



# South Tipperary Beekeepers Association

## Newsletter

### September

### 2014



◊ Editorial	◊ A little bit of science—the Alimentary Canal
◊ Kilsheelan Tidy Towns	◊ Review of the 2014 season
◊ AFB—serious bee larva disease	◊ Honey for Show & Sale
◊ Bee Biz @ STBA	◊ Education and Exam update
◊ Life cycle of Bees	◊ Clonmel Honey Show Sept 2014

#### EDITORIAL

**Editorial:** Greeting to all. Another year is almost at an end in the beekeeper's calendar I think all should have got a crop of honey. Years like this would make beekeeping worth-while. We deserve a good reward after a hard season's work. Have a look at our comments from various beekeepers across the county. As usual we have several articles for you to study. Don't forget to fill in that entry form for the honey show, no excuses this year. Find out what the association was doing all year and what is planned for the winter. If you want to comment on the content or better still submit an article please contact us.

#### KILSHEELAN TIDY TOWNS GETS INTO BUTTERFLIES & BEES -MARTIN NOLAN

Kilsheelan village is located in a picturesque setting on the bank of the river along the Suir valley between Clonmel and Carrick on Suir. Kilsheelan has a history of success in the Tidy Towns Competition, having won the national award in 1973 and again in 1979. 40 years ago the village was a small compact village with a population of less than 250 people. Today, although the village is about 1500 people and has housing estates and is much developed, the amenity of the river is still as good as ever. The village continues to perform well in the competition however and Monday night is work night and a large community effort is visible every Monday night, out in force keeping the lawns, the flowers beds, tidying up trees and debris and litter and putting a great shape on the appearance of all the natural features and attractions in the village.

Last Year the Tidy Towns Committee embarked on an ambitious plan to cultivate and develop the appreciation of biodiversity in the community. One of the projects involves development of a butterfly garden on a site beside the River Suir.

The site is challenging having been the site of the now defunct village septic tank. The tank juts up into the air and much of the stone walling bounding the site had collapsed over time. The site was also overgrown and many perennial deep rooted weeds docks nettles bindweed etc. have had to be removed. A lot of advice was taken and the new butterfly garden is well underway and due for completion in the spring of this year.

A lot of the work has been done through the CE scheme and Simon Molloy is supervisor and is directing the operations. The tank is being camouflaged as a "River Barge" with a very well designed and built stone hull and willow wicker latticed sides along the "barge". Much stonework and willow latticing are being used to create very pleasant spaces and a seating area. Once planted up the site will present wild flowers herbs and vegetation where the butterflies and the passers-by can both enjoy the amenity of the river bank.

I was asked if I could locate some bees in a special walled enclosure within the site. Initially I had concerns that bees near an area where the public had access might not be such a good idea. I was concerned that every sting received in Kilsheelan area whether from wasp or insect or bee would be attributed to my bees. However then, when I looked at the area in detail I could see that it is possible to keep the bees within an enclosure and away from the public areas. Of course I will have to work with the bees early in the morning to avoid buzzing bees when people are around. I will need docile bees. Micheal Mac Giola Coda, who himself has a long association with Kilsheelan having lived there in his early working life, came to my rescue and offered a docile Galtee Black Queen for my hive. So with that I can't go wrong then can I? Many thanks Michael.

Then I had to think about a hive for the site. None of my own home made hives would really be good enough for such public exposure. Donegal Bees have a very nice looking beehive set up for producing section honey so I procured a new hive at Gormanstown in July, and then my wife decorated the hive with bee and flower motifs. The hive was on show at the South Tipperary Beekeepers Honey Show in Clonmel at the end of September last. I am ready now to establish the hive in April this year in the butterfly garden.

Well not quite ready, you see the site floods when the river overflows its banks. It would not be good beekeeping to see the hive floating away down the river in a flood. Neither would it be good to have to rescue and move the hive every time a major flood is forecast. Anyway with some advice and some local observation of flood levels under my belt I have set a height above which I expect the hive to remain dry even in a severe flood. The hive stand will have to be well anchored of course and the hive will need to be secured to the stand.

