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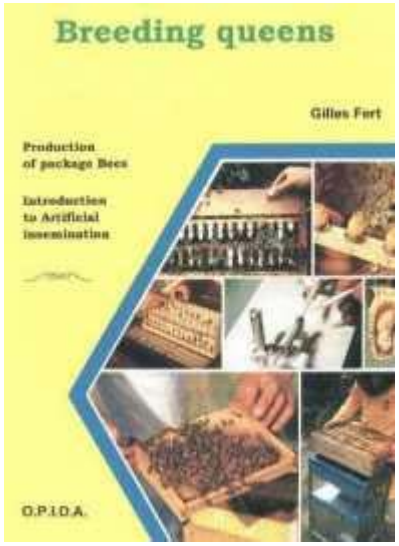
Introducing Queens

Extract from Breeding queens by Gilles FERT



Order

As a general rule, it is easier to get a queen accepted by a colony during a nectar flow. If no nectar is being brought in, acceptance will be helped by a feed. Other considerations must be borne in mind, in particular:

- **first, make sure that the hive has in fact been orphaned (and of course, is without a virgin queen) ;**
- **give the bees the time and opportunity to get used to their new queen. She herself should be protected by a mesh allowing her to maintain 'physical' contact with the workers (by exuding royal pheromones at the heart of the colony).**

Many beekeepers introduce the queens directly, without any protective devices, if laying has not stopped. This can also be done with incubator-born virgin queens : they are exposed directly to an artificial swarm provoked three hours earlier. But things are different for queens which have spent several days in a transit cage. Although no method is perfect, acceptance of these queens is best after imprisoning a queen on a broodcomb with a wire mesh press-on cage measuring 10 cm x 8 cm by 1.5 cm deep (Fig 70).

Fig. 70 : Introduction cage made with a square piece of metal wire grill.

Select a broodcomb with emerging brood. This will allow the queen to surround herself rapidly with her 'court' and to lay in the cells as births take place. Before opening the transit cage we recommend dipping it in water in order to wet the queen and thus prevent her from flying. The longer her laying has been halted, the greater the risk of her flying off (on the other hand, a queen in full laying activity is more or less incapable of flying). The escort bees are destroyed. The queen is then introduced on her own, under the wire mesh. Two or three crosswires on the sides of the mesh should be removed beforehand.

This makes it easier to push the cage into the comb. Free her three days later by removing the cage, under which she will already have started laying (Fig 71).

Introduction cages made entirely of plastic (Nicot brand) are now available in retail outlets. They are more sturdy than wire mesh cages and can be re-used many times (Fig 72).

Another method, using the same mesh cage, is to allow the queen to free herself through a little metal tube placed in the corner of the cage once the bees have consumed all the candy it contained (generally in 2 or 3 days).

Introduction in a bag made of newspaper gives excellent results. Place 35 to 50 bees in a bag 20 x 15 cm in size, and shake briskly for 30 seconds. This makes this micro-colony buzz like an orphan colony. Then put the queen in with them and close the bag, placing it between two frames. The bees will nibble away the paper, freeing the prisoners, and the queen, within a few hours.

It is also possible to use the transit cage to introduce a queen. In this case, remove the escort bees and the cork stopper on the candy side. Fix the cage between two broodcomb frames after piercing a small hole (1 or 2 mm) through the candy reserves. The bees will help to free the queen by nibbling the candy. The cage can be removed when inspecting to check acceptance (Fig 73).

Some Canadian beekeepers make direct use of mating mini-hives to renew their queens. This is possible so long as the same type of frame is used, that is, if the hives and the mini-hives take the same size of frame. The old queen is eliminated half an hour before introduction. This is in fact a union, since it means introducing the whole contents of the mini-hive (frames, bees and the new queen) into the hive that needs the new queen. The population of the original hive is shaken just beforehand, in order to disorganise the colony as much as possible and to disturb the pheromones. This process is followed by a feed.

Fig. 73 : Transit cage used for introduction.

One careful but tedious method of introduction consists of caging the queen to be changed and, the next day, removing her and putting the new queen in her place so that she will assume the scent of the old one. Take care to remove the escort bees and to pierce the candy so that she frees herself after a few hours.

Many European beekeepers who only change a few queens each year adopt the following method which consists of creating a mini-hive : after finding the queen in a strong colony, populate a mini-hive with five frames, as for the production of an artificial swarm, in three broodcomb frames with bees of all ages and two frames of honey and pollen at the sides. Placed a few metres from the donor colony for 24 hours, the mini-hive will lose its old bees. Then the young queen is given directly to the very young population which will generally accept her quite readily.

The Scrive method consists of coating the new queen with royal jelly at the very moment of introduction. This method would also be effective for the introduction of a virgin queen.

In Australia, some beekeepers systematically change their queens simply by introducing a royal cell at the top of the honey super. During an abundant nectar flow, and with a particularly 'easy' bee, this method will cause the old queen to be superseded by the new one.

On the other hand, we ourselves found systematic rejection of young queens from broodstocks with problems of cleanliness.

Finally, it must be acknowledged that rejection behaviour is much more common with the introduction of a queen of a different race from that of the colony. Consequently, if you receive queens from abroad, or 'yellow' bees which you want to use with your stock of local bees *mellifera mellifera*, be careful, and take every possible precaution to achieve success. In particular, use artificial swarming or packages of bees so as to eliminate the old bees, which are often the cause of failure.

Realization: Gilles RATIA
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