Rd CO4 5PA
5 =Oct	Thursday 8.00pm	Harlow	Kings Church, Red Willow, Harlow CM19 5PA
5 Oct	Thursday 8.00pm	Romford	'Plants & Bees' - Darren Lerigo. Chadwick Hall, Main Road, Gidea Park RM2 5EL
14 Oct	Saturday 6.00pm	Romford	Divisional Honey Show & Harvest Supper. Chadwick Hall, Main Road, Gidea Park RM2 5EL
16 Oct	Monday 7.30pm	Chelmsford	'Flow Hives and Top Bar Hives' - Rita Wilson and Peter Aldridge. The Link, Rainsford Road, Chelmsford CM1
19 Oct	Thursday 7.30pm	Epping Forest	'Practical Tips' - moving hives, etc. Chingford Horticultural Hall
21 Oct	Saturday 9.30am	County Event	Annual Conference - 'Future Challenges and Opportunities' Holiday Inn, Eight Ash Green, CO6 3QL
25 Oct	Wed 7.30pm	Southend	Divisional Honey Show - WI Hall, Bellingham Lane, Rayleigh, SS6 7ED
26 Oct	Thursday 7.30pm	Colchester	'Great Tilkey Honey' - talk by Michael Coe. Langham Community Centre, School Rd CO4 5PA
29 Oct	Sunday 2.00pm	Braintree	Divisional Honey Show - White Notley Village Hall, Main Road, White Notley CM8 1RH

Who's who and how to contact them

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Printed by Streamset, 12 Rose Way, Purdeys Industrial Estate, Rochford, Essex SS4 1LY

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ROBBING

Feeding your bees in the autumn after any honey flow has ended, is a prime time for robbing to start, so be on the lookout for the tell-tale signs as weaker colonies can be wiped out. Bees fighting outside a hive is an early sign and can be confirmed by the erratic and characteristic 'zig zag' flight of the robbers on approach to the target hive. Guard bees recognize this flight pattern and will be on high alert. They challenge and examine all entrants for a period of about 1-3 seconds by antennal contact to determine a nest mate from an intruder by their odour.

An intruder is usually mauled by the guard clamping onto a leg or a wing and curling the abdomen into a position enabling it to sting. A fight ensues and the robber is marked with 2 heptanone from the mandibular glands. Other guard bees recognize the alarm and raise their abdomen and sting chamber releasing a further alarm pheromone, isopentyl acetate. If unable to escape, the robber is stung and dies. If your sense of smell is good you will be able to smell the alarm pheromone which has a banana-like scent and if you smell this when examining the hive, be prepared for an attack, or close up the hive till a later date.

If a target colony is weak and succumbs to attack, silent robbing ensues. The colony continues to work normally, while at the same time robbers enter and leave the hive unhindered. The only tell tale sign now is the flight of the robbers returning directly to another hive. Also, robber bees leaving the robbed hive, fully laden, will have the rear legs forward as opposed to a bee leaving the hive on a forage flight, unladen, when the rear legs will be trailing. Eventually, the robbed colony will be devoid of stores, may abandon the hive or even die off.

Once robbing starts it is difficult to stop, so it is important to prevent it - robbing is often brought on by the actions of the beekeeper spilling sugar syrup on the floor, leaving brace comb in the apiary or leaving hives open longer than necessary.

Prevention measures include feeding your bees at dusk when flying has ceased to reduce any excitement and prevent the flying bees from leaving their hive to search for the food source, feeding all colonies at the same time and reducing the size of the entrances down to about 'four bees wide' or 10 mm so they can be more easily defended - especially important for nuc colonies.

Adapted. Lancashire & North West Beekeepers Association via ebees

EBKA 2017 Annual Conference

Hosted by Colchester Division

Saturday, 21ST October 2017, 9.30am – 4.30pm

Venue: Holiday Inn, Abbots Lane, Eight Ash Green, Colchester, CO6 3QL (just off the A12)

'Future Challenges and Opportunities'

Our theme reflects the challenging times for beekeepers, and our speakers will discuss various aspects of these challenges. The speakers will include:

Dr Martin Bencsik

Martin works in the School of Science and Technology at Nottingham Trent University, and conducts research into automated beehive condition monitoring.

Mr Norman Carreck

Norman, who is well known to many beekeepers, is Science Director at International Bee Research Association. IBRA. His talk will be on '*Science and the Thinking Beekeeper*'.

Margaret Ginman

Margaret is the General Secretary of the Bee Farmers Association, and will discuss the Apprentice Scheme, European Experiences

Send with your contact details to The Treasurer, Crabtrees, Paynes Lane, Little Bromley, Manningtree, Essex, CO11 2PJ



There will also be trade stands and an excellent raffle

The 86th National Honey Show

International classes and beekeepers' lecture convention

Thursday 26th - Saturday 28th October 2017

Great Saturday programme of lectures for beginners and those in early years of beekeeping, including spotting problems, dealing with the unexpected, thinking ahead and more

Sandown Park Racecourse, Esher, Surrey KT10 9AJ

www.honeyshow.co.uk

showseec@zbee.com

2017 programme includes lectures

by

Tom Seeley

Heather Mattila

Kim Flottum

Will Steynor

Peter Tomkins

Plus

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Spectacular display of competitive entries

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Honey Buckets

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Contact: David Tyler

Tel: **01279 730 228**

Email tylersbees@hotmail.co.uk



Saffron Walden BKA

with **BIBBA**

Bee Improvement and Bee Breeders Association

are organising

Bee Improvement for All

with **Roger Patterson**

Saturday 18 November 2017

9 am to 4.30 pm

Cost: £ 12.50 to include tea/coffee

'Bee Improvement For All' is a one day course that is designed to help beekeepers use opportunities to improve their bees, as well as giving information to those who wish to raise more queens. Some speakers and books don't serve the beekeeper with a few colonies very well, as they often use methods that are beyond the needs of the ordinary beekeeper. This course will help and encourage beekeepers of all abilities to improve their bees, using simple techniques without the need for specialist equipment.

There will be plenty of information on colony management, with emphasis on understanding what is happening inside colonies and keeping things simple. This course will help beekeepers to rear their own queens from good local stock that are survivors, rather than using imported queens that may introduce pests and diseases and may not suit our unpredictable climate.

Please bring your own lunch.

Booking and enquiries -

Swbka.info@gmail.com

**Sewards End
Village Hall,
Sewards End,
Saffron Walden
CB10 2LG**

The Greater Wax Moth

Each year, about 80 million tonnes of the plastic 'polyethylene' are produced around the world to make shopping bags and food packaging among other things, but it can take hundreds of years to decompose completely. Caterpillars of the Greater Wax Moth (*Galleria mellonella*) can make holes in a plastic bag in under an hour, but you would need an awful lot of them to make a significant dent on the plastic waste problem. One moth caterpillar gets through about two milligrams of plastic a day but the UK alone discards almost two million tonnes of plastic waste every year.



Dr Paolo Bombelli, a biochemist at the University of Cambridge and one of the researchers on the study told the BBC News "The wax moth caterpillar will be the starting point. We need to understand the details about how the process works. We hope it may provide a technical solution for minimising the problem of plastic waste."

Researchers want to speed up the process and discover the chemical secrets behind the natural degradation of plastic. They think microbes in the caterpillar, as well as the insect itself, might play a role in breaking down plastic. If the chemical process can be identified, it could lead to a solution to managing plastic waste in the environment.

Modified from BBC News & Somerton BKA via ebees

Candle making equipment including book, various wicks, thermometer and a selection of moulds/other items including silicone TS moulds (currently catalogued at over £80)



Freeman & Harding 1 lb honey jars, 1 gross with gold coloured metal lids, 1 gross with white plastic lids and 1 extra bag of white plastic lids - £50

15Kg Thornes Rectank with valve, 4 honey buckets with lids, stainless steel double slide honey strainer, 350+ granulation and mixed tamper evident labels - £30

**Janet Chipperfield - 0208 5176 118
(Dagenham)**



THE NATIONAL HONEY SHOW 2017

As usual I will take up all your exhibits to the National Honey Show pick up all prize money and prize cards and bring them back. We need to make an effort to support the Essex section to keep up with the other counties that have their own sections.

So why not enter some classes in the Essex and the same honey in the open classes - it does not take much more time to get 4 - 6 jars out of 1 batch. They have different judges for different classes so you can get different results depending on the amount of competition, and we all know Essex Honey is the Best.

Just send of your entry form in plenty of time so your labels can be sent to you, get your exhibits packed securely so that they don't move about to much they don't have to be individually packed. I need to get them out of the box easily, then get them over to me on:

TUESDAY 24th OCTOBER

at 44 Ascension Road, Chase Cross, Collier Row, Romford, RM5 3RT.

My phone number is **01708 765898** and I will get them to the venue first thing Wednesday, which allows you to visit the Show on any of the days without having to worry about your Exhibits.

The honey has started to flow in now, so look out for a good **FRAME** or different coloured honey and make a note of it for the show. Out of 250 classes you should find something you can enter. Not got a lot of honey - try a **PHOTO** or an **ESSAY** but read the show schedule for how and when to enter those classes - or even just a **LABEL** on an empty jar.

