My Hive Does Not Have A Queen, Can I Requeen It?

The normal way to requeen a hive is to find the queen, remove it, and replace with a new queen, introduced to the hive in a queen introduction cage. This method has a very high success rate.

However I get called often by people who have looked in their hive and discovered there is no queen, and want to buy one to put in. However, as a general rule, if the hive has been queenless for a while, this will not work.

This document is a “quick guide” to help you decide if your queenless or problem hive can be requeened. And if not, what you can do about it.

1. Drone laying queens –

Queen bees mate within the first couple of weeks of their life, and the semen from that is stored and lasts the queen the rest of her life. Sometimes a queen will run out of semen, and after that can only lay unfertilized eggs, which cannot turn into worker bees, they become drone bees. So if you look in your hive and discover the brood is all drones, even though they are in worker cells, you could have a drone laying queen. The diagnosis is there is only one egg in each of the cells that has eggs, the queen looks normal, but all larvae are drones, no workers. If left, the hive will eventually die. But such a hive is easy to requeen, you just kill the drone laying queen and introduce a caged queen in the normal way. Giving the hive a frame or two of normal brood from another hive at the same time, can help normalise things and increase your chances the new queen will be accepted by the bees.

2. There’s a virgin queen in the hive-

Often people realise their hive does not have a queen when they look in it and find there is no brood. The natural reaction is to try to buy a queen to put in the hive. But – probably won’t work, here’s why.

When a queen is killed, the first thing the bees do is start making a new one. They do this by using one or more existing young larva, and feeding it differently so it will become a new queen. If the bees use a larva that has already hatched from the egg, the new queen can complete it’s brood cycle and hatch as an adult queen in as little as 10 days. Once this has happened, any caged queen that is introduced to the hive will be killed.

For worker bees, it takes 3 weeks from the day the egg was laid, until the adult bee hatches from the cell. So if the hive has no brood because the queen has been killed, there must have been no queen for 3 weeks or longer. By this time there will be a new young queen in the hive, so you cannot just go ahead and put a caged queen in the hive, it will be killed.

The new queen, after hatching, will mate and start laying eggs in another 2-3 weeks, IF she successfully mates. Around 25% or so of these emergency raised queens fail to mate and disappear completely. So if you can find the virgin queen, you have a choice to kill her and requeen the hive, or she can be left 3 weeks to see if she mates and starts egg laying. Around 75% of the time, she will. If you cannot find the virgin, test the hive by putting a comb with eggs in it from another hive. If the bees use these to build queen cells, you know they have no queen. You can kill the queen cells if you wish, and requeen the hive. If choosing to kill the virgin queen and introduce a mated one, it is best to also give the hive a frame or two of brood at the same time to make the bees think all is well and accept the new queen more readily.
3. Laying workers –

Hives with laying workers are the most difficult hives to requeen. It is caused by a hive that is queenless for a long time and the new queen the bees raised failed to mate and has disappeared. Eventually, due to lack of suppressing pheromones normally emitted by brood, some of the worker bees start laying eggs, and also start behaving like queens. Of course, their eggs are infertile and can only become drones, so the hive is doomed unless the beekeeper intervenes.

If a queen is introduced to a hive with laying workers, the queen will be killed. The laying workers act like queens and attack the introduced queen and kill her. So the laying workers have to be eliminated first before a new queen can be introduced.

The two pictures are to help diagnose a hive with laying workers. The first picture shows cells with many eggs in each one. This means laying workers, they do not know they are only supposed to lay one egg in each cell. The second picture shows patchy drone brood in worker cells. This is typical of laying workers. A drone laying queen will have a more solid brood pattern than the brood from laying workers.

How To Fix? –

Worker bees become laying workers when there has been no brood in the hive for quite a few weeks. They must be got rid of before the hive can be requeened. To do this, take a frame of brood including young unsealed brood, and put it into the hive with laying workers. The pheromones from the brood suppress the laying workers, and turn them back into normal workers. But, this takes 2 weeks. So the normal procedure is put another frame of young brood into the hive a week after the first. A week after that, the hive can be requeened with a laying queen. One thing to watch out for, once the laying workers are suppressed, the bees realise they don’t have a queen and may start raising queen cells on the brood you give them. So if you are going to introduce a caged queen, make sure to check the brood combs you gave them, and if you find any queen cells, kill them, so they will not hatch and interfere with the queen you introduce to them.

Disclaimer. - Books have been written on this subject, and I cannot do it justice in 2 pages. So the above is a brief guide only, but it does cover the basics and will hopefully help anyone wishing to do further research.

Also, this may not be the official position of the Auckland Beekeepers Club, I have written it myself without reference to any literature or person in the club.

Alastair Little