

1. Select a colony with good qualities e.g., not aggressive, high yields, limited pests, no diseases to provide a suitable 'breeder queen'.
2. Ensure there is good bee forage at the time of carrying out the split
3. When the brood box is nearly full of bees, add a second brood box and to allow the queen access to both boxes. Raise at least one frame of brood from the original box to the middle of new second box and replace below with empty comb/foundation. This will encourage the queen
4. When the bees have nearly filled both boxes with bees, they are ready to rear queen cells.
5. Remove one brood box to a new site in the apiary and add a spare floor, crown board and roof.
6. Ensure each box has representative worker bees, drones, minimum 3 brood combs, at least 2 honey combs and at least one bee bread comb
7. Look for the queen and put it in a box on new site.
8. Brood box on old site should be left 'queenless', with frames containing eggs or very young larvae. Many 'flying' bees from new site will return to old site.
9. The original hive should be queenless, well populated and well fed. Bees will proceed to rear queen cells on any combs with eggs or very young larvae.
10. The split hive will have the old queen, have adequate stores (feed if necessary) and have no flying bees, so will be a viable unit.

11. Monitor establishment of the colony and ensure they are not stressed.
12. Further splitting can be done by repeating the procedures.

QUEEN REARING BY SPLITTING



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Photo: Glenn Apiar



QUEEN REARING BY SPLITTING

Honey bees

Honey bees are social insects who live in an organized system. A single colony of honey bees consists of one queen, drones and workers, all being adult bees. The colony also consists of immature stages (the brood)-eggs, larva and pupa. Each adult bee caste/group has their roles. Queen is responsible for egg laying and major colony organization coordination through use of chemical communication. Through egg laying, they ensure the colony grows in numbers. Worker bees are the majority, they are infertile females and carry out most of the colony duties such as building nest, collection of feed, and provisioning of the brood. Drones are fertile males and their main role is mating with queen whether from same colony or other colonies. They therefore spend most of their time flying around looking for mates. Queens are only mated once in their lifetime and this is done outside the hive when they emerge as a young queen and ready for mating. The mating bound may involve several drones, mainly chosen by the queen.



Queen bee surrounded attendant worker bees (Source:)

Natural Honey bee production

The reproduction and production of honey bees is based on colonies. The more colonies a beekeeper has, the more productivity. Therefore, methods that enhance expansion of colonies in beekeeping are required to assure yields.



A hive showing a sign of bees preparing to swarm. (Source: J Kilonzo)

In natural circumstances, honeybees will naturally form new colonies through a process called swarming. A swarm is formed when a new queen is made from a colony of bees within the hive. Then, just before the new queen emerges, the old queen leaves the hive and takes half of the adult bees with her to go and start a new colony, in nearby or far away.

The need for splitting of the colony by the bees is occasioned by the size of the colony vis a vis the size of the hive or dwelling place. Whenever the queen senses fullness/overcrowding of the colony, she will start preparing for division of the colony for purpose of reducing population pressure. This eventually bears a new colony, thus a new reproduction and production unit.

At the time of executing swarming, the exiting colony will first cluster on a branch nearby and send scout bees to look for a good nest. If this is not located, the swarm will move to another place and will continue scouting until a suitable nest is located where they settle. Such bees can settle on hollow tree trunk, house ceilings or hollow places in house buildings, hives, and any form of container e.g. jerrican and gourd, many of which beekeepers have noted.

Colony production by splitting method

This method utilizes the knowledge of the natural splitting of colonies by the bees themselves. The idea is to create conditions that will make the queen sense

overcrowding and hence prepare to split the colony. It includes management of swarms for purpose of expanding colonies in an apiary.

Some ways that a beekeeper can make a split by splitting a colony into two. The colony which will be left without a queen will raise a new queen. In both instances, you ensure both colonies have considerable combs with brood (about 3 combs), honey and bee bred (about 2 combs) as well as good number of worker bees who continue to provision the brood and feed the colony. The split can be placed in a nucleus hive such as catcher box, which can then be moved later to the hive once the colony stabilizes. The split is moved to new site to avoid return of the workers.



Queen bee cells in a comb

An improvement of the system includes introducing a purchased queen or queen cell in the queenless split so that the colony does not have to wait about three weeks while they are raising a new queen. Once the introduced queen is fully accepted by the split and is ready for mating, she is released to the colony and the eventual mating bound will proceed. Thereafter she is expected to start laying eggs.

How to split a new colony to produce queen cells

The following describes the process of splitting of a honey bee colony: