



# South Tipperary Beekeepers Association



## Newsletter September 2015

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### EDITORIAL

**EDITORIAL:** Our season of 2015 is now well over and right now we need to focus on what is important for NEXT YEAR. No point in dwelling on those mistakes, hopefully you have learnt something from it. Overall I suppose we have to say it was a reasonable year. Disappointing from what we thought we were going to achieve in early July when we were looking at the makings of a bumper year. Beekeeping is so weather dependent, that is just how nature works - we have good and bad all mixed up. We as beekeepers need to exploit the good and maximise our crop every year. You do that by understanding all the different aspects of beekeeping. Listen to the experts at our lectures, study groups or why not come along and tell us what you did right or wrong, we can all learn from one another. This edition of our newsletter focuses on the autumn activities. Top of your list should be the honey show. Last year we had the best show ever and we hope to go one step further this year. Please support our new honey show kids Eamon and Mary Hayes.

### Varroa Treatment

Hopefully everyone is well on their way to treating for varroa. The 3 choices available are: Apiguard, MAQS and Bayvarol. All 3 were trialled in South Tipp last autumn. During our study group we did a survey where several beekeepers monitored daily mite drop. Apiguard was the most consistent and obviously worked the best. The MAQS was a disaster with several very high counts detected at Christmas. Bayvarol did work well, however we need to be mindful that the resistant mite must be in our area now. The best way of detecting mite levels is to monitor constantly using OMF and insert. Whichever treatment you choose just check for its efficiency and continue to monitor every few weeks.

**Apiary Update:** We are now at the end of year two in our three year plan to upgrade our apiary. This year we achieved a lot. The apiary was extended, the new shed installed and several pieces of important equipment were purchased. Some planting is completed and a wild garden was started. Our early demonstrations were hampered by the rain and we had to cancel a few. We had one demo on a Saturday afternoon both Paul O'Sullivan and Cathal McGrath were in attendance selling equipment. We had several different themes this year as well as colony inspection and destruction of queen cells, we completed a Vince Cooke, grafting and we now have a few queens in apides. Hopefully by this time next year we will have an apiary we are all proud of. Thanks to the hard working committee and lecturers who made all this happen.

### How to determine if a hive is Queenless . . . Irene Power

When a beekeeper looks at their hive they are often puzzled as to whether it has a queen or not especially if there is no unsealed brood. If the hive is queenless and the situation is not remedied quickly other major problems can develop.

Under normal conditions and with the correct age brood a hive will draw down cells and replace the queen. If the bees do not have these conditions the beekeeper can remedy the situation by adding a queen. However before this is carried out it must be confirmed that the hive has not got a queen either an unatched, virgin or mated queen which may not be laying. Certain tell-tale signs should be confirmed. Open brood will give an indication that there was a queen in the hive in the last eight days. The presence of eggs indicate that the queen is probably there. If there is no open brood check the following by inspecting the brood combs;

- If honey and pollen storage is haphazard and all over the frames it indicates that the colony is not preparing for a laying queen. Bees always leave the centre of the frames for the queen
- Check to see if the bottom of brood cells are shiny, if YES — bees are probably getting ready for the queen to lay.
- Queenless bees can give a long "different" buzz when the hive is open and they can be more aggressive.

To confirm your suspicion insert a test frame, i.e. a frame of open brood ranging from eggs to near sealing. Inspect the colony four days later and if it is queenless, queen cells will be started. Select an open well-nourished cell. Alternatively break down all cells and introduce a select queen preferably laying but could be a mature cell or virgin. Follow procedure to have best chance of acceptance

### Drone laying queens and laying workers . . . . Irene Power

From my experience of teaching the limerick BKA beginners for the last number of years I always find a few inexperienced beekeepers who end up with either a drone laying queen or worse still laying workers. Indeed most well-seasoned beekeepers will see the problem most years.

Both of the above conditions are recognised by the large drone cappings raised on the worker cells. The presence of dwarf size drones are a further indication. It is not always easy to distinguish between either condition. The drone laying queen is usually obvious by its orderly laying pattern. Also she lays only one egg in each cell. Visual signs include:

- Worker cells with raised cappings
- Presence of a queen
- Small and abnormal stunted drones

A drone laying queen caused by not being mated will result in all raised cappings. A drone laying queen caused by running out of sperm or due to other malfunctions will start with the occasional raised cappings in the worker brood and then increasing in time as her condition worsens. Egg laying will be in the expected orderly concentric circle format. Bee keepers who examine their hives on a regular basis should detect this condition as it develops and take appropriate action.

Bees may also take the necessary action and replace their queen if conditions are conducive. Such conditions exist during the main active months namely May – Sept where a hive has adequate bees, forage and either eggs or larvae to raise a new queen. However outside this period as in winter or early spring such conditions do not exist and the colony cannot remedy the situation. So when beekeepers open their hives for first inspection it can be at an advanced state of drone layers. Firstly determine if it is a drone laying queen or laying workers. The following will be seen if laying workers are present.

- Worker cells with raised cappings
- Small and abnormal stunted drones
- Laying pattern is scattered and haphazard
- Attempt to build charged queen cells usually abnormally narrow and long
- Often several eggs in the one cell and often on the walls of the cell rather than the bottom.
- Colony can be aggressive and have a distinct buzz when crown board is lifted.

There are several remedies depending on the situation. A drone laying queen during the active season can be replaced by finding and removing the queen, leave for 1 week , break down any attempted queen cells and introduce a laying queen. The overall strength of the colony should be considered. A drone laying queen can be removed and the colony united by the newspaper method. Disease control needs to be considered.

If the colony is small with a much reduced number of workers and mostly drone the option of destroying the colony may be the preferred course of action. Colonies with laying workers are doomed and cannot be rectified. Only option is to destroy. Trying to introduce brood or queen is a complete waste of valuable resources that could be utilised with another else. The laying workers will kill the introduced queen. The brood combs will also need to be replaced. Uniting with another colony could result in the colony killing the queen in the queen right hive thereby resulting in two queenless colonies.

### Summary

Drone laying queen: Find queen and remove, assess strength of colony and disease status and take appropriate action, re-queen, unite or destroy.

Laying workers: Destroy colony

### Furniture Polishing with Bees Wax and Shellac . . . . C Robinson.

Bees wax is one of the true waxes which is secreted by the four pairs of wax glands on the underside of the abdomen of worker bees, which are about 2 weeks old. It is reckoned that bees consume between 3 and 4 Kilos of honey to produce 0.5 Kilo of wax depending on colony strength and available forage. The demand for beeswax in the Industrial countries is more than double the supply consequently it has to be imported from South America, Africa, China and the West Indies.

Most of the furniture waxes to-day have added extenders such as japan wax, carnauba wax, paraffin and other vegetable waxes; some of these make for easier application, but nothing nourishes wood better than pure beeswax polish.

A really good semi-liquid beeswax polish can be made very simply by stirring in 15 grams of shredded beeswax into 250 millilitres of pure turpentine, allowing 8 – to 10 hours to dissolve, stir occasionally.

Shellac a very valuable wax is produced under similar circumstances by another insect the Lac insect in the sub tropics; it is a much harder substance and requires considerable manual skill in application as a furniture polish. This wax is soluble only in methylated spirits 115 – 140 grams to 470 millilitres of methylated spirit, leave for 8 to 10 hours stirring occasionally. This mixture is universally known as French polish.

The art of French Polishing was one of the great trade secrets of the ages, handed down from Father to Son under sworn secrecy.

It reached Paris in the reign of Louis 14 from China where it had been practised for countless centuries. Louis 14<sup>th</sup> one of the Bourbon Kings of France established a royal workshop in Gobberia outside Paris where hundreds of highly skilled craftsmen were employed in making works of art for Royal patrons. Much of this work can still be seen today in the Palace of Versailles, the Hapsburg Palace in Vienna and the Romanov Palace on St. Petersburg the seat of the then Tsars of Russia. In fact all the Monarchs of the time patronised the Gobelins workshop.

The Martin Brothers eventually arrived in England with the newly acquired art, described as the Martin Process; it gradually spread to all the larger Cities in the British Isles.

In the mid 1940's a high speed mass production furniture finish evolved – Cellulose-Lacquer which entirely superseded the Beeswax and Shellac finish.

Today it can be truly described as a lost art to be re-discovered and perhaps revived by some future generation. It was this combination of both waxes over a number of years that produced that beautiful patina the connoisseur associated with fine furniture.

