

Article by Adrian Waring from BeeCraft

I have kept bees for over 50 years and for much of that time I have used single British Standard brood chambers. Many say these are too small - they may be right, for themselves. However, I always found them very adequate. The best colony average I ever heard of was from a beekeeper in Sudborough, Northamptonshire. In 1986, he got two tons of honey from 17 colonies, an average of over 250 lb per colony. These colonies were in single brood chamber WBC hives.

Chambers for Brood

When the British Standard frames were first devised, brood chambers were thought of very differently from now. They were expected to hold brood and very little else but for most of the time I have kept bees, there was always some food as well, even with my most prolific colonies. Prolificacy is a relative term but is often treated by beekeepers as an absolute. A queen lays 1,000 eggs a day and produces a strong colony. It follows, therefore, that 2,000-3,000 per day is even better. It doesn't seem to work that way. Such prolificacy is a pointless and silly attribute. It is produced at the expense of any sense of thrift. Such super-prolific bees can eat what they collect almost as fast as it comes into the hive. In recent years, for whatever reason, autumn weather helped several of my single brood chamber colonies to gather an amount of late stores that was almost enough for them to winter on.

I have long had the feeling that the best food for bees was honey and that the belief/myth that sugar was better for bees in winter was due to the fact that imported bees were not used to our climate.

In my salad days of beekeeping in Burton-on-Trent, one of our most helpful association members was a beekeeper called Tom Boulter. He was one of the best practical beekeepers I ever knew. I owe him a great debt. He kept bees on a brood-and-a-half; that is the brood nest consisted of a brood box and a super.

In this double box, the queen had access to all combs from August to late May or June in the following year. Roughly at the point just after the brood nest reached its greatest size, the excluder was placed below the super with the queen confined to the brood box.

The drones in the super were allowed out through a hole cut in the side. This arrangement allows bees then to fill the cells with honey as the brood hatches which means that when the last supers are removed, this one stays behind. In most years, it would be full of honey. Unless you have stupidly prolific bees, there will also be some in the brood chamber. Good bees will need no further feeding. The extra super can be placed underneath but to my mind this is not so effective in creating a wintering quantity of food for the colony. Bees are very reluctant to store below the brood nest and the total honey stores in the brood area will be less although the internal volume of the boxes is the same.

As late summer approaches, bees start to store above the brood nest. The ability to 'split off' part of the brood nest and keep the queen from laying in it creates more room for stores over the brood nest. We are enhancing the bees' natural inclinations.

I have noticed over the past 50 or so years that bees respond better in the spring if they have a good depth of honey over their brood nest, which is just what you get in the super extension. No method of beekeeping on any hive can be truly called 'natural'. To me, the creation of a situation where the bees feed themselves on their natural food was a way where I could get closer to a natural self-sustaining way of keeping bees.

There are other advantages of this system.

When bees build queen cells during the swarming process, these are built along comb edges. These edges are obviously at the bottom of frames but queen cells are also built on other edges, for example where combs have been damaged. The bees perceive the

bottom edges of the super combs as being a good place to build some cells. Regular inspection for queen cells need only consist of removing any supers and then tilting the 'half' back to see the bottoms of these frames. If both boxes contain brood, then some of the queen cells, if there are any, will be visible. A sensible swarm control system can then be put into play.

It is a while ago when I pointed out that all methods of swarm control are essentially the same. All successful methods are based around a premise that a colony of bees have three parts: the queen, the brood and the flying bees. In such methods, the procedure is to separate one of these from the other two.

One major criticism I had about brood-and-a-half was that, although searching for queen cells by tilting takes about five minutes, the resulting search for the queen through frames can take far longer. However, if you leave the queen with the brood and queen cells and separate off the flying bees, you only have to know which box or boxes contain the queen. Even beekeepers with defective sight don't need to see her!

I will tell you how to do this.

Flying bees have a fixed point to which they will return - the hive entrance. If there is nothing there (their hive has been moved), they will start to look round. They will, in fact, go into nearby colonies with little or no trouble early in the year.

Swapping swarming colonies with weaker ones or moving them to new sites in the apiary was the method Dadant used in America.



Fig (1) - The Split Board

You need to make a new piece of equipment or modify a clearer board. Cut a 50 mm (2 inch) entrance in one rim and cover the escape holes with gauze. The hole can be larger than two Porter escape holes but not smaller. The shape doesn't matter. It merely helps the colony odour to continue to mingle.

You can use a Snelgrove board if you have one but you only need to use one entrance. You could also use a Horsley board.

You will also need one brood box full of frames of drawn comb and/or foundation.

Step 1

You have, I assume, been looking regularly for queen cells by tilting. When you find them, if your examinations have been regular, they should all be unsealed. Some will contain eggs, some larvae. Move the brood box and its 'half' to one side.

Don't mix them up with the supers. The 'half' goes on an upturned roof and the brood box can be placed on top of this.

Step 2

In their place, put the 'new' brood box on the floor.

Remove two frames from it. Take two from the original box.

These need to be a frame of sealed brood and a frame of unsealed brood. There must be eggs in at least one of the combs.

There must be no queen cells.

It is better if the queen stays in the box with the queen cells. Brush the bees from the chosen frames back into the box they came from. At no time in all this process do you need to spend time looking for the queen.

Next, replace the supers.

Step 3

Place your board on top of these supers with the entrance facing rearwards. Place your brood-and-a-half on top of this.

Replace the inner cover and then the roof.

Step 4

Leave it for a week (7-8 days). In that time, the

flying bees will leave the top queenright box, fly out to forage and return to the entrance they know which is the original one at the front of the hive. Without flying bees, the queenright top box will tear down all the queen cells. If you find queen cells still in the top box at this stage, your colony had already swarmed before you started operations.

In the 'new' brood box, the young bees that were in the supers will start to rear queen cells. I can hear people now moaning on about 'scrub' queens or 'panic' queen cells. It can be seen in the photographs that the queen cells are built in a ring, following the brood pattern of the queen. In other words, the bees choose larvae of the right age.

Or at least, my bees do.

Step 5

All good swarm control methods have two steps. The brood-and-a-half at the top should have no queen cells and a queen coming back into lay. Swap the 'new' bottom box, together with its queen cells, with the original one and its half so that the hive will now consist of (from the bottom):

- Floor
- Queenright brood-and-a-half
- Excluder
- Super(s)
- Split board
- Box with the queen cells
- Inner cover
- Roof

Protect at least one of the new queen cells with a cell protector or, just as effective, a piece of cooking foil, leaving the tip (about 3 mm) of the cell exposed. Sometimes the flying bees at the top destroy the new queen before they realise she is needed.

The 'new' top box should have a laying queen in 10-14 days. At this point, this box can go to the bottom, at floor level.

Transfer into it as many combs of brood (minus bees) as you can.

Replace the supers but try to move the original brood and- a-half to a new site.

To deal with the flying bees returning to the entrance at the back of the hive, simply turn your split board over. Returning bees are guided back into the hive below.

One week later, close this entrance in the evening and a day later replace the split board with an inner cover. In a day or two, the bees will learn to use the proper entrance. The 'half' can be given to the colony with the new queen as soon as possible above the brood box but with the excluder below it.

This method does work. It's not compulsory if you don't like it, you don't have to use it.

The upside is that, treated like this my bees seem to have become calmer, at least in the area of 'build up and swarm'.

And I haven't had to feed for at least 10 years. Honey crops seems to be consistent with nearby beekeepers.

Having long decried this system, I now suggest you try it.



Fig (2) - Queen cells reared in the 'new' brood box with larvae selected by age.

Photo source - Adrian Waring

Mike Hill - January 2014