

South Tipperary Beekeepers' Association

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MAY BEEKEEPING

Tom Prendergast Irene Power

May is really a wonderful month, the green leaves on all plants look their best. Your colony should be progressing and hopefully at this stage you have completed your first examination. It's not too late, do not panic but it needs to be attended to now. Make sure you have spare comb/foundation ready to pop in and a super or two ready. I'm sure all our eager beekeepers have now examined their bees once, if not twice, all finding different results. We have heard of some colonies with seven frames of brood other reports of 30% losses, some with queen cells. This is what makes beekeeping interesting and challenging, it would be so much easier if you found the same situation in all hives every year but nature does not work like that you will always have a mix of strong and weak.

April was a good month for the bees with plenty of sunshine, so the hives were warm, ideal conditions for the queen to increase her egg laying if all other conditions were correct. The bees had ample opportunity to forage, collecting water and pollen and whatever little nectar was available. There was a constant cold breeze, but plants close to the ground or on the sunny side of the ditch did yield some nectar. Opportunities for hive examinations were limited but that didn't stop our



Figure 1 Nucs for Sale. If you are expecting a nuc have all equipment ready.

over-zealous beginners. Early examinations are always risky, bees can and do sometimes ball the queen especially if you clip and mark her. The opportunities to replace an injured or dead queen are not too many, but it can work. At this stage the blackthorn is gone. OSR is in full bloom and the Dandelion must be at its peak. May brings a new basket of nectar bearing flowers. The Sycamore and Horse Chestnut are a great source of nectar and pollen. The Hawthorn is in flower on the early bushes. Plenty of garden flowers and shrubs are now in bloom. Bees are really building up now and if you are not keeping ahead of them, swarming will soon be the way.

So, what are the beekeepers' main priorities right now. Number one must be "Room". Room for the queen to lay is not always easy if she is a prolific layer. A commercial brood box can get congested from one examination to the next. Maximize the space in the brood box by having frames that are almost 100% suitable for the queen to lay in. Old combs can be as low as 70% available space, which really restricts the queen's space. The main objective is to keep the queen laying if possible, so that you have the maximum number of foragers in the hive for the main honey flow.

If all the available cells are full, doing nothing is not an option as the queen will be gone on your next visit. Removing one or two frames of brood and replacing them with foundation is an option. The two removed frames can be given to a colony that is not as advanced. This is called "hive levelling" within the apiary. Completing such an exercise will allow you to have all the hives in the apiary at an acceptable strength to collect a good crop of honey.

South Tipperary Beekeepers' Association



At some stage you are going to come across charged queen cells. Understanding colony development is very important. Let's look at the average colony. In mid-April the brood nest will cover 5 frames, two of which will be on the outside of the brood containing some pollen and fresh nectar. The queen will be laying a certain number of eggs but a long way from reaching full peak. Let's presume the number is 500 eggs. If she kept at that number, the nest would never expand beyond the first three weeks, as after that time the first 500 will hatch and she would have enough room to start again. However, with the increase in ambient temperature and the influx of fresh pollen and nectar, the queen starts to increase her egg laying and at this stage she could be up to 1000 eggs every day. The only way she can have room for this rate of egg laying is to increase the brood nest onto new combs. This is the reason the bees need extra comb on each visit. The colony will now have six frames with the extra bees including lots of nurse bees, therefore, she can again increase her laying rate up to 1500 – 2000 eggs daily. Now she will really be expanding, and a queen with this laying capacity will need plenty of room with empty frames in the brood box. When you examine the colony, see how many extra frames they expand by. Check if the queen is refilling the cells that hatched. By mid-May the colony could be on 9-10 frames and if there is no indication that the queen is slowing down, she will run out of space before the next visit.



Figure 2 Six frames of Brood + five foundations added for room.