Few people to-day would realise that the old heirloom they inherited or discovered in an antique shop were polished with the products of these two insect the lac insect and our honey bee.

*Note from Editor: The above article came from a photo copy of a hand written script which my mam had. God knows where she got it, a collector of bits and pieces. I have now found out from Dennis Ryan that this is from a Charlie Robinson, a well-known French polisher from Co. Cavan. Charlie gave several lectures in Gormanston. Sadly he passed away a few years ago. Dennis's recipe is 4 ozs of bees wax to a half pint of Turpentine. Whichever one you try send it into our honey show and listen to what the experts have to say.*

### HONEY TIPS BY JUDGE JIM !

#### Quick guide -The Honey House Essential for Bottling

- Sink & Wash Hand Basin with hot and cold running water.
- Tiled Floor, Concrete floor paint, Stainless Steel, Taraza, Corners must be rounded.
- High standard of hygiene and cleanliness
- Ideal Heating cabinet is one with a fan.
- Ripener or settling tank with honey valve (food grade bucket)
- Nylon organza straining cloth, 500/200 micron
- Clean jars & Lids
- Use Federation & attractive label

#### Quick guide - Heating & Straining Honey

- Use oldest honey first
  - Place a Bucket of honey in heating cabinet at a temperature of 42 deg. C for 48 hours
  - Remove air scum & wax from top of honey to prevent strainer from clogging
  - Secure Nylon organza on settling tank
  - Strain honey and return to heating cabinet for several 24 hours
- Ten tips for Entering for Shows**
- Read the schedule for thoroughly
  - Select your honey by colour before extracting
  - Check by aroma
  - Check for uniformity
  - Check weight
  - Examine with a strong light for foreign bodies
  - Examine for presentation
  - Check for viscosity
  - Check for bubbles and scum
  - Select by taste

### THE MAKE-UP OF OUR HONEY

Honey is a natural product collected by the bees in the form of nectar, which is a sugary solution. Honey contains many different sugars but the main constituents are as follows:

Glucose	35%
Fructose	40%
Other sugars	4%
Other substances	3%
Water	18%

The 3% of other substances include a vast array of different ingredients: organic and amino acids, minerals, proteins, and plant essential oils. It is this 3% that gives each type of honey its own particular flavour.

The best flavour of honey is sweetness due to the large amount of sugar in solution. The flavour is also enriched by the essential oils of the plant including the substances which provide their scent and colour. It is possible to get the scent of a particular plant from its honey. It is very important that these essential oils are preserved in the honey. Uncapping, extracting and heating all result in the loss of some of these oils. This is why the comb honey flavour is so sought after by many honey conours. Consider yourself very lucky as a beekeeper you can taste honey at its very best by taking those pieces of comb straight from the hive and into your mouth where you can still sense the temperature and all those beautiful aromas. Now that's one very good reason to keep bees.

The colour of your honey is also plant dependant. Some honey can be almost water like in colour - clover, where as others are almost black – knapweed

The water content is a property of honey that must not be neglected as it will determine the shelf life of your product. Water content can vary from some honey type to the next. It can be measured by using a refractometer but the best method is only to remove combs that are sealed. High water content in the honey will cause fermentation.

Sometimes a good quality honey can ferment if stored badly and allowing it to absorbed water. Honey is hygroscopic which means it will absorb moisture from the air. It is essential that all honey is stored in an air tight container, a food grade plastic bucket with a snap on lid is essential. Always fill the bucket to the top to exclude any air.

If you are a beekeeper with only a few hives you have a great advantage over the big producer. You can wait until all the combs are sealed. When extracting you can take your time and no need to go at excess speed on the extractor. When you are heating the honey you do not have to heat to the same temp as your shelf life does not have to be as long. If you are selling from the door you do not have time to explain to customers why there might be a crystal or two in the honey jar. Don't forget to tell them about pollen and how important it is. This honey will be a better flavour, especially if you sell it before it crystallises. Another option is to sell the comb either as sections or cut comb.

As a small time "artisan" product you are entitled to charge a little extra.