The schedule has been on-line since August (go to www.honeyshow.co.uk). Do read the rules, be a shame if you send a winning jar of honey only to be in the wrong class.

Any problems get in touch with me

Jim McNeill EBKA NHS Rep.

BEE - EATERS

Courtesy of Somerton BKA - via ebees

For those who didn't catch it on the News a week or so ago, European bee-eaters, which usually frequent southern Europe and North Africa, have been seen in a quarry in Nottinghamshire, where a total of seven birds have been spotted.

It is also believed that some have nested. It's a bit of a coup for bird-watchers, but slightly more worrying for beekeepers. As their name suggests, these birds have a preference for bees and other flying insects, which they catch in flight. You may have seen them while on holiday in warmer climes, where they sit on branches, or wires and wait for unsuspecting insects to pass by, before taking off and snapping them up in mid air. Stings are removed by beating or rubbing their prey on a hard surface.



A Brix measurement of sugar(s) content at the start of the process is equally as useful to the maker of mead from honey – with or without fruit juices or herbs and spices in the initial must. Indeed, measurement of the 'sweetness' of the liquor at any stage of the process is invaluable – particularly as a readings can be obtained from just one drop using a refractometer.

It is important to point out that neither a grape nor a mead 'must' is a solution of pure sucrose in pure water. Many additional compounds are present, but these are primarily other sugars (which behave very similarly to sucrose with respect to specific gravity as a function of concentration) or compounds which are present in small amounts; minerals, tannins and acids. In any case, even if °Bx are not representative of the exact amount of sugar in a must or fruit juice they can be used for comparison of relative sugar content.

Alcohol has a higher refractive index (1.361) than water (1.333). As a consequence, a refractometer measurement made on a sugar solution once fermentation has begun will result in a reading substantially higher than the actual solids content. Conversely, Brix measurements based on specific gravity are also affected by fermentation, but in the opposite direction; as ethanol is less dense than water, an ethanol/sugar/water solution gives a Brix reading which is artificially low.

All is not lost however, for fruit juices, 1.0 degree Brix is denoted as 1.0% sugar by mass and there is a good correlation throughout the scales range with perceived sweetness on tasting.

This is no less true when a Brix reading from a refractometer is used to differentiate between dry, medium and sweet meads. Standard grading glasses are used by show judges (and wise competitors) to separate light from medium from dark honeys; there would seem to be no reason why a Brix calibrated refractometer could not successfully and definitively replace 'human' mead class categorization with its attendant pitfall of subjectivity.

There is no finer arbiter of a 'good' mead than the human palate, but modern technology can help throughout the 'manufacturing' process and, indeed, in the selection of a show entry.

Acknowledgement: Wikipedia

*Thanks to Douglas Nethercleft,
Warwick BKA via e-bees.*



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THE REFRACTOMETER IN MEAD MAKING

Refractometers have, for some time, been used by beekeepers to measure the water content of their honey as an aid to determining its 'ripeness' and suitability for jarring and subsequent sale.

With different scales, refractometers can measure the 'Brix' and / or the specific gravity of a mead, all by means of a single drop of liquor on a glass 'window' held up to the light. No electricity or technical expertise required!

Degrees Brix is named after the 19th century Austrian scientist Adolf Brix, who invented a hydrometer that reads directly the percentage of sugar at a specified temperature. Those who have struggled with reading the various scales on floating glass hydrometers will be pleased that a simple alternative now exists.

Technical note: Dissolution of sucrose and other sugars in water, changes not only its specific gravity but its optical properties - in particular its refractive index and the extent to which it rotates the plane of linearly polarised light. °Bx is the most commonly used refractometer scale for measuring solids dissolved in water as it corresponds directly to the refractive index scale - one °Bx equals one percent.

Degrees Brix (symbol °Bx) is the sugar content of an aqueous solution. One degree Brix is 1 gram of sucrose in 100 grams of solution and represents the strength of the solution as a percentage by mass. A hand-held, relatively inexpensive (~£20), refractometer can measure this.

A relative density scale used in the winemaking industry, °Bx indicates the percent of sucrose by weight (grams per 100 millilitres of water) in the juice of unfermented grapes. Grapes will not be harvested until they are 'ready'.

In winemaking, the alcohol concentration of the finished wine is estimated to be 0.55 times the °Bx of the grape juice used at the outset / prior to fermentation.

VARROA MITES CHOOSE THE RIGHT HOST TO SUCK

The Varroa mite's lifecycle consists of two phases: one where they feed on adult bees, called the phoretic phase, and a reproductive phase that takes place within a sealed brood-comb cell, where the mites lay eggs on a developing bee larva.

