South Tipperary Beekeepers Association

Newsletter

Sept 2013

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Editorial

At long last we can talk about the weather in a favourable note. It is probably the hottest few day we have seen for many a year indeed the hottest for many beekeepers who have taken up this very challenging hobby in the last ten year. Hopefully those that have bees will reap a good crop of honey. The weather is always a talking point in Ireland but be assured that from my travels to the northern half of Europe they experience very similar weather to ourselves. Sitting here in the airport at Bolland in Denmark it is the exact same weather as we have back home. Talking to the locals they had a windy but not too bad June, does that sound familiar? Far away hills are always greener!. Again many thanks to all who contributed or helped in any way with this edition. We wish John Corbett a speedy recovery and hope to see him back at all association activities.

Autumn Beekeeping.

It is really important that beekeepers understand the importance of starting the bee year straight away after removing the crop. I know and understand that you may be fed up at this stage but there is little point in getting very enthusiastic next April due to a few warm day and discover that some or all your colonies are dead.

Losses this year varied from 10 – 60%. This broad variation is a very worrying trend, it needs immediate attention as it raises questions about the reliability of the data. Statistics are a funny old subject and sometimes one person's percentage is not comparable to another. To get a proper winter loss it's important that you take all your honey producing colonies in the autumn and count the number that are suitable for production the following year.

In order to reduce these losses the beekeeper needs to follow a definite line of management. After removing the crop the first task should be to assess if the colony is viable for overwintering. First step is to establish if the queen is present and laying. If you have a suspicion that there is no queen insert a test frame and recheck in four days to see if the bees have started to draw down queen cells. A test frame should include all stages of brood and eggs. When rechecking hive break down all sealed queen cells and leave the open cells. Leaving more than one at this time of year is not a problem as there is very little possibility of the bees swarming. Indeed if you leave extra you may need to harvest them for other queenless colonies. Another and better option is to have laying queen available and introduce them into the queenless colony after the test frame confirmation. Do not introduce a queen into a colony until you are 100% sure it is queenless. Other colonies may have a queen but she is only laying drone brood. This can be confirmed by the raised capping in the worker cells all in an orderly manner, with one egg in each cell. This queen needs to be found and destroyed, and then introduce a viable queen. The unrecoverable condition is where you find laying workers in the hive again confirmed by observing the laying pattern multiple eggs in each cell, raised cappings in the worker cells in a haphazard pattern and sometime charged queen cells usually very long cells drawn down. This situation cannot be saved and the quicker you destroy the colony the better. I usually remove all the combs from the colony and leave it there until next visit. At that stage the colony will have perished. Do not attempt to unite such a colony to a queen right one as they may kill the good queen and you end up with two colonies that are queenless.

As for your good queen right colonies feed a gallon of syrup to all. This will encourage the queen to start laying. It is important that we get the queen into brood production and remember you have just removed the crop so some colonies especially the big one may have zero stores in the brood nest. The bigger the colony the quicker it will starve to death.

After the initial feeding the treatment of Varroa is essential. Its important to start treatment as quickly as possible as the more bees that are reared without the effects of varroa the better the chance of the colony surviving. Varroa mites lay their eggs in the open brood cells and when they hatch in the now sealed cell they suck the blood from the larvae weakening them and also passing on viruses. It is the virus that weakens the colony. Treatment in the autumn is either with Apiguard or Bayvarol. It will certainly reduce the effects of this pest. Monitor the drop down on a regular basis. Beware that the mites are becoming resistant to the Bayvarol. Monitoring on a regular basis will determine this level. While treating with Apiguard bees sometimes stop foraging and are not inclined to take down syrup hence the importance of feeding before commencing treatment and then finish when the treatment is over. Feed bees rapidly to allow them adequate time to ripen and seal the stores. Equally its important that the bees have adequate room for brood rearing so a careful balance needs to be maintained.