The Tidy Towns Committee plan to cultivate local interest in the butterfly garden by holding one or two open afternoons with talk's walks and demonstrations on site. It may be possible to set up the transparent mobile demonstration hive for one or more of these open afternoons. We are now considering signage for the site which will I hope include telling the story of bees and beekeeping. The butterfly garden will be amazing when completed. Hopefully everything will go well for the beekeeper. Hopefully Michael's Queen will produce the calmest colony of native black bees imaginable. I now look forward to some fine summer weather and then for sure the Tidy Towns will have section honey to present as prizes at the annual Tidy Towns Bar B Q. Come along during the summer and see it all for yourself. You will enjoy the amenity of the river bank, just pull in at the lay bye walk down the steps under the bridge and along the toe path for a couple of hundred metres and the "Barge" will catch your eye, consider a picnic in the garden and enjoy.

#### AFB - A SERIOUS DISEASE OF THE LARVAE. IRENE POWER

There are many diseases that affect our bees both at the larvae and adult stage. It is very important that the beekeeper is aware of all of them and has the ability to identify the more common ones at an early stage. If a disease can be identified before it spreads the control and end results are completely different from a late detection.

American foul brood or AFB is the most serious disease and also the most contagious. It affects the larvae only and is subject to statutory control. All beekeepers should ensure that his/her bees are kept in a healthy state. All colonies are at risk of contracting AFB. If an outbreak occurs and is not detected in the early stages the infection will spread from colony to colony and indeed from one apiary to the next. But if identified early it can be controlled with minimum loss. Good beekeeping practices will serve well in controlling or avoiding this disease. Always check the health of your bees, allowing two inspections every year specifically for identifying disease. Make sure you are familiar with the signs of the disease.

Maintain all apiaries to a high standard, avoiding damp cold frost pockets, drifting or robbing. Vigorous colonies and well-built hives should be maintained, replacing queens regularly. Feed whenever and whatever, hungry colonies are under stress and susceptible to disease. A good understanding of the causes and signs of AFB is essential. Check all colonies in both spring and autumn specifically for brood diseases, however never neglect suspect cells during routine management. Never transfer combs between colonies unless you are sure they are disease free.

Avoid buying second hand equipment that doesn't contain bees, remember spores can live on the timber for 20 years. Sterilise all with a blow torch, but burn all combs and frames. Do not feed honey to bees, as it may contain AFB spores. Avoid drifting and robbing as they are a source of spreading the disease. If a colony does die out, close the entrance to prevent robber bees entering. Try to identify why the bees died. If AFB is suspected send away combs for examination. Under performing colonies should always be treated as suspect. Try to identify the reason for slow build up.

Replace at least 4-6 combs in the brood bees every year. A more thorough plan would be to replace all combs together including the spare count. Swarms may be carrying AFB spores in the honey in their crop. Hive on foundation and isolate from the other hives, check regularly for disease as they build up.

#### Spread

The spread of AFB when established in a colony is mostly outside the influence of the beekeeper. However the beekeeper is the main spreading agent of the disease from hive to hive and indeed from apiary to apiary. If any part of the hive or product be it combs, honey or equipment is transferred from an AFB infected hive to a healthy colony that colony will now be infected. As the infected colony becomes weak, healthy colonies will rob out its honey and they in turn will become infected. Swarms can carry the spores and infect the hive as they establish.

#### Control

AFB is a noticeable disease. If you suspect a colony send the complete frame for examination wrapping it in newspaper and not plastics. Include all details. Control is by destruction of infected colony where the bees are killed and the entire hive and content is burned.

#### Diagnosis

AFB usually affects sealed broods only. All looks ok before sealing. Wax cappings takes on a wet greasy look which becomes sunken and darker in colour eventually perforated as the bees open them to remove the infected dead larvae.

This usually starts with one or a few cells only. Eventually full frames will be affected as the brood takes on "patchy" appearances with several missed on the comb. At the sunken capping stage the consistency of the dead larvae is slimy with a light to dark brown colour. Inserting a match stick into the cell at this stage and withdrawing slowly will give a brown thread like string referred to as the matchstick or ropiness test.

After this condition the larvae turns to a tacky stage, gradually drying up to a dark brown colour. The final stage after further drying in a very dark brown rough scale lying on the lower side of the cell extending from just behind the mouth to the base. These scales can be detected if the comb is held facing the light. Be constantly vigilant on diseases & maintain large healthy colonies. More details in next edition.

#### BEE - BIZ AT STBA PAUL LONERGAN

The Beautiful Summer ends with our bees work done and the supers full to the brim with golden honey. Our Honey Show secretary Irene is looking forward to all you new and experienced beekeepers bragging about their honey at our show in September and entering as many classes as you can.