The MSU-led study, published in the June 2016 issue of *Scientific Reports*, shows that the mites clearly prefer to infest adult bees at mid-age, or during the nurse phase of a bee's lifecycle when they take care of larvae, rather than during the younger (newly-emerged) or older (forager) phases of an adult bee. The study also found that the physiological type of a host bee had significant effects on the mite's reproductive fitness and success later on.

"Our study clearly demonstrated that Varroa mites preferred nurses over the older and younger bees," said Huang, (the study's lead author). "Further, we showed that feeding on different hosts gave them different reproductive outputs."

Mites chose bees in the nurse phase of their lifecycle – the nutritional prime of bee life - over their older and younger counterparts at significantly higher rates. Also, those which fed on nurses had the highest reproductive success rates and the lowest infertility rates.

Previous studies have shown that the mites choose their reproductive hosts, but Huang's study shows that they can go one step further: they correctly pick the most nutritious bees to suck haemolymph from.

Thanks to Ipswich & East Suffolk BKA

CONTROLLING VARROA.

The importance of controlling varroa populations especially in areas of relatively dense bee colonies was stressed by Dr Dennis van Engelsdorp at the BBKA Spring Convention earlier this year. He said.

'A sick colony explodes into the landscape and infiltrates surrounding apiaries'

He identified the three key risk factors to bee health as varroa mites and associated viruses; pesticides in the field and in the hive; and poor nutrition.

Of these varroa is the biggest threat – and he and a research student soon expect to publish a paper showing that varroa mites feed off the fat rather

than the haemolymph of honeybees – a factor that is of considerable importance for bees going into winter.

In a sample survey, he found that 56% of beekeepers had not used varroa-control products in the previous twelve months. For some hobbyists, not treating for varroa and losing, several colonies doesn't matter too much. However, the impact does not stop at their own apiary, as shown in another study, where he and his team marked bees in an apiary either yellow or blue. Yellow indicated that the colony was collapsing, blue that the colony was healthy.

The collapsing colonies duly died out, but their surviving yellow-marked bees exploded like a bomb in the landscape. Those yellow bees, (along with their varroa) were found in almost every apiary in a two-to-three-kilometre radius!

From: Peter L. Borst peterlborst@cornell.edu

WINTER FEED PRACTICALITIES.

For winter feeding the stronger the syrup - that is the more sugar per volume of syrup - the better it is. The maximum possible amount of sugar will then be provided for any given feeder, and the less excess water the bees will have to evaporate. The sugar used is white, granulated sugar; there is no discernible difference between cane and beet sugars.

The strongest practical strength is made up with the ratio of 2 Kg of sugar to 1 litre (1 Kg) of water. This will start to crystallize at 15° C (59° F) and so the sugar should remain in solution at ambient temperatures in September and also sitting in a feeder on top of a colony while the bees take it down into their combs for storage.

The widely quoted 2 Lbs of sugar to a pint of water is equivalent to 1.6Kg of sugar to 1 litre (1 Kg) of water, so is a significantly weaker strength. Some authors seem to believe that 2 Lbs of sugar per pint of water is the same as 2KG sugar to 1 litre of water, but it is not; it is a weaker mixture.

A straightforward way to make syrup to the recommended strength is to put 4 Kg sugar into a 10 litre bucket (the type normally used to store honey) and to pour on 2 litres of boiling water. If the sugar is in 1 or 2 Kg bags then weighing out the required amount is very easy. For larger amounts of sugar 25 Kg sacks (available from Booker for example) usually work out cheaper per Kg of sugar, but are a bit harder to manage without spilling sugar.

A large polythene kitchen jug can be used to measure out the boiling water. The average kitchen kettle heats less than 2 litres at a time, so either a second kettle or an alternative source of boiling water, such as a pan on a stove, is required.

The water should be poured onto the sugar in one go, and the sugar should be immediately stirred vigorously into the boiling water so as to get all the sugar exposed to the hottest water as soon as possible. A large, sturdy slotted kitchen spoon is an ideal stirrer, and vigorous stirring immediately after the water is poured on should result in a fully dissolved mixture within 5 or 6 minutes. After the first 30 seconds or so, break off from stirring to set up the next batch of boiling water, if required, so that it will be ready to use more or less when the previous batch of syrup is fully mixed.

4 kg of sugar mixed with 2 litres of water as described above will produce almost exactly 4.5 litres of syrup, which will effectively fill a "gallon" contact feeder, or will fill a small plastic contact feeder twice.

Addendum: Modern contact feeders are now manufactured from 5 litre buckets, although these will actually hold more like 6 litres. If you wish to take advantage of this additional space then a mixture of 5Kg of sugar to 2.5 litres of water made up as above should effectively fill a modern 5 litre contact feeder.

*Mike Rowbottom
Harrogate & Ripon BKA - via ebees*

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