

Guidance on Introducing Your Queen

Introducing a new queen to a colony is never totally risk free, and our replacement guarantee does not insure you against those risks.

We hope the following guidelines may be of assistance. But please note - if you would like personal help or advice on introduction (or other beekeeping topics), you will need to come on one of our courses!

Key Points

- The queen should be fine in her cage in the envelope indoors for two or three days. Give each cage a single drop of water from your finger on arrival, and each day it is not in the hive.
- Make sure the colony/nuc she is going into really is queenless. See Caveat below. If in doubt, use a test frame.
- If you are trying to **requeen a queenright colony**, introducing to a nuc with young bees is much safer than to the full colony. See Section A below.
- Wait 6 - 12 hours after making up the nuc before putting the queen in.
- If you want to **make increase**, make up as nuc as per the guidance in Section B below.
- If the colony you are introducing the queen to has **recently become queenless** - for example if it has swarmed and you have removed all the queen cells - then you can introduce the queen directly (without making a nuc). It's best to wait a week after the swarm and then destroy all queen cells, so that the colony is hopelessly queenless. See Section C below
- If the colony/nuc or swarm has been **queenless for a long time**, introduction is difficult. Ideally, introduce to a nuc with young bees from another hive and then unite that with the queenless stock. See Section C below.
- You don't need to remove the attendants from the cage
- Carefully seek out and destroy all queen cells
- Put the cage in, candy compartment downwards, between two frames so that the queen emerges over brood where the bees are likely to be young.
- You must break off the tab(s) from the cage to allow the bees in the hive to eat their way in through the candy and release the queen. For extra safety, you can leave the tab(s) in place for a couple of days while it is in the hive. If you do this, check for and destroy any queen cells before breaking off the tab(s).
- Otherwise, break off the tab(s) when you put the cage in
- Don't disturb for at least a week after introduction

Detailed Guidance

It's best to introduce your queen as soon as you can after she arrives. But if this is not possible, she will probably be OK in her cage with her attendants for two or three days. Leave the cage in the envelope in a cool room indoors, and apply a single drop of water on your fingertip to the outside of the cage each day. This will help the bees dissolve the candy.

The cage has two separate candy compartments. The small one allows worker bees to pass, but not the queen. This means that bees from the outside can come in and mingle with the queen, but the queen's exit is delayed. This helps with the acceptance of the queen.

Below is guidance for three different scenarios:

- Requeening an existing queenright colony (eg when you are unhappy with the temper of your current stock.)
- Making increase
- Introducing a queen to a queenless colony or swarm

A. Requeening an existing queenright colony

1. A full colony that has recently been dequeened (say 6 to 24 hours before), may accept direct introduction of a caged queen without killing her, if she is released gradually from the cage by the bees and emerges among young nurse bees. But I think this a risky strategy with a high value queen - the older bees in the colony may kill her. It is slightly more likely to work when the bees are from the same race as the queen, as her pheromones will not be so foreign.
2. If you wish to use this option, the best chance of success is in making the colony hopelessly queenless. This means not just with no queen, but with no means to make a new one - ie with no eggs or larvae young enough to use to make a queen with. First remove the queen from the colony. (Make sure there are no queen cells in the colony at this point. If there are any, destroy them.) Put the cage in, candy end downwards so that the queen will emerge over brood, where the bees are likely to be young, but do not remove the tab(s) or tape. Leave for 9 days (exactly). Then destroy all queen cells. Shake the bees off every frame and search really thoroughly everywhere, including in the corners of the frames and among any wild comb at the bottom. Destroy anything that might remotely be a queen cell, however small. Then remove the tab(s) or tape from the cage and leave the colony completely alone for at least a week. Feeding throughout may help the chances of success.
3. But rather than take the risk with the full colony, the option I strongly recommend is to make up a temporary nuc to receive the new queen - using frames, bees and brood from the colony to be requeened. This does not have to be a huge nuc - a couple of frames of brood (preferably sealed/emerging), and one of stores (with their adhering bees, plus some extra shaken in) is ample. The nuc must be queenless. So you should ideally find the queen in the colony and temporarily isolate her while you make up the nuc (eg put her in a cage, or put her and the frame she is on in a separate nuc box). Don't forget to put her back into the colony once you've made up the nuc! Make absolutely sure there are no queen cells on the frames being transferred to the nuc.
4. If you can't find the queen (or just to save time), you can do this:
 - a. shake all the bees off the frames intended for the nuc (ie shake them into the existing brood box, so that if the queen is on one of the frames she is