Another important point to watch out for is the development of drones. Always note when you find drone cells, eggs, larvae, sealed cells and hatched drones, it's part of the natural development of the colony in preparation for swarming. Colonies will start producing play cells in advance of the real thing, some may have eggs but don't develop any further. This is another sign the colony is progressing towards swarm preparation. If the queen is in her first full season and prolific, she will develop a large colony, going from three frames to six to ten frames of brood. The beekeeper needs to know what has happened and more importantly what is going to happen over the next 14 days. If



Figure 3 Sterilize all out of use comb before re-using

you know the queen is going to run out of room, you will need to provide that much needed space. Even if the queen is clipped, losing her would be a greater loss.

The other part of "room" is room for the young bees to rest. If the roof cavity is full of bees or if they are clustering outside on the front of the hive, indicating that their space is too small. Supering will relieve that. A hive that has nine or more frames of brood will need two if not three supers.

The third part of room is for nectar. Bees need lots of space to ripen the raw nectar, so in the early part of the season as the frames from the center to the edge start to fill, add another super. You can always move the two end frames into the centre of the box before you put on the next super.

South Tipperary Beekeepers' Association



If you are working with a National brood box only, this will be too small for a good queen, so you need to adapt your method to minimize that. Some beekeepers use a super (as extra brood space) on top for the queen to lay in, known as brood and a half. Others consider a double brood box, it is better to discuss these methods at your apiary demonstration, with the experts. Most colonies will swarm at some stage and for the beginner especially, if the queen is not clipped this can result in the loss of a swarm and the end of their crop for that year. Best option is to get help from an experienced beekeeper and if that is not possible, a straightforward method is the artificial swarm. The objective of this method is to separate the queen from the brood and the nurse bees. By following the steps below, you will prevent the loss of a swarm. You will need extra equipment, a floorboard, brood box, a complete set of frames and foundation, crown board and a roof. Proceed as following when you find charged cells.

1. Set up an empty hive on one side of your swarming hive.
2. Open your colony removing supers, examine centre frames, remove bees by brushing into their hive, find two open, well-nourished queen cells, preferably on two separate frames.
3. Mark the position of the cells, then check for sealed cells on these two frames and break these down, then place the two frames into the new brood box.
4. Proceed to take each frame from the brood box, shaking all the bees into the original box.
5. Examine the frame for any queen cells, sealed open cells or cups with eggs or larvae, remove all, then place them in the new brood box.
6. As you remove the frames start to replace with foundation.
7. Leave one frame with sealed brood in the center, again ensuring there are no queen cells on it.

At this stage all the bees are on the old stand and the queen must be there also with 10 frames of foundation and one frame of brood.

In the new box, you have all the brood frames bar one, and two open queen cells and no bees.

8. Reassemble the original hive with queen excluder and supers. Then place the box of brood on top of that, followed by the crown board and the roof.
9. All the nurse bees will travel up to the brood. The next morning remove that box and place it on the stand beside the old hive.
10. This is your artificial swarm. The brood and nurse bees are in one box and on the original stand the queen with all the foragers are together.
11. The colony with the queen will draw out the foundation and the queen will continue to lay.
12. The colony with the brood will continue to rear the brood including the 2 queen cells.
13. After seven days, check the original hive for further queen cells, as sometimes they will continue to build the queen cells.
14. Check the other hive, at this stage the original 2 cells will be sealed. Choose which one is the best and break down the other. Also, check all frames for further cells and break them down. If you miss one, the colony might swarm.
15. To further reduce the population of the new hive, move it to the other side of the original hive, therefore, all the flying bees will go into the hive with the supers and this will help with honey gatherers.

South Tipperary Beekeepers' Association



16. The virgin queen will hopefully hatch, mate, and eventually lead up the colony.

You now have two colonies and should get a crop of honey. Further consideration could be given to uniting the two colonies but first you must remove the old queen. Another option is to split the new colony into two, giving each a queen cell and then move both to another apiary. You do this on the seven day examination.

May is again a busy month for the beekeeper with colonies expanding and the threat of swarming, keep in touch with the association and all you can do is your best. Provide room in the brood box and those extra supers will help you. There are several other methods of swarm control and the beekeeper should be familiar with them. Outdoor demonstrations are the best method of learning, attend as often as possible. There are several relevant articles on our website, check out the "Fact Sheets" section. Happy beekeeping.