Weather and vermin proof hive is central to successful wintering. Make sure the roof is not leaking, also fit the mouse guard. Tie down the hive to prevent it toppling over. When feeding is over heft each hive to assess if weight is adequate. Do not leave the Bayvarol strips in over the six week prescribed period. When finished the above close up the apiary and let the bees rest. The fewer disturbances the better they will survive. Check occasionally that all is ok in the apiary.

Good Bye . . . . . *Mr. Drone !*

He has no father but a grandfather, he'll never have a son but someday a grandson. An unusual situation to sum up the humble drone. This is all due to the fact that drones are produced from unfertilised eggs. There is no involvement from a male. The queen lays an unfertilised egg and it hatches and eventually grows into a full functioning drone bee. It is known as parthenogenesis or virgin birth.

August September time heralds the end of the life for most drones. The worker bee knows that their potential usefulness is now very limited and in order to conserve valuable stores for the winter months they expel the drones from the hives. If you keep a watch at your hive entrances during this time of year you will see the process.

The workers may seem not to appreciate their male colleagues. Indeed it is only in the last number of years that most beekeepers appreciate or understand the importance of the done. Only since the arrival of varroa do people now think about the drone. When I started beekeeping we were encouraged to replace all combs with drone cells and indeed destroy the young larvae now we place special frames in the brood box to encourage drone production.

Drones play a vital and integral part in the survival of the colony. Firstly if the queen doesn't mate she cannot produce worker bees. However it is much more complex than that. Mating with one drone is not the answer. Recent studies have shown that the more drones a queen mate with the more productive a colony will be. The fact that she mates with several different drones results in a great diverse set of skills within the hive. "Workers from one drone may be very good at foraging or scouting, another drone's offspring may be very hygienic and another great comb builder. Working as a unit they produce the necessary skills to have a very effective honey producing colony. This was clearly demonstrated by a study carried out by Thomas Seeling and Heather Mathews. Two sets of 10 colonies each were made up from artificial swarms. The first set was headed by queens mated with a single drone and the second set was headed up by queens which were fertilised by multiple drones. Each set was left to their devices and monitored. Colony survival depends on honey storage and to achieve this they need comb. Both sets of colonies set about drawing out combs. The genetically diverse colonies build 30% max comb than those colonies with a single mated queen. When foraging was monitored it was found that the genertcally diverse colonies have 27-77% more foragers which is measured on three to five mornings. Having more foragers means greater storage of nectar and again they had stored 39% more stores than the mono mated queen.

One month after establishing the genetically diverse colonies were already twice as heavy as the uniform colonies. During a brief flow the genetically diverse colonies gained weight of 163% whereas the other lot only increased by 30%. This intake of nectar sparked comb building in the genetically diverse colonies whereas the comb area stood still in the genetically uniform colonies. Brood rearing was much stronger in the genetically diverse colonies resulting in colony sizes of 26,700 ± 2400 giving uniform colonies. The maximum to minimum was much higher in the genetically uniform colonies making the operating of such colonies within an apiary much more difficult. This in turn led to more brood rearing and again larger colonies in the genetically diverse colonies. During a cold spell in autumn 50% of the uniform colonies died and by December all were dead. Of the genetically diverse colonies 25% were still alive by the following May.

This figure might look a very low survival rate but remember the bees were left to their own devices. The experiment was carried out in America. It does clearly demonstrate that colonies headed by a queen that mated will several drones possess the following characteristics:

◊ Quicker build up
◊ More even build up between colonies
◊ Better ability to collect forage
◊ Better ability to construct comb
◊ Rear large brood nest
◊ Better overwintering ability
◊ More disease resistance

So it may be good bye to Mr. Drone for this year but make sure you invite him back next year. And tell him to bring a friend or two……..THREE IS NOT A CROWD IN THIS CASE.