### BOOK REVIEW by Tom Prendergast

#### "THE BEE GARDEN" BY MAUREEN LITTLE

Did you know that words that end in ...cide come from the latin word "Cedere" which means "To kill". This is where we get words like insecticide and herbicide. The herb marjoram produces nectar 79% sugar. These are just two facts I recently learnt from a beautiful book "The Bee Garden" written by Maureen Little. Not only is it a "Bee book" with great facts about the anatomy of the bee with emphasis on those parts needed for the collection of nectar and pollen, but also how the bee finds and travels to the flowers. It is packed with facts about the plants, shrubs and trees that yield nectar and pollen. Most beekeepers are also avid gardeners so a very interesting section gives details on how to propagate certain species not only by seed but also the other traditional methods such as cuttings and division. There are some great illustrations and the reading is easy on the eye and brain. We should all be doing a great deal more for our bees and other insect life which also gets a mention in the book. Start this year and get into bee friendly gardening. Apart from the benefit to the bees it also allows the beekeeper a chance to study them collecting nectar and pollen in the garden. Always have the camera handy. The author Maureen Little is a professional garden designer and a beekeeper. Reading her book you will appreciate that she has a great knowledge and understanding of both subjects and how they interdepend on one another. Buy the book now you won't regret it. Go on treat yourself you deserve it.....

### STUDY GROUP UPDATE

We ran a very successful study group this year. Congrats to all who participated and as usual we had great success in the exams at both Intermediate and Senior level. All this new found skill needs to be applied in the apiary to improve your yields. Many thanks to Dennis and Redmond for giving the lectures.

### BITS OF THE BEE - LEGS

Bees have six legs all having a range of specialised functions. There are similarities between the legs and the different castes, but the hind legs of the workers do contain a number of different specialised parts. The legs are made up of a series of segments, joined to one another by a flexible membrane.

Movement is by muscular activity. There are nine sections to each leg, only the first four contain muscles. All the legs are attached to the thorax, the forelegs are to the front, just behind the neck. The movement with this leg allows it to reach the whole head, including the proboscis and antennae. Between the three parts of the entire surface of the bee can be swept, which is essential to gather the pollen that has adhered to the plumose hairs. The bee transfers the pollen from leg to leg to reach the pollen baskets.

The feet of all three castes are equipped with two walking methods for gripping surfaces. Each foot had two pairs of claws and also a soft pad which can be used while alternative on hard shiny surfaces such as glass.

The front leg has several distinct functions. Apart from standing and walking it is used to brush the pollen, manipulate wax. It also brush the length of the antennae using a specialised structure\* at the joint between the tibia and the basitarsus\* a circular notch lined with hair and a spur on the tibia.

The middle leg is joined to the thorax behind the main bulge in the lower thorax caused by the indirect flight muscles. Its main function is to brush pollen from the back and underside of the thorax and to receive pollen passed backwards by the front legs. This is received onto the broad inner surface of the basitarsus. There is a single spine on the tibia of all three castes which has no known use. The middle legs knock off the pollen load into the cell from the forager.

The back legs of the worker have a very important function in the transport of pollen. Both the queen and the drone share a similar structure but do not carry pollen.

The leg parts involved include the basitarsus, its joint with the tibia and the outer surface of the tibia. The tibia is triangular in shape, flattened and slightly hollowed on its outer surface. A series of long hairs stretch across this surface to provide an external covering for the pollen paker.

Pollen is swept from the head of the bee by the fore legs, which is then passed to the middle leg and gathered on the basitarsi. To pass the pollen to the back legs there are specialised rows of bristles on the inner surfaces of the basitarsi known as the pollen brushes or combs, consisting of nine rows of bristles, which all point downwards.

The two back legs are held in such a way that the two internal surface of the basitarsi are facing each other and then the flattened basitarsi of each middle leg is pulled through the rows of backward-pointing bristles which brush off the pollen catching it between the bristles.

Nectar is added to the pollen to create a tack to cause it to clump together. To collect the pollen into the basitarsi of the back legs are moved up and down against each other. On the lower edge of the tibia is a row of bristles pointing down at an angle which are known as the rastellum or pollen rake. As the basitarsus of the opposite leg is pulled upwards past the rastellum the pollen is raked off and forced into the gap between the tibia and basitarsus where it is compressed by the action of the muscles within the tibia pulling up on the basitarsus. This mechanism is known as the pollen press or auricle. The squeezing action drives the pollen paste through to the outside of the leg where a row of retaining hairs forces it to move upwards on the outer surface of the tibia where it is retained by long curved hairs known as the corbiculum. The stickiness of the nectar and these hairs hold the pollen in place. As the pollen is gathered and passed through, a pellet builds up which occupies the outer surface of the slightly concave tibia. Back in the hive the pellet of pollen is off loaded using the middle leg.

