Comb Change

Introduction

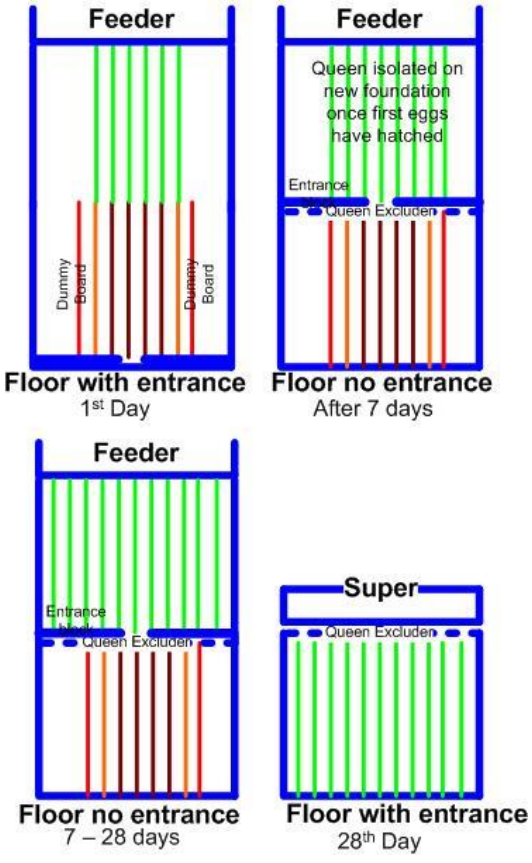
Regular comb change should be a standard practice for all beekeepers, it reduces the exposure to pathogens whilst encouraging strong and healthy colonies. Giving a colony fresh comb not only improves the hygiene management of the colony, it also seems to invigorate it.

As a rule of thumb all brood comb should be replaced within a hive every three years. Some beekeepers carryout a complete comb change on their colonies every year.

Below is a summary of different methods of achieving comb change within a colony. Care should always be taken before embarking on a comb change that the colony is strong enough, the weather is warm enough and there is available food for the bees.

Bailey Comb Change (Spring)

This is the classic method that most Beekeepers think of when planning a comb change for a colony. The principles are quite simple; restrict the brood space so the colony is forced to expand onto new comb/foundation, isolate the queen with brood so the colony moves onto the fresh foundation and restrict access for the bees to the old comb.



In the spring when the bees are foraging and the colony is covering 5-6 frames with up to 3 frames of all stages of brood, remove all the fames without bees or brood on. Dummy up the colony so that it is space restricted.

Place a second brood box directly above the colony with fresh foundation or clean drawn comb over the frames in the bottom box.

Feed the colony.

After about 7 days check the top brood box for drawn comb, brood including larvae and the queen. If larvae are present the queen should be isolated by placing a queen excluder between the brood boxes.

Close off the original entrance and place a new entrance above the queen excluder.

Continue to feed.

As the colony grows in the new brood box add new frames of foundation.

After 7 days check the original brood box for queen cells, tear down any that are present. 21 days after the queen excluder was inserted, remove the bottom brood box and queen excluder.

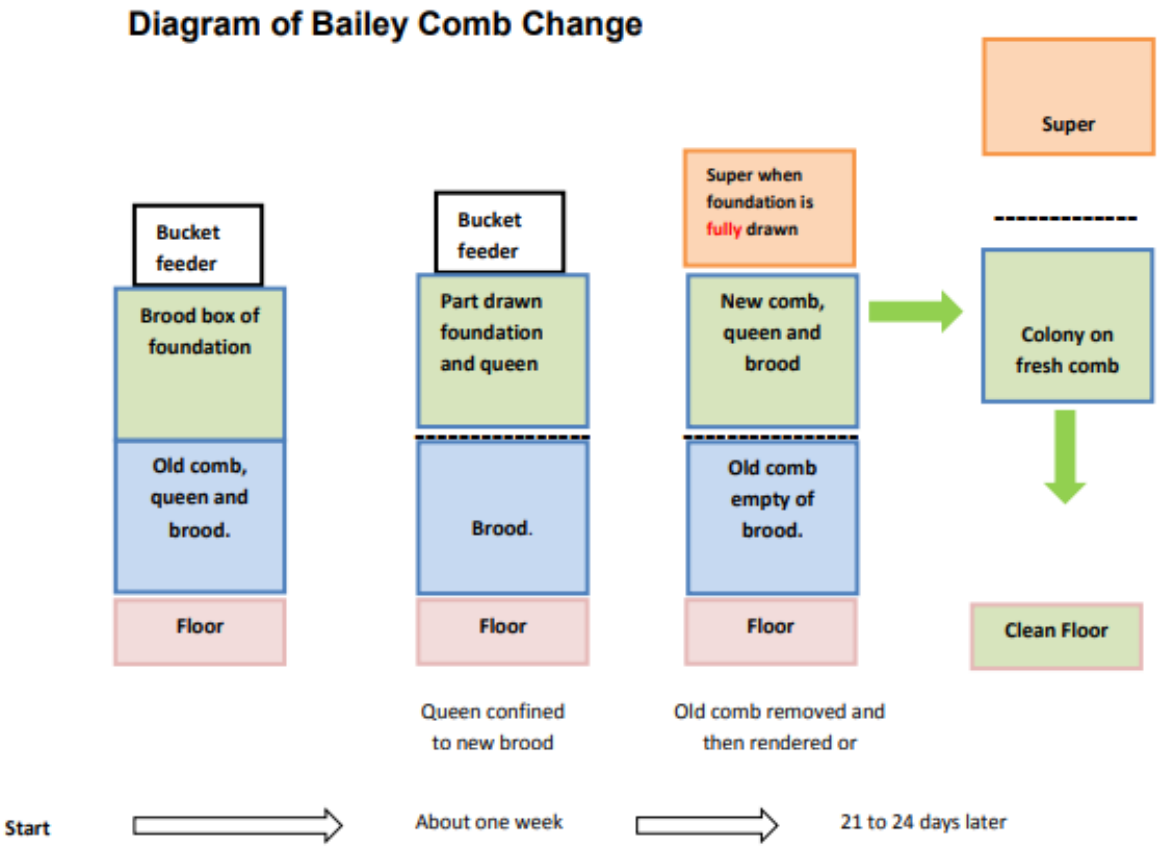
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Comb Change, Strong Colony (Summer)

