

Artificial Swarming

By Phil Gaven, Master Beekeeper

First, the bad news:

Late winter can be a bleak time for beekeepers in Maine. It feels like we're losing the war against Varroa mites as we tally up another hard season of losses from late summer through early spring. I believe we will only see a reversal of this trend when we start to see more beekeepers in the community keeping hygienic stock; more beekeepers making splits and queens from survivor stock; and more beekeepers monitoring and treating their hives for Varroa mites.

Now the good news:

The best option for spring management in your hives is also the least expensive. How many times are you ever going to hear that phrase? How many of you would like to never again spend money on a package of bees, or even a queen? It's time to think about artificial swarm hive management.

Artificial swarming is dividing the hive, as though from a swarm, by moving the queen and resources into a second hive or nuc box around the time that the hive would normally start swarm preparations. Whether you create the second colony in a full-sized hive or in a nuc box depends on your available space and resources, and whether you're using drawn comb or new foundation frames. If you have drawn comb full of honey and pollen (and you want another full-sized hive) split into a single hive body. If you need the split to build on foundation they will thrive better in a nucleus colony.

Split 'em Before They Swarm!

Spring is on our doorstep. If you start seeing dandelions popping up and you haven't made your plan for swarm season, you're behind schedule. Bees that have overwintered will likely start swarm preparations before the dandelion bloom. Some may go earlier, some may go later.

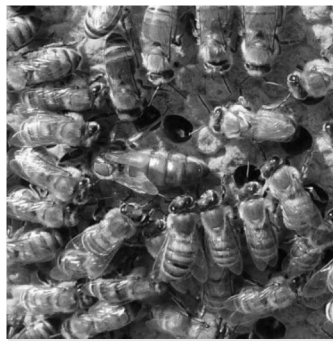
But a healthy hive almost always wants to swarm. By making an artificial swarm you reduce the swarm urge and keep all of your own bees in the yard.

Deciding exactly when to make splits or nucs depends on your own circumstances. Split too early and you may cut off population growth and lose some foraging population for honey production. If you wait till too late your hive may cast a swarm before you can do the work for them. I know if I wait till I see swarm cells in development my hive will have reached its maximum population point. But my life in the spring is too busy to risk losing an actual swarm so I tend to just split my hives on the dandelion bloom. Sometimes they have queen cells; sometimes I'm forcing them to make queen cells.

You can do this. It's not rocket science.

The **first step** to making an artificial swarm split is finding your queen. You may be good at locating your queen or you probably know someone who is. My wife, Meghan, is much better at seeing queens than I am so when I really need to get the job done I ask for her help. Whether you are trying it yourself or phoning a friend, here are a few tips for queen hunting:

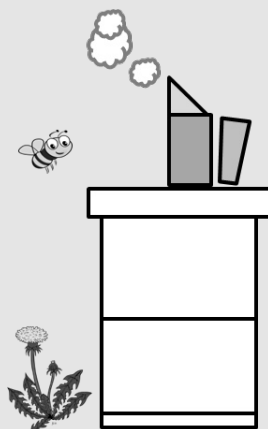
- **Use as little smoke as possible.** One or two small puffs of smoke at the entrance to the hive should be enough to calm a hive in the spring.
- **Bring an empty hive body.** Moving inspected frames over to a new space rather than back into the hive will increase your odds of finding a queen who's on the run.



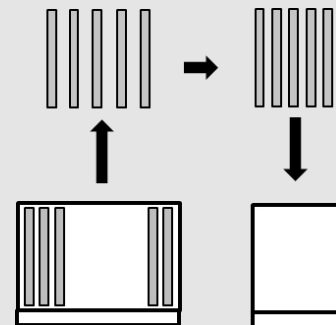
Find the queen: wherever she goes, there she is.



Mixed brood, pollen, and honey - the building blocks of a split.



Step 1: Find the queen



Step 2: Move resources to nuc box and...



- **Work from the center out.** Start in the heart of the brood nest where the queen is most likely to be.
- **Find the eggs,** then look for her there. Your queen's only job is to lay eggs – search where she's likely to be working.
- **Have a queen catcher ready** so you can grab her easily and set her aside in the shade or in the pocket of your jacket.