- removed). It's very important to seek out and destroy any queen cells on these frames - the presence of queen cells in the nuc makes the bees less likely to accept a new queen, or they may even swarm out with the introduced queen once she emerges. (Ideally, if possible, the frames in the nuc should be sealed/emerging brood, thus giving the bees no opportunity to make queen cells.)
- b. Put those now bee-less frames in an empty brood box above the brood box in the donor colony, but separated by a queen excluder
 - c. Young bees will quickly move up through the queen excluder onto those frames, but the queen will of course be confined downstairs.
 - d. A few hours later, remove the frames with their adhering bees into your nuc.
 - e. You may want to shake more bees into the nuc, but if you do, make sure that the queen does not go with them. Using bees from the supers is one way.
 - f. Make sure the nuc has adequate stores - remember it will have no foragers as they will return to the donor hive.
5. Put the nuc 2 or 3 feet away from the donor colony. Leave for 6-12 hours, including some daylight flying time - in good weather when the bees are actually flying. This delay has two purposes:
- a. to allow most of the older bees to return to the original colony (the older bees are more likely to be aggressive to the new queen)
 - b. to allow the pheromone of the old queen to fade and thereby make the bees more receptive to a new queen.

You don't want to leave it too long (say more than 24 hours), as once the bees start making emergency queen cells, they become less likely again to accept a new queen.

6. After the 6-12 hour wait, you can introduce the queen in her cage to the nuc. There is no need to remove the attendants.
7. For extra safety, leave the tab(s) or tape in place for a couple of days, and then come back and break off the tab(s) or remove the tape. Check at that time whether the bees have made any queen cells, and if they have, destroy them. (An alternative, slightly less safe, option is to remove the tape, or break off the tab(s), covering the candy compartment immediately. This is actually what I always do, as it avoids the need to revisit the nuc.) Wedge or hang the cage between the top bars of two of the frames in the nuc, with the candy downwards and next to brood (this is where the youngest, gentlest bees will be).
8. Then leave for at least a week. If curiosity gets the better of you, you can check after three days to see if the bees have eaten through the candy and released the queen. On no account release the queen yourself as this creates a risk that the queen may fly off or be attacked by the workers. If the bees have released the queen you can remove the cage. I recommend you don't otherwise disturb the bees, because there is a slight risk that you may drive the queen into the clutches

of the older bees who may then kill her. (This has happened to me, so I may be a bit paranoid!)

9. The longer you can leave the queen in the nuc the better, as her pheromone output will increase as she returns to full lay. I would recommend a week as the minimum before re-uniting with the original colony.
10. To reunite: First remove the queen from your original colony. (As a backup you may want to keep her in a nuc until the new queen is established.) Put a sheet of newspaper on top of the brood box with a queen excluder on top. Put an empty brood box on top of that and move the frames and bees - including the queen - from your nuc into that top box (remove any wild comb on the bottom of the frames first.) Close up the hive and leave alone for 7 days. Then check everything is OK and rearrange the brood frames. **NB** - search out and destroy any queen cells that may have been produced in the bottom box. You can read a lot more about uniting online!

B. To make increase using your new queen

1. Follow the guidance on making up a nuc from Paragraphs 3-8 above, but you can move the nuc or nucs further away, and there is obviously no need to unite afterwards.
2. Note the importance of letting the flying bees bleed off back to the original hive, so it is best not to move the nucs to a different apiary until that has happened. (Eg you could make up the nuc in an out apiary, but leave it there until the evening before moving it to your home apiary.)
3. As above, try to avoid 'having a peep' inside the new nuc for at least a week after introduction.

Extra precautions you can take in A or B above

I personally think that when you have young bees and brood, the above approach (ie making a nuc) is a reasonable balance of effort versus risk reduction. But if you want to reduce the risk further, you might want to consider one or more of the following:

1. Make a nuc up as above and ensure it is hopelessly queenless. In other words, that there is no way it can produce a queen from its own resources, as there are no larvae. For example, wait 9 days and then destroy any emergency queen cells. Or use frames that have been isolated above a queen excluder in a queenright colony for 9 days. You should shake the bees off the frames and search really thoroughly for queen cells - they can be sneakily small.
2. Remove all the attendants from the cage. If you want to do this, do it indoors in a room with doors and windows shut. It can be easier to do it inside a clear plastic bag. Or release the bees by a closed window, then place the cage over the queen on the glass, and close the lid.

