

Comb Replacement using The Shook Swarm

As beekeepers we should always be helping our bees to combat any diseases that may affect them. Working with bees means you need to work closely with nature. We need to understand what happens in nature and then apply it to our everyday beekeeping practices. The bees did survive in nature for millions of year without our help. In the wild a colony take over a cavity and build its comb for the purpose of honey storage and brood rearing. The following year if space allows it will draw down more comb and move away from the old which will eventually be nibbled away by animal or insect such as the wax moth. This is nature working in close contact between two or three different species. The beekeeper can also have such a close relationship by changing four or more combs in each brood box every year. Another way of helping the bees is a Bailey frame change where you get all the bees onto new comb and let the larvae hatch out and then take away the old comb. This is somewhat similar to what would happen in nature as the bees move to a new area in spring time. Fire and smoke are always a treat to bees in the forest. During a fire the bees have no choice but to gorge themselves with honey, take off leaving the remainder of their stores and larvae behind. Then they have to find a new home and start again. This has an advantage in the fact that all spores, pathogens and any other predator of the bee such as varroa is left behind and succumb to the fire. This is a great cleansing by nature. Beekeepers can follow a similar procedure known as a shook swarm, where the old combs including the larvae is destroyed and the bees and queen start in a new brood chamber and foundations. A shook swarm is not a procedure often considered by Irish Beekeepers. It can however reduce the incidence of disease within a colony and increase vigour at a time of year when the colony is building up for the main honey flow. Anyone considering producing honey for show either comb or run should also consider this procedure. The aim is to move the whole colony of bees into a new brood box of foundation and destroy the old combs including the brood.

Diseases such as Nosema, Chalkbrood are always present in a hive in the form of spores. Removing the spores count definitely helps a colony to reduce the incidence of disease outbreaks. 80% of the varroa in the hive are in the brood cells. So if you remove all the brood frames you are destroying a very large population of varroa. The initial idea of the shook swarm was to control an outbreak of EFB. This needs to be studied closely before deciding to complete a shook swarm rather than opting for the total destruction route. If the outbreak is high as in several cells on several frames the destruction of the whole colony would be the preferred method.

Only strong colonies should be subjected to the total loss of brood as they will need to build up again in time for the main flow. Mid April to early May is an ideal time as strong colonies should be on a minimum of 6 frames of brood. A weak colony should not be chosen as it will lack vigour to rebuild. The stronger the colony the better as it will be likened to an early swarm with a good queen capable of laying the maximum number of eggs with adequate bees to look after the incubation of same. Feeding will be needed until all combs are drawn.

The procedure is as follows:

1. Prepare a new or sterilised hive with a full complement of frames and foundations.
2. Remove selected hive to one side and placing the new floor board in its position.

3. Place the queen excluder over the floor board to prevent the queen escaping.
4. Over that place the new brood chamber and half the frames and foundations, leaving the centre empty.
5. All flying bees will return to the site.
6. Open old hive, find and cage the queen with a few attending bees.
7. Start to shake the bees from the old comb into the new brood box.
8. When all the combs are shaken brush the remaining bees from the floorboard and brood box. Avoid brushing in any debris from the floor board.
9. Replace the centre frames of foundation into the new brood box.
10. Release the queen into the new box down between the frames.
11. Place new crown board on top.
12. Leave for two days to allow the bees use any nectar or honey in the crop then start to feed 2:1 sugar solutions.
13. Check for brood after seven days and remove the bottom queen excluder.
14. Continue to feed until all foundation is drawn. It may be necessary to move the outside frame into the chamber.
15. Eventually when fully drawn watch for space and supering.
16. The old combs can be cut out and rendered down for wax if viable but usually burning is the best option. If any serious diseases are suspected burn both comb and frame. Otherwise the frames can be sterilised and reused.

If you replace the comb using the above procedure it gives the colony a new vigour much the same as a swarm. Only strong colonies should be selected, remember a weak colony would not attempt to swarm. It would definitely reduce the tendency of a strong colony to swarm so it could be used in your colony management.

If you are worried about the varroa count as an alternative to the above consider the following: Remember you have removed 80% of the varroa in the brood and the remaining 20% are sitting on the bees waiting for brood.

Insert a frame of open brood two days after you started preferably drone. All the female mites will be attracted to this frame as there is no other brood available to them.

When the comb is sealed it should be removed and destroyed.

This comb will contain the vast majority of the remaining varroa and you should have a hive almost if not full varroa free.

This colony is expected to build up and a crop should be harvested from it weather permitting. Spring time mid April early May is the best time but this will vary from year to year and depend on colony size. It may also suit as an autumn alternative for varroa treatment if you want to stay away from all chemicals.