PROPOLIS (POINTS OF INTEREST)

- ◊ Resinous substance collected from trees
- ◊ Bees use propolis to fill empty spaces where the rule of "bee space" has been ignored.
- ◊ This makes inspection of the hives difficult as it is sticky & soft when warm; and when hard the crown board & frames are difficult to separate out.
- ◊ 1 beekeeper in 2000 is hypersensitive, causing dermatitis.
- ◊ Each cell is painted with propolis before queen lays in them.
- ◊ Used to reduce entrance & encase unwanted visitors.
- ◊ It is only soluble in alcohol, acetone or petrol.
- ◊ It has anti-bacterial properties
- ◊ Propolis products may improve arthritic joints, reduce stress, heal surface wounds and reduce asthma attack.
- ◊ Dissolve in alcohol (i.e. Vodka) to treat small mouth ulcers

FEEDING

Advice from a wise beekeeper that is simple & true. . " buying sugar for your bees will not benefit them unless you feed it early enough so that they can process it.

A good feeder will allow the bees to take the syrup at the rate required by the beekeeper for the management of the colony, while at the same time preventing the bees from drowning in the syrup. When feeding is finished, access should be provided for the bees into the feeder so that the bees can clean and dry it up.

Contact Feeders: come in variety of shapes & sizes but similar in design having a container (bucket/tin) with a close fitting lid. The lid will have a series of small holes or a small piece of gauze through which the bees will take the syrup with it is turned upside down over the feed hole or directly onto the frames. The number of holes regulates the speed that the bees can take the contents. Has advantage of been cheap & easily made at short notice.

Disadvantages are

- that a change in temperature can cause a flood of syrup in the hive
- bees propolise the small feed holes as soon as it is empty
- They are a bit messy to fill & invert without spilling syrup.
- A box is needed to surround them.

Miller feeders: (designed by Dr. C.C.Miller in USA). Consists of a tray 76mm (3in) deep, with dimensions in horizontal plane exactly matching the external sizes of the brood chamber or super of the hive it is intended to fit. The entry for the bees is via a slot in the centre extending from one side to the other. It is provided with a cover to prevent the bees from escaping. The capacity is from 1 to 2 gallons. It allows for feed simultaneously thereby allowing rapid consumption of the syrup (a strong colony can finish contents in 24hrs)

It is good practice to check the feeders each year for leaks with water before being brought into use.

Where miller feeder is used a small amount of syrup should be poured down the holes on to the bees after putting the feeder on to tell them there is sugar available above. Otherwise a colony may fail to find the syrup for several days, as sugar does not appear to have any smell which they recognise as food.

WINTER CLUSTERING

Whenever I tell people that I keep bees the first question they ask me at this time of the year is do bees hibernate? The easy answer would be to say yes but we all know they do not. When I mention the word "cluster" the questions start to come fast and furious.

Clustering is necessary for self preservation. Bees are poikilothermic and all that means is simply they assume the temperature of its surroundings. So if the temperature drops to 0°C its body temperature will go to 0 and it will freeze to death. However as a colony the bees have adopted a method to overcome this deficiency in their lives by gathering together in the hive in the form of a cluster.

Bees start to cluster at an ambient temperature of 14°C. The cluster has an outer shell of bees which is quite dense ranging in thickness from 25-75mm thick. The outer shell temperature must be maintained at 7°C below this the outer bees will drop off and die. To maintain the critical temperature the cluster contracts and expands.

The temperature is the centre of the cluster ranges from 20-30°C when there is no brood in the frames which is probably the situation right now.

As the queen starts to lay next January / February the temperature will have to be maintained at 35°C. Just think about this great challenge that face our bees. In early November this year we had temperatures of -4°C, this meant that that the temperature difference between the ambient and the centre of the cluster was 39°C. How many litres of oil would we burn to maintain these conditions?

So how do bees maintain this temperature? Well as I said they cluster to reduce their surface area thereby reducing heat loss. The bee creates heat within its body by muscular activity and then within the cluster. The muscles used are the indirect flight muscles. In order to flex these muscles the bee needs to consume honey so the cluster must be in contact with stores at all times. The amount of stores consumed when the bees are clustering is only a few 100 grams per week. The by products of food consumption during clustering is Carbon Dioxide and water. It is essential that both do not linger inside the hive. Now with the advent of open mesh floors top ventilation is now closed by many. The pros and cons of both systems will be discussed for a long time. Bees in the wild can survive extremes of temperature in very draughty areas but we should help our bees whenever we can.

