

Beekeeping – Making Increase



Llywodraeth Cynulliad Cymru
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The Food and Environment
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Introduction

All beekeepers will find the need to make increase at some time, the means of increasing colony numbers are many and varied so reference to a good book on the subject is recommended. Here you will find the basic techniques that will suffice for most beekeepers. The artificial swarm is the most widely used method as it can also be used for swarm control.

Making a nucleus is a good way to make both increase and profit but is much easier to carry out if the nuclei can be taken to another apiary beyond the flying range of the original apiary.

When making increase it is essential that only strong, healthy, colonies are used and that it is the right time in the season for both parent and new colony to thrive.

Robbing

This risk cannot be over-emphasized especially where nucleus colonies are made up in the same apiary. Remedies may include single bee way entrances, the use of frame feeders, feeding dry sugar instead of syrup, separate sites for nuclei, or taking the nucleus being robbed to an out-apiary.

New stocks will need feeding even in a flow as they will be short of foraging bees but syrup should not be fed until the third evening to reduce the possibility of robbing.

Making an artificial swarm

For those who wish to make increase and at the same time discourage swarming the artificial swarm is simple and widely used. This method requires an extra brood box, floor, crown board and roof. On finding a stock has occupied queen cells but has not



swarmed the queen and the comb on which she is found are removed to a new brood box. This may be prepared in advance and is furnished with drawn combs, or frames of foundation, or a combination of the two; leaving space in the centre to receive the comb carrying the queen. Any queen cells on the comb holding the queen should be removed or destroyed.

The original hive on its floorboard is now moved aside and replaced by a floorboard on which is stood the new brood box containing the queen. After the addition of a queen excluder any supers that were on the original colony, with the bees occupying them, are placed above. This colony (artificial swarm) will now receive the flying bees as they return from foraging. It will build up its brood nest during the summer and, having many foragers and less brood to care for, is in a position to take advantage of nectar flows.

The original colony, now without a queen may be sited in any convenient position in the same apiary. The foragers will drain off to the artificial swarm most effectively if the two hives can be five yards (4.5 metres) or more apart.

A frame of comb or foundation will be needed in the brood box to replace the comb carrying the queen now in the artificial swarm. This original colony, having lost its surplus stores and foraging bees, is in danger of starvation.

At least one comb with stores should be present in this stock so that feeding may be deferred for three days. This will reduce the probability of the foragers returning as robbers.

If a young mated queen is available, she may be introduced immediately in a suitable cage after destruction of all the queen cells. Alternatively, the cells may be left undisturbed, or better still, destroyed except for one good unsealed cell chosen because it is well provisioned with royal jelly and in a position where

chilling is unlikely to occur. A further alternative is to destroy all cells and give a mature sealed queen cell from a better strain.

Artificial swarms should be made early in the season so that they can build up to full size colonies for winter.

Making a nucleus

A strong nucleus is needed if a queen is to be raised from a queen cell whereas a smaller nucleus can be employed where a mated queen is available. A small nucleus taken from a colony which is raising queen cells may not deter the colony from swarming, yet a nucleus large enough to achieve that end may wreck the colony for honey production. The nucleus size must be governed by the necessity for it to go into winter as a viable colony.

First find the queen and place her, on the comb as she was found, into a spare box and cover this until the operation of making the nucleus is complete.

Now take two combs with emerging brood with one or more advanced queen cells upon them and place these combs in a nucleus hive together with their adhering bees. The most suitable combs will also have a big arc of honey and pollen above the brood. Shake the bees from at least four other combs into the nucleus. Take two combs of food from the outside of the brood nest, place these in the nucleus flanking the two combs of emerging brood and allow for expansion by providing drawn comb or foundation. Put on the crown board and roof and place the nucleus on its new site with the entrance lightly plugged with green grass to prevent bees flying back to the parent colony straight away.

If the new site is alongside the parent colony turn the entrance of the nucleus at right angles to that of the parent colony. Do not feed the nucleus until the evening of the third day after it

was made up and be careful not to encourage robbing by spilling any syrup.

Return the queen, on her comb, to the parent colony and make up the brood box with drawn combs or frames of foundation.