The STBA Apiary in Powerstown was looking super after the great work done by Tom Prendergast and his team Tom's work of managing the apiary throughout the year is showing great results with plenty of room for the big numbers attending the demonstration nights and nucs to get our beginners started. Thank you to our mentors who gave their time and experience during the demonstration nights, Dennis, Tom, Irene, Jim, James, Anne, Redmond, PJ and young Gavin Fitzpatrick. The trouble shooting nights were a great idea and well attended and what were the questions asked? Yes you guessed right!

- ◆ Where is my Queen gone?
- ◆ How do I stop swarming?
- ◆ Where do I get a new queen?

Dennis will give you the answer listen to your mentors at the classes and at the demonstrations. But do we listen?

During the month of July the association attended the Fethard Wall Festival, and the Clonmel Horse Show. Ann Moran and David O'Meara attended the Fethard Festival, David brought a demonstration hive and once again the hive proved a great success. Ann brought a table full of wax models and honey products to show what can be made from our bee production. Information on beekeeping and how to become a beekeeper was giving to all who attended.

The Clonmel show was manned by Paul Lonergan, Tony O'Gorman, PJ Fagan, David O'Meara and Martin Nolan. Martin made up the demonstration hive and the kids had great fun trying to find his Queen. Big numbers attended the Clonmel show and many came to see our stand which looked very well. A number of people interested in becoming beekeepers gave us names to contact when the classes start in January. Paul Lonergan brought his honey to sell and was very happy with his days work.

A work shop was held in Cahir Band Hall in early July ran by Dennis and Redmond. Redmond lectured on "Getting honey ready for sale" and "how" and if I do not win first prize next September I will give up. Dennis spoke on "Wax designs and candle making" and his attention to detail was superb.

The STBA are blessed to have such experts who give of their time again and again in the association. Winter lecture series will start in October so keep a eye out for PJ's texts re the dates. Honey Show in September 20th and 21<sup>st</sup>. Remember to put aside the best of your crop for the show and do take part it is worth it.

#### LIFE CYCLE OF THE BEES – THE IMPORTANCE OF BEING INFORMED MARK HEARNE

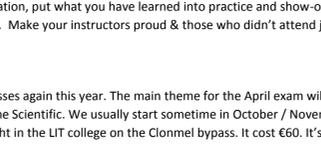
The life cycle of the bee for all castles is very important. It is critical that you understand the different stages as it is key to many of the manipulations carried out in the hive throughout the active season. The beekeeper needs to know how to "read" a comb of brood. For instance the following is critical and an understanding of each is necessary

- If there is no eggs in the brood chamber this is an indication that the queen is gone for at least three days.
- The fourteen day swarm control method is based on the fact that the queen hatches on day sixteen.
- If queen rearing is part of your activity you need to have drones at least 12 days old, therefore you need drone eggs 36 days before you expect virgin queen is to fly.
- Understanding what the mature bees does is also important, wax builders need somewhere to use up the wax young bees are needed to raise good quality queens.

These are only a few examples of the importance of this knowledge. It may be needed for the exam but is more important for a beekeeper who wants to succeed in the apiary. For instance when giving a frame of brood to a nuc it is better to have a frame with bees and almost on the point of hatching out at least at the purple eyes. Therefore the beekeeper knows that these require less heat and will be out in a few days to help strengthen the colony. Knowing the difference between 1-2 days old larvae and a 4-5 day old larvae is a great help.

#### A LITTLE BIT OF SCIENCE - THE ALIMENTARY CANAL (PART 1)

Food is broken down in the alimentary canal by the requirements of digestion and they are then circulated by the blood to the necessary cells to provide energy, body building and preparations to carry out the chemical processes of life. Waste products from these activities need to be collected and excreted from the body. Digestion and excretion are the main function of the alimentary canal.



**he proboscis:** When the bee wants to use its mouth for chewing it must fold the proboscis out of the way. This is done by folding the galeae, labial palp and glossa against the base of the maxillae and labium, which themselves are retracted into a groove or fossa on the under surface of the head. The lorum connects the labium and maxillae which thus moves as one. When the proboscis is fully extended it is raised so that the lacinia is pushed up against the epipharynx thus closing the mouth. When needed the mouthparts move forward while at the same time unfold. In this way the tube formed by the mouthparts comes to lie directly below the mouth (epipharynx). This forward movement involves the action of a number of muscles attached to the central horizontal part of the proboscis and rotation of two arms of cuticle, the cardines attached to the very back of the proboscis. The foldable parts of the proboscis are all jointed to cuticle plates behind the mandibles. These parts cover the surface of the fossa but are not directly fixed to the cuticle of the head.