This method employs the same principles as the Spring comb change except it applies to a colony that has a full brood nest.

Follow the same procedure as Bailey Comb Change in Spring except:

- Do not dummy down the brood box
- Do not remove excess frames
- Place a full set of frames in the new brood box
- Depending on the flow, the colony may not need feeding
- Leave supers above queen excluder over the top brood box



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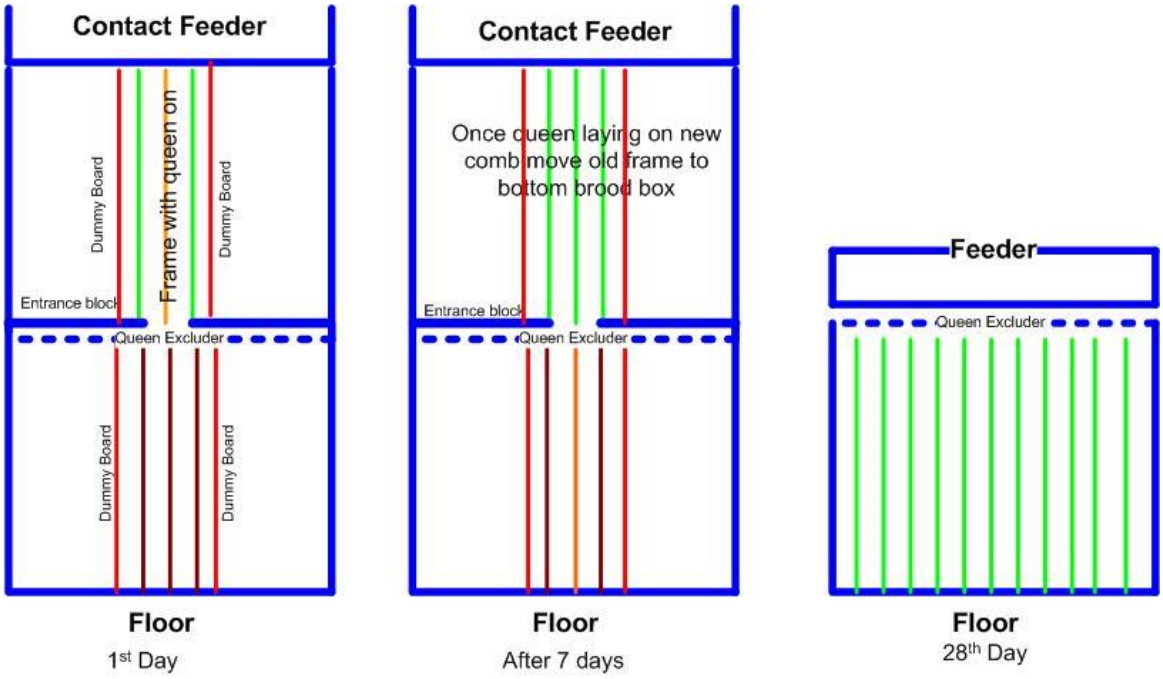
If there are supers on the original hive they should be removed until feeding has finished or be place above a queen excluder above the top brood box and used as feed for the colony to draw comb.

Do not isolate the queen in the top box until there is larvae present on the new comb. Nurse bees can abandon eggs and the queen if for instance there is a sharp cold spell.

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Bailey Comb Change, Weak Colony

If a colony does not expand in the Spring and Nosema is suspected, then this method will move the colony on to fresh comb with minimal disruption. A weak colony will not be capable of drawing new comb on fresh foundation so clean drawn comb must be used.



Remove all frames except for those with brood on.

Find the queen, place her and the frame she is on in a new brood box.

Place the new brood box above a queen excluder with a new entrance. Close off the old entrance.

Place sterile drawn comb either side of the queen frame in top box. Both brood boxes are dummied down. Feed via contact feeder with thick sugar syrup (1kg sugar to 640ml water).

