DIOPLÓMA I BEACHADÓIREACHT
DIPLOMA IN APICULTURE

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Standard Operational Procedure: Dividing a colony in line with swarm control.

Purpose:

This SOP provides detailed instructions on how and when it is best to divide a colony.

Checklist

Potential Hazards:	**Prevention/Action Needed**
Getting severely stung	When opening a hive, wear a bee suit, or at minimum, a veil, and gloves, regardless of the task. Ensure your ankles are covered by boots or wellingtons. It is essential to be gentle with the bees during all manipulations. Avoid rough handling of equipment when removing it to inspect the colony as vibrations upset the bees and cause defensive behaviour. Always carry anti-histamine cream in your tool kit. Carry an epi-pen if you are allergic to bee stings.
Falling or tripping on vegetation	Ensure the ground around your colonies is level and clear of vegetation such as briars and nettles. Carry a mobile phone and if you are working alone tell someone where you are working.
Special Handling & Storage of Supers	Bear in mind that once supers are in place, you are handling a premium food, so cleanliness and hygiene are essential to prevent contamination and spoilage. Clean your bee suit after every day inspecting bees and have a spare suit if you have several apiaries. Wash all equipment in your tool kit regularly. When transporting full supers, ensure they are placed on a clean surface and immediately stored in a clean, bee-proof room without delay.
First Aid Procedures	Anti-histamine cream. Anti-histamine tablets. Epi-pen if allergic to bee stings.
Inspection tool kit & spare equipment- summer inspections	Water mister, Smoker & smoker fuel, lighter, hive tool, frame rest, notebook & pen, spare brood frames, supers, butterfly clip, queen cage, marking tube & queen marking pen and fine scissors (for clipping the queen), an empty box to house the frame the queen is on during longer inspections (nuc box is ideal), a small container (no more than 5L) of washing soda solution (10% by weight), queen excluders, replacement equipment if swapping floors or taking home equipment for cleaning, painting or repair.

Background Information:

Managing bees for swarm control is inextricably linked to colony reproduction. During routine inspections from May until June or early July, the beekeeper provides extra space for the expanding colony. This is also a method of swarm prevention. Regardless of extra space provided, the colony will still probably satisfy the conditions leading to swarming, and the beekeeper will inevitably find queen cells. Early in the season these are likely to be swarm cells and the beekeeper must take immediate action to avoid losing a swarm and therefore losing the honey crop as well as causing a menace to the public. Seven-day inspections along with clipping and marking your queen will also mitigate against losing swarms. Every beekeeper has their preferred method of swarm control, so, by the beginning of May, all necessary extra equipment required for that manipulation, should be brought when doing seven-day inspections.

Planning Ahead:

In order to maintain colony numbers, bee breeders and hobbyist beekeepers alike, must make provision for increasing their stocks to mitigate against colony losses. Part of the preparation for this involves drawing up a plan for the year ahead and assigning stocks to nuc production while others are earmarked for honey production. Some methods of queen rearing allow for both.

If a colony is strong enough, a bee breeder might overwinter selected colonies on double brood. A hobbyist is more likely to over winter bees in single brood boxes. Double brood ensures a good supply of frames of brood, stores and drawn comb to be able to make nucs using materials from that colony alone. It also provides early strong colonies for the artificial rearing of queen cells. Either way, when queen cells are found, the beekeeper has many options in the way a colony is divided, but has no option but to divide it.

Here we present two methods, one for absolute beginners, because it is almost fool proof. The second method is suitable for non-commercial bee breeders who are willing to dismantle a colony on double brood in order to make several nucs. Again, with experience, the options are endless as long as the weather is good and bees are healthy and numerous.

Dividing a Colony - Preface:

During a seven-day inspection, open queen cells are found by a beginner beekeeper, in a strong, healthy colony, housed in a national brood box and two supers. The queen is present but no longer in full lay, as is evident from the ratio of sealed brood to open brood and fresh eggs. The beekeeper wishes to make increase.

Beginners: Artificial Swarm – 'Pagden Method'

1. Remove the roof, supers and queen excluder and place the [parent] hive (with floor and crown board) more than 1 metre to one side.
2. Place a new floor and brood box with 9 frames of foundation (or drawn comb if available and disease-free. Insulating dummy boards can be used temporarily if frames are in short supply and/or weather turns cold) and a thin dummy board on the original site and remove 2 frames from the centre to create a gap.
3. Inspect the original brood box and find the queen. Place her on a frame with unsealed brood in the gap in the new box. Ensure there are no queen cells on this frame. Take care not to allow the queen to fall off during the transfer. Close up the gap and add the remaining frame at the back of the brood box. Replace the queen excluder, supers, crown board and roof.
   Note: if the queen is on the only frame with queen cells or the best queen cells, move the queen to a different frame.

