

Feeding Bees. A Guide for Beekeepers

There has become a culture in modern beekeeping that bees should be fed a lot more than they need be. This could be when making up nuclei, hiving a swarm, or at any time of the year – feed, feed, feed, whether they need it or not. The cynic in me thinks this may be because of the increased number of feeding products now on the market compared to syrup and candy we used to have.

I advise beekeepers to know what is happening in their hives at all times and respond to their own observations, not what the books or other people are telling them. In the case of feeding, the amount of food a colony has is easy to determine. In the active season it is a physical inspection because you are inspecting colonies regularly, but in the inactive season, perhaps November – March, the weather may not be suitable for opening colonies, so resort to hefting or taking the crown board off and having a quick look.

A simple rule is there is no need to feed bees if they don't need it. If you feed them when they already have enough you may be doing more harm than good, especially in the spring when it is quite possible to crowd the queen out. Two things can happen then, firstly the colony won't build up at it's normal rate and there will be a shortage of foraging bees several weeks later and secondly, you could be setting up early swarming problems. I was once asked (pre varroa) by a Wisborough Green member in Cocking to look at her bees because they weren't building up very well. This was probably in May, as she was surrounded by OSR in flower. There was a WBC hive with a feeder on and the brood box absolutely packed with food, with the brood area about the size of a tennis ball. I asked a few questions and it turns out she was advised by another member to feed in the spring and told that once you start feeding you have to keep going! This was a simple case of not knowing what is happening in the colony.

Types of bees

This is something the books and lecturers don't often tell you, but some bees are more prolific than others. The queens lay a lot more eggs, resulting in brood and subsequent adult bees that need feeding. If conditions aren't good for foraging there are a lot of larvae and bees to be fed and natural honey stores can be rapidly reduced. On many occasions I have heard beekeepers say that colonies have got through a super of honey in a short time during poor weather in the summer. Less prolific bees are usually more frugal and can last much longer in such conditions. Although not always reliable, yellow bees are

usually more prolific than dark ones and the vast majority of starved bees I have seen are yellow.

Management

When you take supers off, make sure there is enough food in the brood box to last the colony until the next inspection. This is often a problem when supers are removed following the OSR, when colonies are still producing a lot of brood and have a lot of adult bees. A couple of days of poor foraging weather can mean a starved colony. Yes, I mean starved, that is DEAD. No colony, no honey, no fun! It often happens in the summer because the beekeeper doesn't look in the brood box.

If a colony is split, such as when making an artificial swarm, or a nucleus that is made and left in the same apiary or within flying distance, make sure the part that loses flying bees has enough food for at least a week. Feeding in this situation is likely to cause robbing. It is bad practice to feed a swarm in case it is infected with foul brood. See my other information for dealing with a swarm.

Results of food shortage

Assuming the colony is alive there is a strong possibility the larvae aren't fed as well as they should be. This leaves them wide open to problems such as disease. We know that chalk brood and EFB are aggravated by poor nutrition.

There could be a knock on effect because the colony may not build up as it should, meaning fewer foragers later or less winter bees being reared.

When I say "food", I mean both liquid and pollen stores.

Summer feeding

In my view this should always be seen as emergency feeding and is usually a lack of forage, often caused by the weather. In the U.K. there are often spells lasting several days when the weather is too wet or cool for bees to fly in any great numbers. There are also times of drought when although the weather is warm, the ground is so dry that plants don't secrete nectar. In both cases regular inspections will tell you what is happening. When there is a nectar flow, you will see vacated brood cells in the brood box filled with nectar and pollen and the young larvae will be in a large puddle of food. If the cells in the brood nest have no nectar or pollen in and the young larvae only have a small amount of food, then there is little food coming in. These signs are all part of the "reading" of a colony.

I advise syrup for summer feeding as the bees can use it immediately. I never use thin syrup for anything, so the old 2lb to 1 pint or 4 kg sugar to 2½ litres of water. If there is no honey in the supers and very little in the brood box you can feed on top of the supers, but make sure the bees don't store it in the supers, otherwise syrup will be mixed with honey.

Autumn feeding.

This is becoming more difficult as the treatment for varroa needs to be taken into account. Some treatments are not advised at the same time as feeding, yet take several weeks to perform, meaning feeding isn't done at the best time for the bees.

Wild bees store pollen throughout their supply of food, so they have pollen throughout the winter and spring when they need it. In managed colonies much of the pollen ends up in supers and is lost to the bees at extracting time. If feeding is done quickly, the bees store the food without having chance to store much pollen, leaving them short.

In my view autumn feeding should be done little and often and the beekeeper who takes a jug of syrup to their bees every couple of days is probably doing their bees far more good than the one who feeds a colony in a few days with a rapid feeder. Colonies that are being fed always increase their pollen gathering, so this is an added benefit.

I like to feed enough in the autumn to last the colony into the spring, so effectively giving it a similar condition to that of a wild colony. If I have fed a colony enough and it runs short of food during the winter or early spring, then I will mark it down for requeening.

Late winter and spring feeding

Once you have finished feeding in the autumn, heft the colony from the back and each side, but notice where the pivot points are, otherwise it may feel a lot heavier or lighter than it is. Make a mental note of what it feels like. Check every 6-8 weeks until mid February, then every 3-4 weeks. If you do it too often you don't realise how much weight has been lost.

If you think the colony has enough food then leave it. If you think it may be a bit light, then protect yourself, light the smoker and remove the crown board. If the weather is cold the bees will be clustering tightly and you can easily see how much sealed food there is by looking between the combs. If the weather is warm and the colony has broken cluster then gently smoke them to move them.

Placing crown boards with the slots crossways to the frames will make it easy to see if there is sealed food in the combs. On a cold day, if the bees are clustered fairly well down the combs with sealed food above, they will be O.K. If not, they may need feeding.

What to feed.

Syrup

I usually use thick syrup, which bees usually take readily. Any that don't take it often have a disease problem or the weather is too cold. Syrup is easy to make and deal with, but can ferment quickly, both inside and outside the hive. A simple way to deal with this is to add thymol at 3xManley strength. Details can be found here <http://www.dave-cushman.net/bee/thymolx1.html>

Candy or fondant.

I only use this in an emergency, but I know other beekeepers who use it for everything. There is a view that bees don't store fondant, but if they have broken cluster they do. I know commercial beekeepers who use it for autumn feeding when it is definitely stored. Bees don't store it if the weather is cool or they need it immediately. Colonies do vary in their consumption of fondant. You can get two side by side, one will leave it and another will take it quickly.

Frames of food.

If a colony is short, especially in early spring, you will often find other colonies that can afford to donate a couple of combs. Place these as close to the cluster as possible. They should see the colony through until they can be fed by other means.

Summary.

Make sure you know what's happening in your own colonies. Remember they will probably be different, especially if you have got them from different sources. Don't feed because you think you ought to, the book says so or another beekeeper who hasn't seen your colonies told you to. The best people to tell you what to do have six legs and four wings. Listen to them and do what they say.

Roger Patterson. 26/02/14