The importance of not disturbing the cluster cannot be emphasised enough. Even taking off the roof for a quick look, at what I really don't know, can cause a rise in temperature within the cluster by up to 6°C. What happens is that the bees detect that there is someone at the hive so they have to investigate this. To do so they need to break the cluster and fly out. In order to get the wings to function they must consume extra stores to raise the sugar level in the blood. This can lead to complications like stress related diseases and dysentery. Excluding mice from the hive is paramount, apart from the damage they do to the combs the constant disturbance to the cluster can result in weakening or loss of the colony. Did you ever notice that a hive with mouse damage is always weak even when the mouse was four or five frames away from the cluster.

Clustering is the nucleus for next years honey crop. Your ability to help the colony in whatever way necessary will have a big influence on how well your bees perform. Hopefully the above will help you make the correct decisions.

So the important points for winter clustering are:-

- ◊ Make sure the bees have sufficient fuel to keep their central heating system going—sufficient stores.
- ◊ Keep out unwanted guests – mice
- ◊ They don't need you to look at them at this time of year – just check that all is well without going at the hive especially after a storm.
- ◊ Dampness is probably the number one enemy of bee in winter- why not make up one or two spare roofs over the winter.

WINTER/SUMMER BEES

Life span of a worker bee can range from a few days to almost a year. This range depends on:-

Seasonal factors   Food availability   Activities performed   Race of bees

Just after emergence the young bees consume large quantity of pollen which causes the hypopharyngeal gland & the fat bodies to develop which provides the bee with a store of protein as brood food in the hypopharyngeal gland and in the fat bodies. This protein store in the hypopharyngeal glands & the fat bodies can be used in two ways:-

- ◊ **In summer:** The reserves are used in brood rearing in the form of brood food. It is shown that the more brood a worker reared the shorter the life of the bee.
- ◊ **In winter:** The bee emerging in the late autumn has very little brood to rear & the hypopharyngeal gland remain plump. The worker has many fat bodies as a result of pollen consumption in autumn (Ivy honey). Most of the fat bodies in the winter bee are stored in the dorsal side of the abdomen. The life of the bee is proportional to the amount of pollen consumed. If a colony suffers a shortage of pollen in autumn then it is likely to die during the winter because of the shortage of fat bodies.

Life of the bee is proportional to the amount of pollen consumed or inversely proportional to the amount of brood reared.

ROUND UP OF STBA ACTIVITIES

We are very fortunate to have such an active association. We ran two very successful winter classes - beginners and improvers. Both were well attended and hopefully everyone learned something. Thanks to Dennis and Redmond for all their help. Our early outdoor demonstrations were delayed due to weather and the general condition of the bees. When we did get going we had some great nights with several very important subjects covered. Some of the topics were as follows. Handling bees, 14 day examination, swarm control, Bailey frame change, nuc production, Vince cook expansion, supering, queen assessment, setting up a hive stand, varroa treatment and winter preparation. We now have several nucs which we hope to overwinter and have for our members next spring. Thanks to Jim, Dennis Anne, Irene, David, John, James and Redmond for assisting at the demos Its important for all our new members to attend all lecturers, outdoor demos and of course the honey show. Without this level of commitment you will not succeed. To encourage all our 2013 beginners I now have sponsorship of a nuc of bees for someone who attends the most functions. Make sure you sign the attendance book. If more than one attends all which I'm sure there will be we will raffle the nuc between them. Equipment wise we did purchase a few small bits and pieces. Thanks to Gerry Clancy and Eamonn Hayes for constructing a solar wax extractor for the association apiary and also to Cathal Mc Grath for donating a super.