As soon as the young queen has started to lay the nucleus should be strengthened by adding a comb of emerging brood without bees taken from a strong colony. This will provide a force of nurse bees that will enable the nucleus to expand rapidly. If further combs of emerging brood are available another such comb may be added weekly until the nucleus is occupying eight combs.

If a mated laying queen is available she may be introduced to the nucleus, in a cage, immediately it has been made up after all queen cells have been destroyed.

Making three colonies from two

This method requires an extra brood box, floor, crown board and roof. On a fine day with a good flow; take three to five frames of brood from a strong colony and, shaking off the bees, put them into the spare brood box and make up with drawn comb or frames of foundation.

Make up with the brood box from the original strong colony with drawn comb or frames of foundation.

The colony to supply the bees is moved to another site in the apiary, and the spare brood box, made up into a complete hive, takes its position. Since it is only the flying bees from this second colony that will care for the combs of brood, it must be a fine day with plenty of flying bees available.

A gallon (4-5 litres) of sugar syrup should be given to the new stock the same evening. The new colony may be provided,



immediately, with a queen in a cage; or provided with a suitable queen cell the following day.

Queens

These may be obtained from local beekeepers, from the bee supply industry, or may be reared by the beekeeper, in which case it should be possible to develop a system of stock improvement rather than rear haphazardly from any queen cells that come to hand. Young, mated or virgin queens are readily accepted by a nucleus immediately after it has been made, and may be accepted later on if all queen cells then present are destroyed before any virgin has emerged.

Virgin queens are at their most acceptable as they emerge from their cells. An emerging virgin, removed from a colony before she has had any contact with those bees and subsequently kept isolated from other bees is known as a pulled virgin.

Pulled virgins are readily accepted by queenless nuclei.

Queen cells

Queen cells built in a weak nucleus are most undesirable. Choose from a strong stock of good ancestry, with the queens soon to emerge. For nuclei that are going to remain in the apiary either mature or unsealed queen cells containing advanced larvae may be used.

If a sealed queen cell is to be given it may be pressed gently into a hollow made by the thumb in the top of the brood area of a middle comb. If an unsealed queen cell is to be used the entire comb holding it should be placed in the nucleus without shaking. In either case care must be taken to avoid damage to the cell when positioning this comb or the one adjacent to it.

Queen introduction to nuclei

Introduction is easiest during a copious nectar flow, most difficult in a dearth when there is robbing or where queen introduction has already failed and the bees are without brood.

Introduction is safer in mid-season than either early or late and is more likely to succeed with bees of the same race. Queens from the same apiary are easier to introduce than queens that have come through the post.

The best means of introduction is by using a 5inch cage of (3 mm) wire mesh that allows the worker bees to familiarize themselves with the new queens before she is released.

Mating queens from nuclei

The beekeeper should try to give mating nuclei landmarks which will help homing queens distinguish their hive from any other. A brick, a tile, or a piece of wood close in front of the hive will help. Different colours of hive entrance may help. The nuclei should never be regimented into neat identical rows with the entrances facing the same way.

The Swarm

Gathering swarms is a common way of making increase. If a comb of brood is given it will encourage the swarm to stay. No unoccupied frame space should be left in the hive since the swarm may prefer to build comb of its own in the empty space.

All swarms benefit substantially from copious feeding when they are hived and a gallon (4-5 litres) of sugar syrup will be well expended on them at that time. Swarms should not be fed for three or four days as the honey being carried by the swarm may be diseased and should be used to build comb. It is worth

taking the opportunity to reduce Varroa levels, before there is any brood, employing a suitable varroacide or Varroa control measure.

From a stock preparing to swarm

A stock preparing to swarm may be artificially swarmed as previously described and the combs of brood with adhering bees may, at any time prior to the emergence of the first young queen, be divided into two or more nuclei provided the requirements concerning food and coverage of brood are observed. In this case only one mature queen cell should be left in each nucleus.

By splitting a double brood box

Where brood, bees and stores are divided reasonably evenly between the two boxes increase may be made simply by separating them. It is possible to complete the whole procedure without finding the queen – the two boxes are placed on separate stands more than a yard apart. A week later there will be emergency queen cells in the box without the queen.

These can be destroyed, and a queen or suitable queen cell introduced, or the whole box may be divided into nuclei.



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