

NHBKA February 2016 Newsletter



We had a good turnout for our first meeting of the year and our first at the Mrs. Howard Memorial Hall, a testament to the wonder of SatNav and Google Maps. It felt as though we had swarmed and relocated to a new home. Gary welcomed us all to the meeting. The evening's entertainment would look at the two main products of beekeeping; honey and beeswax. Once the responsibilities for tea and coffee were completed but before the first presentation of the evening, Gary took us through a couple of items of interest. There were items for sale; a Maisemore bee suit, a copper smoker, and a hive tool (I think all of these went during the refreshment break). There was also a honey extractor for sale from Dave Corbett of Barton-le-Clay, he is interested in purchasing overwintered nucs. If either of these is of interest, please contact Gary. Just to show that bees extend their influence into the Arts, Gary mentioned the sculpture by Wolfgang Buttress called The Hive, which achieved a Gold Medal at last year's Expo in Milan; the sculpture moves to Kew in June (<http://www.wolfgangbuttress.com/the-hive-at-kew/>). The sculpture formed part of the UK Pavilion and the soundscape for the exhibit was a piece of music called One, created from bee sounds in the hive. Apparently, bees buzz to C (presumably in the key of B Flat).

In the first part of the meeting before the break Gary took us through the various processes required to prepare wax for showing. At the National Honey Show there are more classes for wax than there are for honey. Gary gave us a few technical details to start with; wax becomes brittle below 18°C and pliable above 35°C to 40°C, with a melting point 64°C as Icarus found out to his cost, and has a stable chemical structure that doesn't alter appreciably over time. The uses of beeswax are extensive from church candles for their slow and clean burn, to the 'lost wax' method used in casting. Wax is expensive for the bees to make, using between 6 – 8lbs of honey for 1lb of beeswax, a good reason to collect wax for reprocessing as part of your beekeeping routine, from old frames and comb, scrapings during manipulations, and solidified supers, but remember to keep cappings separate. Before starting to process the wax, drain off as much honey as possible, and rinse in rain water, and then dry. Store the dried wax in an air-tight plastic bag and keep in the freezer for 24hrs to kill of any wax moth eggs and larvae. Gary described a practical solar extractor that is free and produces nice clean wax, and also a steam extractor that is faster and can be used at night and during the winter, one of those items on your list of New Year's resolutions. A precaution not to use tap water as it contains minerals and salts that will affect the wax, and that wax gets everywhere so cover the worktops and floor, and no wax down the sink!

The first process in our journey towards show standard wax involves washing the wax in rainwater, then melting it in rainwater in an enamel pan, removing as much debris as possible with a sieve. The maximum water temperature is 80°C. Leave the wax to cool and remove the wax tablet, washing in rainwater, drying and storing in a plastic bag. (I'm getting a feeling that my single water butt is woefully inadequate). The second process involves filtering the wax through a cloth disc over a Bain Marie in the oven, keeping the oven very low at 80-85°C. After 2 – 3 hours making sure the wax melts slowly and the Bain Marie doesn't boil, the clean wax can be poured into moulds for storage. This wax is clean enough for foundation, wax exchange or moulds, but not clean enough for candles. For candles and showing, the wax must be filtered at least twice in the oven, using a fresh cloth filter each time. The wax from the filter cloths can be recovered and refiltered. Store your purified wax in resealable plastic bags in a box at normal room temperature. Judges are looking for wax with a golden primrose colour. Good luck!