C. Introducing a queen to a queenless colony or swarm

First, check that the colony really is queenless. If it is not, it is impossible to introduce a new queen. She will be killed. See Caveat below.

- The colony should ideally be hopelessly queenless - ie with no larvae young enough to make a queen cell. You can ensure this if you leave for 9 days since the queen departed and destroy all queen cells then.
- You can introduce the queen directly - without using a nuc.
- If a colony or nuc has had no queen for a long time (say 5 weeks or more) it can be very difficult to get them to accept a new queen. The bees are getting old, and some may be incipient laying workers. In addition, they are likely to be too old to look after/feed the new queen.
- The same issues apply to a queenless swarm around 3 weeks or more after capture. (They will have had no brood at the outset, so by this point all the bees will be some 4 weeks old or more.)
- If the colony has reached the point of actually having laying workers, it is very unlikely that they will accept a queen. (I have known an introduction to a colony with laying workers to work, but it is a long shot!)

In all three cases, you may be able to improve the chances of the queen being accepted by introducing frames of emerging brood, or by shaking bees from brood frames onto a board sloped up to the entrance. (The older bees will fly back to the donor hive, but the young ones will walk into the queenless colony.)

If you don't have any other colonies, introducing a new queen is a risky proposition.

The best you can do is:

- Feed while introducing
- Remove the attendants from the cage. This means that the bees in the colony will have to feed the queen directly (rather than via the attendants), and may thereby pick up her pheromone quicker. (Actually although this is the traditional argument to removing attendants, I am not really convinced by it.) But if you do want to get the attendants out, the easiest way is probably to do it in an indoor room, with all the windows and doors shut. Open the cage next to window letting all the bees out, and then pick the queen off the window and put her back into the cage. I would counsel against doing this if you are not comfortable picking up and handling queens, as it is easy to kill or damage her.
- Leave the tab(s) or tape on the cage for 3 or 4 days so that the bees cannot release the queen. Then remove the tape/tab(s) and leave strictly alone for a least a week.

But if you do have one or more other colonies, it's a much better option instead just to start afresh by making up a nuc with brood and young bees from one of your other hives, and introducing your new queen to that.

Once the queen is accepted and laying in the nuc, you can then (if desired) unite with the queenless colony.

However I suggest you do not try uniting with a colony containing laying workers. Instead just throw the bees out at a few yards' distance and remove the hive they were in. The bees thrown out will find their way into one or more of the hives. Make sure your new nuc is not close to the site of the laying worker hive, otherwise the old bees may gain entry to the nuc and interfere with your queen introduction.

Caveat

Checking that a colony really is queenless

As noted above, it is essential that there is no queen in the colony to which you are introducing the new queen.

It may be that you only think a colony is queenless - for example the colony may have swarmed two or three weeks ago and have no brood, but in fact there may actually be a queen there. If you are in any doubt about whether the colony has a queen I strongly recommend that you put in a test frame with eggs and young larvae (but no bees) from another colony (if you have one). If after 3 days they have started raising queen cells on the frame, there is almost certainly no queen in the colony.

If they don't raise queen cells the colony either has a queen; or has been queenless for so long that some of the bees are on the point of becoming laying workers (see C above.) In either of these situations introducing a new queen will not work - she will end up dead.

If you don't have access to a frame of eggs and young larvae to use as a test frame, you can improve your odds by splitting the queenless colony in two and introducing the queen to one half. Then if there is an undetected queen in the colony there is a 50/50 chance she will be in the other half and the bees are then less likely to kill your queen. (Position the two split parts close together with the entrances at equal distances from the entrance of the original hive. This will help the flying bees distribute themselves between the two halves, and will make it easier to reunite afterwards.)

What's more, if you leave both parts for a day or so before introducing your queen, you may be able to detect at that point which (if any) part has a queen. The queenless part may well be less settled and/or noisier - the 'queenless roar' as it is known.

(If there is a queen in the other half, you're still going to have to find and remove her before reuniting, but you'll have fewer bees to look through.)