With the queen set aside, you're ready for the **second step** in making your artificial swarm: moving frames of resources into the new hive or nuc box. At a minimum move a frame of capped brood, a frame of open larvae, and a shake of nurse bees from an additional brood frame. Give the split at least one frame of honey and pollen. Add a syrup feeder to the new hive and feed for

two weeks or until they have finished building new foundation into comb, whichever is later. Don't forget to put your old queen into the new hive! When your split is in the same yard as the parent hive all of the foragers will fly home to the original hive. None of the nurse bees are old enough to fly and cannot forage. That is why you must give them honey and pollen as well as a feeder. It is common for beekeepers who have made a split to think something is wrong when they don't see activity in the new hive. Remember: the nurse bees aren't foraging yet, so just be patient.

Step three: Add drawn comb supers to the original hive. The bees in this hive are now queenless but they have all of their foragers. Give them somewhere to store honey while a new queen is being made. You should

have left them half or more of their brood frames so they have plenty of new bees being born.

Step four: To prevent the hive from casting after-swarms, cut out all but one queen cell. Go into the original hive a week later to make sure they didn't make extra queen cells. If they did, cut them down to just the cell that looks largest and most sculpted.

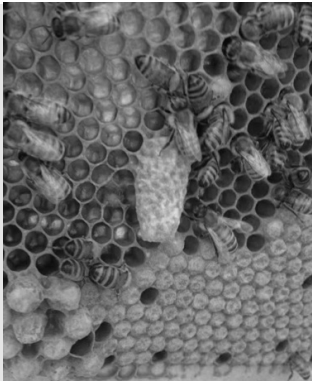
But what's the point?

Artificial swarming provides a host of advantages to your apiary.

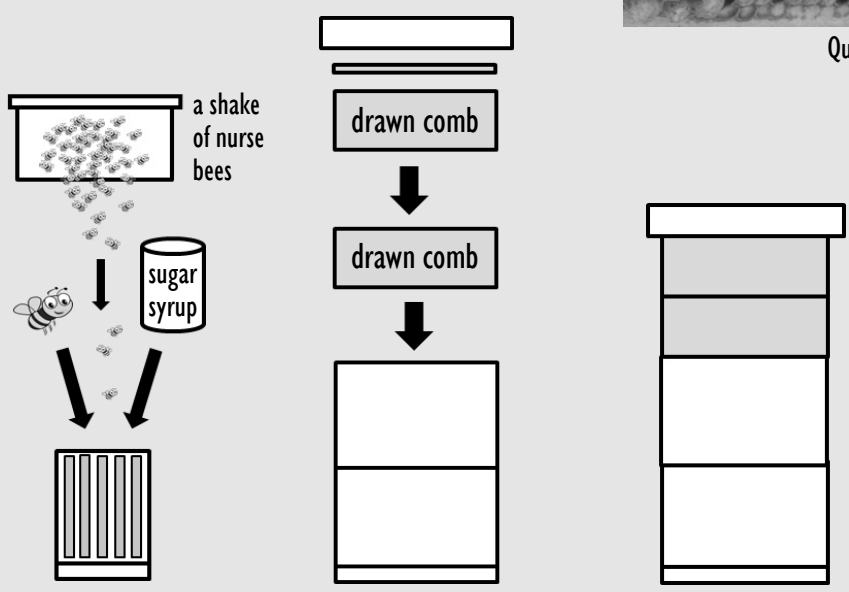
- You are breeding your stock that has proven its ability to survive Maine winters.
- Your new virgin queen will mate with local drones, making the offspring even more likely to be winter hardy.
- The parent hive will go through a period when it is broodless. This will naturally lower your Varroa mite load as the mites won't have larvae on which to breed. This will serve as your hive's spring mite treatment.
- If the parent hive's new queen fails you can simply re-combine the colony with the split you made and try again in late June.
- You reduce your risk of losing a swarm 50' up into a pine tree where all you can do is wave them goodbye.
- Your original hive will now head into winter with a one-year old, winter hardy, locally mated queen. Treat them for mites in the late summer or fall and their odds of survival are excellent.
- If you continue to be successful you will not only stop paying for packages, nucs, or queens, but you will end up with local, overwintered nucleus colonies for sale. Have them inspected by the state apiarist and you will have no trouble finding somebody who needs new bees. 🐝

Tip: After removing resources from the parent colony, consolidate the brood nest and replace empty space on outside with drawn comb. The bees will store nectar and pollen toward the honey wall. If replacing with frames of foundation, concentrate brood frames to the bottom and center new frames above that.

Photos opposite page by: (L) Margaret Curtis; (R) Phil Gaven
Photo this page: M. Curtis



Queen cell.



...add queen, bees & feed **Step 3: Supers on** **Step 4: Leave queen cell**

Note: See page 3 for information on how to request an inspection by the State Apiarist.