Following the break, Chris Mercer spoke about honey and the processes we use to produce different types of honey. Foraging bees collect nectar in their honey stomach and return to the colony where the nectar is passed to house bees that use digestive enzymes to change the primary sugar, sucrose, into simple sugars, glucose and fructose. The water content is further reduced by evaporation until it is less than 20%. When it is sealed, honey will be 18% water, 35% glucose, 40% fructose, and 4% other sugars. The remaining 3% being enzymes, vitamins, organic acids, amino-acids, minerals, and proteins from pollen among other things! Honey is hygroscopic which means that it will absorb water from its surrounding environment, so it must be stored in sealed containers. Fresh honey is a supersaturated liquid, in that it contains more sugar than the water can dissolve and hence it is unstable and will crystallize. The glucose in the honey is less soluble than other sugars so crystallizes first and brings the honey back to a more stable saturated state. Some honey with a high percentage of glucose, such as rape or brassica, will granulate

rapidly, whereas honey with a low percentage of glucose, such as robinia or chestnut, rarely crystallizes, if at all. The viscosity is the property which describes how well it flows; the higher the viscosity the more slowly it flows, i.e. the 'thicker' it is. Some honeys have unusual viscous properties. Honey from heather or manuka is thixotropic and will liquefy if stirred. At 32°C honey crystals stop growing and dissolve into a solution, so at lower temperatures supersaturation increases. At 13 °C, there is rapid crystallization that produces the finest crystals.

Two properties of honey are used to monitor the amount of heat it has been subjected to and the length of time it has been stored. Diastase is an enzyme that breaks down starch and is degraded by heat and natural breakdown over time. It is measurable and expressed as a number. The Honey Regs stipulate that the Diastase number must not be less than 8. HMF (or HydroxyMethylFurfuraldehyde – surely an answer in the April quiz!) is produced when sugars degrade in the presence of acids and it occurs with the ageing of honey and increases with heating. The Honey Regs stipulate that the HMF content must not be more than 40mg/kg.

Honey fermentation occurs when the yeast reacts with the sugars but does not occur if the water content is less than 20%. Fermented honey has a sour flavour and unpleasant aroma with streaks appearing at the side of the jar and air bubbles on the surface.

Chris described a couple of honeys that required further processing after extraction. Soft set honey is made using fine strained honey; the honey is left to granulate at 14°C, then only the honey with a fine grain is selected. Reheat to 32°C for 24 – 36 hours and pour into a clean settling tank for a few hours then stir. Stirring breaks up the formation of sugar crystals and gives a smooth creamy honey. To make seeded honey, heat the honey to 32°C and pour into a settling tank. Warm the seed honey (previously made creamed/soft set honey) but do not dissolve the crystals. Mix together the fluid honey and seed honey in the ratio 4:1, and then allow to stand for 24 hours. Jar the honey and leave to granulate at 14°C, then after granulation, store at a low temperature.

Thanks to Gary and Chris for a very informative evening.

Gary asked for volunteers to help clear the new allotment site off Flint Road. He also asked for volunteers to do a short talk at an evening meeting if anyone had an area of interest to other members. The flower beds on Cambridge Road will be reseeded with seed from Flower Scapes, our small step in the River of Flowers project to sow corridors of wildflowers throughout London and beyond.

A few events for your diaries –

- Herts County Show on 28th/29th May, volunteers needed for the Friday set up (27th) and over the weekend, complementary tickets available, contact Anne Harvey, tigerpaws14@btinternet.com
- Herts Healthy Bee Day, 28th May, organised by S E Herts. This is a free event and North Herts have been allocated 7 places, contact Gary if you are interested, chairman@nhbka.org.uk
- BBKA Spring Convention, 8th – 10th April, at Harper Adams University
- Herts County AGM and Honey Show, 2nd April in Welwyn

There are still places on the following courses being run by Welwyn BKA

- 2016 Swarm Collection Course, 30th March
- 2016 Basic Assessment Preparation Course, dates TBA

Details of all the events are on the web site nhbka.org.uk

The next indoor meeting is our AGM and Honey Show, together with the regular Bring and Buy stall. The following positions will become vacant on the committee if you are interested

- Chairman
- Treasurer
- Swarm Coordinator
- Vice-Chairman

Our AGM and Honey Show is on **Tuesday, 22nd March 2016, 7:30 pm**, at Mrs Howard Memorial Hall