The labial palps and the glossa both arise from the central plate known as the mentus. The two galeae arise from plates either side of the mentus known as stipe. At the back of the stipe a long slender cuticle, the cardo passes up the side of the fossa and hinged deep inside the head. This is the pivot point from which the prementum and stipes swing forward. A further slender curricular structure the lorum connects the posterior ends of the cuticle plates together

When the front of the proboscis is elevated it brings the small lacinial lobes of the maxillae tight up against the epipharynx on the underside of the labrum thus the joint between the sucking tube and the mouth is made airtight.

**The mouth:** The opening of the mouth is surrounded by the mouthparts: the labrum and mandibles above and the proboscis below. Behind the opening the alimentary canal begins with the cibarium or food chamber. The cardo passes up to the inner side of the clypeus and to the walls of the cibarium cause it to dilate when they contract, opposing muscles on the cibarium compress it, the actions of these muscles causes the cibarium to act as a suction pump, which raises fluid through the food canal of the proboscis.

On the floor of the cibarium lies the hypopharyngeal plate, the front lobe of which bends downwards. Behind this lobe are the two openings of the ducts of the hypopharyngeal glands. From the plate two long slender arms run backwards on either side of the cibarium which support it and afford attachments for the muscles by which the cibarium is slung to the frons. Under the hypopharynx is a pouch the salivarium into which opens the common duct of the post cerebral and thoracic salivary glands, the secretion from these glands run down the oesophageal canal to mingle with the nectar or syrup which is being taken into the mouth via the food canal of the proboscis. Behind the cibarium the wide pharynx runs towards and narrows into the oesophagus.

**The oesophagus:** It transports the food from the pharynx through the thorax to the honey sac in the abdominal cavity by peristalsis. The cuticular lining or intima of the oesophageal canal is thrown into numerous folds allowing expansion during the passage of food. On the outside is a strong layer of external circular fibres and inner longitudinal fibres. Honey or nectar can be regurgitated via the oesophagus from the honey sac as required.

**The honey sac or crop:** It is an enlargement of the oesophagus where the alimentary canal has entered the abdomen. When the sac is full of nectar it becomes a large balloon shaped bag with thin tense walls. Average capacity is 40mg. When empty it collapses to a small flabby pouch. The walls have the same structure as the oesophagus. The crop of the queen and drone are small than the workers.

**The proventriculus:** Also known as the honey stopper. It consists of a valve that divides the honey crop from the ventriculus. Its function is to regulate the passage of food from the crop to the ventriculus and to retain in the crop the nectar to be taken to the hive. The anterior end of the ventriculus is invaginated into the honey sac. 4 triangular lips armed with groups of spines directed into the central lumen strain the pollen from the nectar. The lips open and close rapidly but individually. The movement of the honey sac keeps the contents well stirred. Pollen is filtered off at the proventriculus in compact masses, collecting in the four pouches, positioned beneath the four tips of the star shaped valve on the distal side. The pollen grains are pecked tightly together forming a "bolus" which is passed to the ventriculus.

**The ventriculus:** This is the functional stomach of the bee. It is the largest part of the alimentary tract lying in a U-shaped loop. Its surface is marked by numerous transverse constrictions that form internal folds (as mask tubing). External is a layer of longitudinal muscle fibres and an inner layer of circular muscle fibres, (opposite of oesophagus) The epithelium lining is thrown up into finger-like processes or folds Cell of the inner-ends of the folds are actively dividing and proliferating. The small nucleated cells are changed with digestive enzymes which enter the pollen grain through the pores and digest the contents, breaking down the proteins into amino acids which can be absorbed through the wall of the ventriculus and into the haemolymph. When the protozoon Nozema apis enters the epithelial cell it feeds and multiplies forming spores. Infected cells can no longer produce the enzymes to digest the pollen, shortening the life of the bee due to pollen deficiency. Any remaining complex sugars are broken down into monosaccharide by the enzymes, which are absorbed through the peritrophic membrane and ventriculus wall into the haemolymph to be used for energy or stored as glycogen in the fat bodies. Any fats from the pollen will be broken down by the enzyme lipase into fatty acids and glycerol and haemolymph absorbed into the haemolymph. (To be continued)