   Now turn to the old colony with the eggs, brood and nurse bees and inspect the colony for queen cells. Select ***ONE*** nice, large **open** queen cell and leave in place in the centre of the brood. **Mark the frame** it is on with a drawing pin and replace it.

4. This new queenless state may induce the formation of fresh queen cells. Return in **seven days and break down any new queen cells,** which should be regarded as emergency queen cells of inferior quality. Carefully close up the gap and place 2 spare frames at the outer edges. Replace the crown board and roof. There will then be no more larvae present and therefore no more risk of further queen cells.

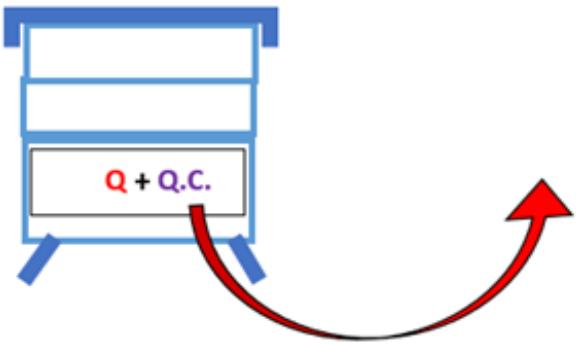
   *At this stage the original colony has been **artificially swarmed**. That is, the old queen and flying bees (in the new box) have been separated from the brood and nurse bees (in the old box). Any flying bees from the old box, will return to the old site and re-join the queen.*

5. (Optional) After another 6 or 7 days, relocate the parent [brood-containing] hive more than 1 metre to the other side of the new [queen containing] hive. Newly flying foraging bees trying to return to the old hive will drift to the new hive, thus adding to the numbers of the artificial swarm and reducing the likelihood of the box containing brood and queen cells from swarming if an extra queen cell was missed during that inspection.

Artificial Swarm Summary

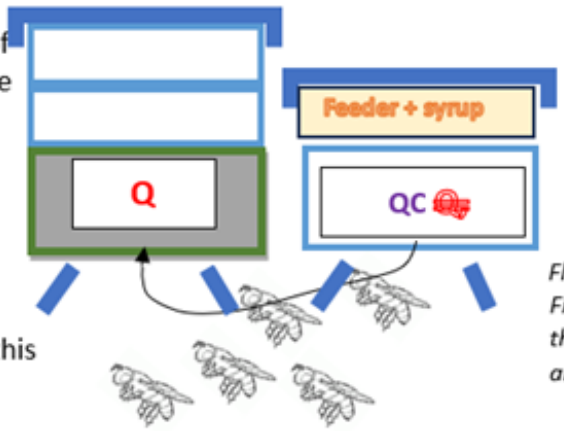
Colony + Queen + Queen Cells (Q.C.)

1. On seeing QCs, move original brood box to a new stand over a metre away.



2. Put a new floor and a brood box of foundation and/or drawn comb on the original site.

3. Find the queen. Put the queen in on the frame she was on (providing there are no queen cells).
Replace queen excluder, supers, crown board and roof.
supers. The flying bees will return to this box.
Return to the moved brood box.
Leave one good unsealed queen cell. Mark the frame.
Close up and leave for 7 days.



Flying bees return 'home'. Finding nothing there, they enter the nearest hive (original site) and strengthen that colony.

4. In 7 days' time, return to the box on the new stand and break down any queen cells which have since been initiated in this box. Remove the feeder but monitor- if there is a June gap you may need to feed.

5. The queen cell will hatch, she will mate after approximately one week if the weather is good and there are sufficient drones around: this is your new colony. If you do not wish to increase stocks, both colonies can later be united in time for the main nectar flow. Save the old queen in a nuc and get that colony to draw frames.

Swarm control when you cannot find the queen:

You have found unsealed queen cells, eggs and brood in all stages in a strong colony but cannot find the queen.

1. *Carefully shake all bees from frames that don't have queen cells on them, into a new brood box containing drawn comb or new frames of foundation, on the original site. It does not have to be a full box of 11 frames for now- the space can be filled with some dummy boards. Brush bees from frames with desirable queen cells, to avoid damaging them. The queen should now be in this brood box. Ensure there are some empty drawn frames for her to lay in.*
2. *Place a queen excluder and supers above this brood box and place the original brood box on top for 24 hours. Result: the young nurse bees will migrate up to the brood.*
3. *The following day remove the top brood box to a new stand and floor, more than one metre away. Select one good open queen cell and break down the rest (or make up a spare nuc). Foragers will return to the original site and the end result is an artificial swarm on the original site. As there are few forages in this box, remember to add an eke over a crown board and feed syrup. In seven days, check for emergency queen cells in the box on the new stand, and break them down. Leave for one month until the new queen has mated and started to lay.*

Note: breeding queens from 'swarmy' bees is not recommended in the long term. The beginner is advised to learn alternative methods once they are successful at overwintering colonies.