EDUCATION

"*Winter Lecture Series will be starting in October, watch out for those text alerts. If you're not receiving alerts contact PJ our secretary*"

We had approximately 10 beginners who sat the Preliminary exam well do to all on passing the theory and practical. If interested in being successful you now need to keep in contact with the club attend every meeting outdoor lecture and the honeyshow. There is so much to learn and don't forget if you attend all you are in for a chance to win a nuc.

We also held the Intermediate exam, which was a great success and congratulations to all who sat the exam.

On behalf of all members of the STBA, the editor would like to specially congratulate Martin Nolan, Barry Kennedy and Brian O' Brian on their achievement and to acknowledge the achievement of those from other associations who also sat and passed the intermediate exam in Clonmel.

Our young budding beekeeper Gavin Fitzpatrick also claimed the highest mark in the country for U21 preliminary exam at Gormanston winning a bee book and €50

Of course pride of place must go to Irene Power who completed her lecture exam in Gormanston where she gave a brilliant display of her practical knowledge of beekeeping. Well done Irene.

Presentation of certs to those who have completed their full exam will take place at the honey show.

BEEKEEPERS HALL OF FAME

Charles Butler (1560–1647, English), sometimes called the Father of English Beekeeping. Writer and influential beekeeper. He was the first to assert that drones were male and workers female, but did think that workers laid the eggs.

Francois Huber (1750 -1831, Swiss), writer – laying the foundations of scientific knowledge of life history of the honeybee. Known as the father of modern bee science. Invented the Leaf hive, a fully movable frame hive, the combs in the hive were examined like pages in a book. At 15 he suffered a disease which eventually resulted in blindness but was assisted by a servant by the name of Francis Burnens.

Lorenzo Lorraine Langstroth (1810 –1895, American) knows as the father of American Beekeeping. Also a writer. He is popularly credited with the discovery of bee space though it is written that this discovery had already been implemented in European hives and Dzierzon had been focused on side-opened hives. Langstroth designed the Langstroth hive which is universally used in many parts of the world today. Langstroth acknowledged Huber's Leaf Hive contribution.

Moses Quinby (1810 –1875, American) described as the Father of commercial beekeeping was one of the first commercial beekeepers in US. He was a writer who lived in transition from the box hive without movable frames to the Langstroth hive. Credited with the invention of the modern bee smoker with bellows He developed the Quinby hive which since disappeared from modern use.

Dr. Dzierzon, (1811 –1906, Polish) we all know him well! Described as the father of modern apiculture. Was a writer and discovered Parthenogenesis and designed the first moveable comb beehive and also credited for discovering bee space.

OPERATION TRANSFORMATION

If you have those few extra pounds you need to lose it is claimed that honey mixed with cinnamon helps to lose weight. Honey contains vitamins, minerals and enzymes which are believed to help in fat and cholesterol metabolism. So using honey instead of sugar can reduce the calories.

Ingredients:- Mix 1 tbsp. of honey with ½ tsp. of ground cinnamon in a cup and add boiling water, stir to dissolve. Leave to cool a little before drinking or add some cold water.

NON-PERFORMER BEES

From the outset it is important to establish the reason WHY?

- If it is disease or poor queens then uniting will not resolve the problem
- Colonies of laying workers are not worth uniting and may even kill the queen in the queen-right colony
- Is it because of a Non-Performer Beekeepers
- Apiguard in the tin never killed a varroa
- A leaky roof will kill your bees
- An unprotected entrance is like a "B&B sign" for field mice
- Don't be a stranger to your apiaries over the winter

WINTER JOBS before you hibernate . . . .

- ***FEED early***
- ***TREAT for Varroa***
- ***CHECK that queens are laying***
- ***INSTALL mouse guard at entrance***
- ***SECURE hive and roof***

Clonmel Honey show .

Staging , Judging: September 21st

Viewing, Prize giving: September 22nd

"A time to catch up and show off "

The show will include :

Honey displays

Wax displays

Lectures

Bee movie

Demos

Jewellery