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When A Colony Grows Slowly

One of my top bar hives was going strong all spring and then a few weeks ago, their population started sliding. I generally don't open my hives much, preferring to see what's happening by watching behavior at the entrance and through the observation windows. But after a few weeks of slow decline, I wondered if they'd lost their queen, so today I opened the hive up. Starting at the back, I slowly went one bar to the next, looking at honey production (moderate but steady), the cleanliness of the hive (one wax moth larvae fell out of a comb joint when I moved it and was immediately pounced upon by a maiden bee), and to see if there was any new activity in the brood chamber. I rarely rarely go in the brood chamber and when I did today, the maidens clustered over the brood cells to keep the larvae warm. I found plenty of brood of different ages including tiny floating cells with squirming white larvae, which meant there is a Queen and she is laying.

On the next brood comb I saw the Queen busy laying eggs. She was downy with a fuzzy abdomen which told me she's a young queen but I didn't know how young. And then on the next frame I saw a single queen cell built right in the middle of the comb, the cell she was born in! This is a clear sign of the hive's intelligence, they knew to replace an older weak queen with a strong new queen and they called her into being all on their own, without a human "replacing a queen." (supercedure)

To show the difference, here is what are commonly called "swarm cells," a multitude of queen cells usually gathered along the bottom or sides of the combs.



And here's what I found, a supercedure cell planted in the upper center of a comb, with no other queen cells around.



The bees created a supercedure cell, not a batch of swarm cells. Supercedure cells are usually singular, often in the center of a comb. The supercedure queen is created to replace a weak queen who is not laying with her same virility. She's generally at the end of her time and even her royal queen scent -- a powerfully important aspect of her presence in the hive -- has begun to fade.

In swarming, part of the hive would leave with the old queen who is strong and ready to turn this swarm into a new settled colony. The colony in my hive, however, did not swarm; once the new "replacement" queen hatched, the colony stayed together and continued on with their new young queen. Unlike swarming, this situation is barely a blip in their behavior. The daughter-queen steps in as the mother-queen recedes.

In my experience, I have a few times found the old queen in the hive after being replaced, still being loosely cared for, but no longer celebrated as the queen. Supercedures are planned retirements.

Swarm cells are multiple queen eggs, created most often along the bottom and the edges. The two kinds of cells have a different purpose. Swarm cells are a response to the colony's abundance. Supercedure cells are made to fix a problem, and to do that without drama.

This is why I don't "buy queens." A good hive knows when and how to replace a queen when they need to. This queen had hatched, mated, and was now doing her job. The slow-down I saw was the time it took for the new queen to birth, grow into sexual maturity, and take over the mother task. Within the coming week I expect to see a quick upsurge in this hive's population, and all will be well again.

This hive also had a brood gap which is a great way to get rid of mites. Let's say the retired queen stopped laying (through death or being gently removed from her duties). There's a good chance there next came a period of time

when the new queen wasn't prepared to lay yet. If that brood gap lasted a few short weeks until the last of the old queen's brood hatched, that may have meant any pregnant mites in the colony couldn't find bee larvae upon which to lay their eggs. This may even be one of the reasons the hive intelligence decided to replace their queen in the first place, as a method of mite reduction.

Had the beekeeper replaced that queen, the whole healing they designed would have been thwarted.

Lesson: A failing queen will be replaced by the colony if you let them do their job. When the average beekeeper sees a reduction in activity, the first thought in their head is to "replace the queen," but replacing a queen means that colony will completely die out once the old queen's children have died, and with them, all their knowledge of the local area.

Squishing an old queen and replacing her with a new queen should be an extreme rarity (I've never done it, nor have many of my learned bee friends). With so many people taking up queen-rearing these days, I suspect many of the times a queen is replaced is because they are so easily available. "I got stung -- replace the queen!" "My bees aren't building up fast enough -- replace the queen!" "There's not enough nectar coming in -- replace the queen!" "It's spring -- time to replace the queen!"

I don't believe this action is well thought out. We need to stop changing queens like we change our clothes. If there's a slowdown in activity, there's a good chance it's perfectly natural and well-timed.

Replacing queens? I don't follow that path. I prefer to let the bees do this themselves, which they will. All the beekeeper has to do is wait and let the hive handle it by creating a new queen all on their own. A queen the colony cared for and nurtured and, from the moment she was born, who they love deeply. Long live the Queen!