The queen does have glands on her feet which distribute pheromones from the arnhant glands. These are associated with the start of queen cup production which the queen cannot walk due to a crowded hive.

The drone uses its legs to grasp the queen during mating. He wraps his legs around her when mating.

### PARTICULARLY INTERESTING STATISTICS COME FROM OKLAHOMA.

*This article was taken from Sacramento Area Beekeepers Association Newsletter September 2013. Dennis and I met Howard Mann while he was on vacation in Ireland a few year ago. It just shows you the scale of beekeeping outside our little green isle. It mentions a Jim Powers and I wonder is he related to our Jim!*

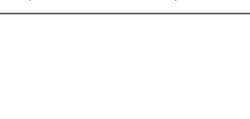
The state had 60,000 colonies of bees in 1978; 10,000 in 1988; 3,000 today. Over those 35 years, agriculture was flipped on its head in that state. Oklahoma's small farmers were gobbled up like turkey feed. Fewer farm families, fewer bees on family farms. This has been repeated throughout the industrialized world - Germany, France, Canada, Japan, and of course, the USA. Meanwhile, the average number of colonies operated by the few remaining beekeepers has increased, but not enough to fully replace the diminished numbers. Many years ago, it was common for 100-time farmers to handle no more than six colonies. In the 1950s, only two or three outfits in the world operated 10,000 hives (I can think of Mexico's Miel Carlota and America's Jim Powers and perhaps the Miller family.) When I immigrated to Canada (around 1975), the biggest

Canadian bee holding (3,000 hives) was controlled by Homer Park who hauled packages up to the Peace River country from California. Today, there are a dozen Canadian beekeepers with at least 5,000 packages each. Not far from my home, there are two beekeepers with over 10,000 colonies each. My province of Alberta has seen a huge consolidation in beekeeping. In 1950, Alberta's 4200 beekeepers held an average of 12 hives each. Today, there are only 800 beekeepers, but each operates an average of 353 hives. By the way, with 282,000 colonies of bees, Alberta now has about 50,000 more colonies than the province had when Colony Collapse Disorder was first in the news ten years ago. Economics has increased colony count here while decreasing it in places like Oklahoma.

### STUDY GROUPS FOR THIS WINTER

This year if we start the study groups we will be concentrating on the scientific aspects of the bee. It is an important subject if you really want to understand all the pieces of this great insect. A major part of the course is the anatomy of the bee where you study all those bits and pieces both internally and externally. Other topics covered are the diseases, honey composition, plant life. All very interesting stuff. If you are interested in joining our group please let me know as quickly as possible as we need to book the room and organise our lecturers. Just to give you an idea as to some of the topics we will be covering I have included an article on "Bits of the bee"

**Essay Competition:** Every year the National honey show has an essay competition. The title of the essay was "How would you advise a new beekeeper to improve now that they have experience of their first year in beekeeping?" This year the winner was our own Irene Power. Well done to her. Eleanor Attridge from Cork and an associate member of STBA came second and Tom Prendergast came third. Tom was beaten by two able bodied Queens. Well done girls. It just shows that the Kilkenny cat doesn't always get the cream. We hope to print Irene's article in our Spring edition when it will be more relevant to beekeeping activities



**EVENTS UPDATE:**  
**FETHARD WALL FESTIVAL**  
**TIVAL**  
David O'Meara had a demonstration hive at the Fethard Wall Festival in July and once again it proved a great success with David giving all comers his vast knowledge of beekeeping.

**EVENTS UPDATE: CLONMEL HORSE SHOW**  
The Clonmel Horse Show held its 150th. show in July and the STBA had a stand manned by Paul Lonergan, Martin Nolan and Tony O'Gorman, Huge numbers attended and it proved to be one of the biggest they ever had.  
As part of the STBA stand we had a tasting of Ivy, Heather and run honey, this proved a great success and all honey sold out before the show ended, Martin brought the Ivy honey, John Corbett the heather and Paul the run. The observation hive was a winner with the kids and finding the queen was the main aim. Martin ran a competition for all kids attending and it went very well with honey as the prize. Remember our Honey Show and keep that special Honey for Sept.