Combs in each brood box should be directly above each other. Once larvae are present on the new sterile comb, move the old frame to the bottom box, isolating the queen in the top box.

Continue to feed, add additional frames of foundation as necessary.

After all the brood has emerged from bottom box (up to 28 days from start) remove it and destroy comb.

Gradual Change

This method is by far the simplest and does not require any special manipulations.

In the Autumn move the old brood frames that you wish to replace in the following Spring to the outer edge(s) of the brood nest.

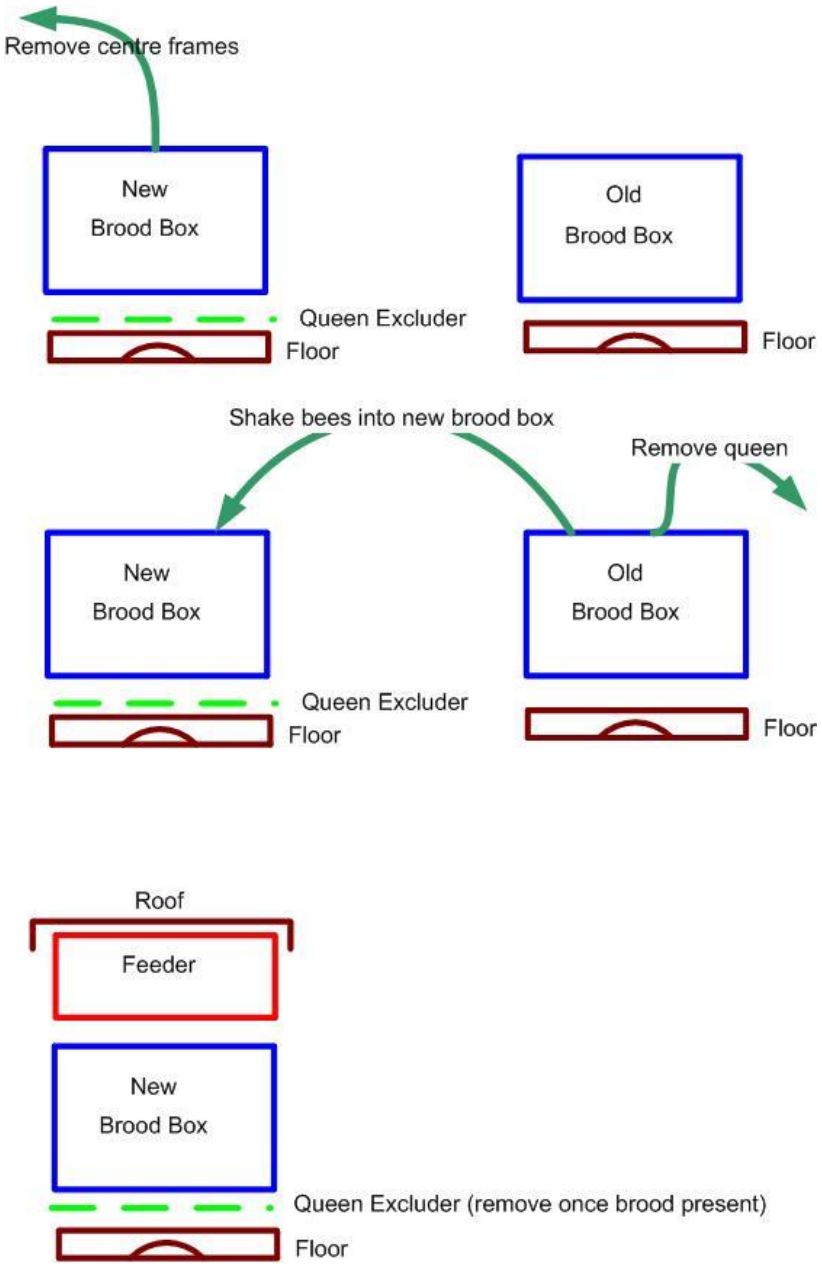
In the Spring as the colony starts to build up remove the old frames and replace with new frames and foundation. Feed as necessary.

3-4 brood frames can easily be replaced each year.

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Shook Swarm

This method has the main advantage that it is completed in one manipulation, however it needs to be carried out on a strong and healthy colony in warm weather and ample food supply. If Nosema is suspected this method should not be used as the shaking of the bees can cause them to defecate and spread Nosema spores.



This should be carried out on a strong colony, say bees covering 5-6 frames with all stages of brood and during warm weather. The colony will need feeding even if there is a strong flow.

Move the hive to one side and replace it on the original stand with a new brood box above a queen excluder and new foundation.

Remove the centre frames from the new brood box.
Find the queen in the old hive and make her safe.

Going through the original hive frame by frame shake all the bees on the frame into the new box.
Brush any remaining bees into the new hive.

Introduce the queen into the new hive, close the hive and feed. Remove the bottom queen excluder once all stages of brood are present.

Destroy or render down old comb.

Points to note:

- Do not carry out Shook Swarm if colony suffering from Nosema as the act of shaking bees will cause them to defecate.
- All brood is lost
- Do not carry out too early in the season

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