**2014/2015 Lecture Series:** One aspect of beekeeping that I really like is the fact that you are on a constant journey of learning. This year I attended Gormanston for two days. I did give a few lectures but more importantly I attended several other lecturers. I must admit I did get a few ideas, I now understand aspects of the craft that baffled me and it certainly invigorated the brain into trying something different, not to mention it helps me recall all those great ideas that I had forgotten about. Every year STBA holds a series of lectures from October to April. I'm always disappointed at the attendance. It seems to be the same people that turn up every month. We have 100 members and usually less than 30% avail of this great opportunity. This year we hope to change the format. We intend to run a series of lectures to help you maximise your crop. All practical aspects of beekeeping will be covered. Next year in the apiary we will cover specific topics such as queen rearing, broods and a half, section production and much more. Some of these can only be completed with a limited number of participants so first preference will be given to those who attend the theory lectures during the winter. We may even nominate Beekeeper of the year with a nuc as the winning prize. WATCH THE WEB SITE FOR FULL DETAILS.

#### REVIEW OF THE 2014 SEASON

I think it is going to be one of those years we will remember and hope for a repeat. Comments across the country did vary a lot.

- ◆ Winter losses: Minimum as low as 10%
- ◆ Spring build up: Excellent for some : disappointing for others, what can we learn from the inconsistency??
- ◆ OSR Crop: Yielded a reasonable crop but not as good as some aparies.
- ◆ Swarming: Started in May, 100% of queens replaced in other years.
- ◆ Queen Rearing: Went well with early mating at 100%, not as successful later in the season.
- ◆ Yield: Fantastic, good, average some apiaries way better than others but overall no complaints
- ◆ Colonies in trouble after the crop removal: failures from 10 -30% but a bit early to fully assess. Keep those queen in the apideas you may need them.
- ◆ Beginners: reasonable year, some swarming problems & queenlessness but most kept their bees going and some honey as a bonus. Well done to all.
- ◆ Honey quality: excellent, big crop from the lime.

#### HONEY FOR SHOW AND SALE

An excellent workshop on preparing honey and bee products for show and for sale was provided in July by two of our world cup winners: Redmond and Denis. This took a lot of time and effort on the part of the instructors both on the day and beforehand getting everything ready. I am sure you all learned a great amount and now it is time to honour your commitment & to show your appreciation, put what you have learned into practice and show-off your newly acquired skills by exhibiting in at least five classes. Make your instructors proud & those who didn't attend jealous - BEST OF LUCK

#### EDUCATION

We hope to run our usual classes again this year. The main theme for the April exam will be the practical course. This may appeal to you more so than the Scientific. We usually start sometime in October / November and we have a session every 2<sup>nd</sup> week on a Wednesday night in the LIT college on the Clonmel bypass. It cost €60. It's great value for money.

Beginners' course will also be run but this time we are looking at a different format. Instead of running over several weeks in the night time we are considering going for two full days over two weekends and then straight into the outdoor demos. We will probably be starting at the end of March early April. Watch the web site for further details.

#### EXAMS

Congrats to all our beginners who passed their exams and some have now progressed to getting their bees. Indeed a few managed to get a crop of honey, well done to all. We also had good success in the intermediate and senior exams. Well done boys and girls!!

**CLONMEL HONEY SHOW—SEPTEMBER 2014**

- \* Staging of Exhibits on Saturday 20<sup>th</sup>
- \* Show Dinner in Raheen House Hotel Saturday 20<sup>th</sup>
- \* Show open to Public Sunday 21<sup>st</sup>
- \* Lecture by Jim Ryan on Cosmetics Sunday 21<sup>st</sup>

**Marinated Mackerel (Serves 4)**

You can also use this recipe for a barbecue

**You will need:** 2 tablespoons honey  
2 tablespoons wine vinegar  
2 tablespoons Dijon mustard  
Salt and black pepper  
4 mackerel, cleaned and boned  
4 bay leaves  
Sprigs of fresh thyme

**Method:**

1. Mix the honey, vinegar, and mustard, salt and pepper together.

**KEEP IN TOUCH** - Text alert are being sent before all meetings. If you are not getting notification text you name to PJ our secretary.