

## Queen Cells and Timings for the Pagden and Demaree Swarm Control Methods

The following instructions are to help you with your timings when you are performing the Pagden or Demaree method of swarm control.

Remember in both cases the frame you transfer into the brood box full of new foundation along with your queen must be completely free of ANY queen cells at any stage of development or the whole process is doomed to fail.

The timings shown below relate to the brood box in which you have all your brood frames (minus the one you may have transferred the queen on) and what to do if you have no queen cells, just open or closed ones or a mixture of the two.

Day 1 in the instructions refers to the day you do your manipulation to start the Pagden or Demaree methods going.

### I don't want a new Queen at the end of the process

DAY 1 - ideally remove all queen cells at whatever stage of development from all your frames but at the very least you must remove ALL closed queen cells.

DAY 7 - go back to your brood box and again remove any queen cells that have been made by the bees.

Once you have done this your colony is now hopelessly queenless (they do not have eggs or larvae young enough to make a new queen).

Demaree method - wait until all the brood in the top box has hatched and then remove the top box which now contains empty frames.

Pagden method - when you are sure the colony which contains your original queen is not trying to swarm anymore you can unite this with your now queenless colony. Or you could introduce a new queen to this colony if you have a spare queen.

Whatever you choose to do make sure you do it before all the brood has hatched out or you run the risk of laying workers taking over the hive.

### I do want a new Queen at the end of the process

#### There are no queen cells present

DAY 1 - You may not have any queen cells present in your brood box if you have decided to do the manipulation as a prevention against swarming rather than a control process or you may have inadvertently damaged or removed any cells present.

Check that you have eggs (if you haven't any eggs in the hive you will not be able to perform the manipulation unless you introduce a new frame containing eggs from another hive). If you have eggs then close the colony up and come back on DAY 4.

DAY 4 - remove all queen cells except one open one. This will produce your new queen.

#### There are queen cells present

DAY 1 - If you have closed and open queen cells remove the closed queen cells (you can't be sure what age larvae the bees have used to produce these cells and you cannot tell without damaging the cells if the larvae is healthy or alive).

Note - If you have closed queen cells in your hive on Day 1 you are lucky that your old queen hasn't already swarmed as they usually leave as soon as the first cell is capped. It may be that the weather has been unsuitable or there is a poor nectar flow, but whatever the reason you've had a lucky break.

Looking at the open cells you now have two choices:

- a) remove all except one good healthy open cell and use this to produce your new queen (the only warning is that you do not know exactly how old this larva was when it was chosen to become a queen larva)
- b) If you have eggs in the hive then remove all open queen cells and leave until DAY 4.

DAY 4 – assuming that you have removed all the queen cells on Day 1 you could have both closed or open cells in the hive. If closed is all you have then you have no choice but to go with one of those but if you have open cells available to you then remove all the closed ones and choose one of the open cells to become your new queen. You know this will have been fed as a queen right from the very start.

Note - Why could I have closed cells present when it is only 4 days since I removed all cells and it takes 8 days for a cell to become capped? The answer is that the bees have chosen an older larvae to make into a queen cell. This means if it is capped on Day 4 the youngest larva you could possibly have inside the cell would have been 2 days old when the bees decided to treat it as a queen larva. This could produce an OK queen but you run the risk that its reproductive systems have not developed to their full extent.

Using this method you can be sure of your timings as you know your larva was 7 days old on DAY 4 so your new queen will emerge on DAY 13. This is important if you use the Demaree method as you must remove your mature queen cells and put them in their new colonies before they emerge. So in this case on DAY 11 remove your mature queen cells from the top box and put them in their nucleus boxes which can be made up from the frames in the top box not containing any queen cells. Any remaining frames of brood should be left in the top box until they emerge and you can then remove the box and the empty frames. If you've used the Pagden method you don't need to worry so much about the timing of when your queen will emerge as she is already in her new home separated from the old queen.

## Finally, can I leave more than one queen cell to produce my new queen?

Demaree method – The answer is yes, as long as you take your mature queen cells out of the top box and put them into their nucleus boxes before they emerge on Day 13. I suggest you do this on Day 11.

Pagden method – The answer is also yes but if you leave more than one queen cell to develop, although you have insurance against a larva dying after being sealed it can cause other problems. The first virgin queen to emerge may not kill her rivals (which she should do if all goes to plan). One of two things will then happen, she will fight her rivals when they emerge and you run the risk of being left with a victorious but damaged queen. Or secondly, the first virgin will swarm instead of remaining with the hive and will produce a caste. These castes, as new virgins emerge, will become ever smaller and may not make viable colonies even if you do manage to catch them.

So the choice is yours!!

Remember whatever path you choose timing is key. Whatever the weather you will need to do the manipulations given above on the day prescribed. If you delay even by one day you may be lucky, or if you're anything like me it will result in disaster to the whole process.

Good luck

