

"Never cut a tree down in the wintertime. Never make a negative decision in the low time. Never make your most important decisions when you are in your worst moods. Wait. Be patient. The storm will pass. The spring will come."

— Robert H. Schuller

In April's "[Swarm Season is Here! Are You Ready?](#)" I described the process that honey bee colonies follow as they reproduce, known as swarming. Inherent in that process is the development timeline of new queens. A fundamental understanding of that timeline is essential for stress-free beekeeping based on working with the life-cycle biology of honey bees colonies rather than against it. An illustration of how this understanding prevents apicultural mayhem and can save countless beekeeper dollars is found in April 2014's "[I Need to Buy a Queen! Or Do I?](#)"

Despite my ongoing effort to teach patient beekeeping, I've had the following conversation countless times this spring:

Beekeeper: Help! My colony swarmed and now they are hopelessly queenless!

Me: When did they swarm?

Beekeeper: I saw them fly away three weeks ago.

Me: Well, hopefully it won't take too long but it could easily be another week before you see any eggs from the new queen.

Beekeeper: Okay, I'll buy a new queen and install her tomorrow.

Me: <sigh>

I realize that most people, me included, aren't very good at translating textual descriptions of numerical and mathematical concepts into useable rules. So the next page has a clip-and-save table you can use as a handy guide. To use the table, find the most recent event that you have witnessed (e.g. a queen cell that is open at the bottom, indicating that a virgin queen has emerged). Look in the second column for a worst-case guess as to how long you should wait to see new eggs. But eggs can be hard to see, and there may not be a whole



The hanging flap on the bottom of this swarm cell indicates that a virgin queen has emerged. But I don't see any eggs or larvae! Shouldn't there be plump brood immediately after the virgin emerges? Should I panic? Should I rush to the bee store to buy a new queen? WHAT SHOULD I DO?

lot of them, so look at the third column for a good guess as to how much longer you should wait before expecting to see new three-day-old larvae. For example, assume you just watched half of your favorite colony fly off to the wild blue yonder. How long should you wait before you can reasonably expect to see new eggs? Looking at row 4 of the table, we see that a worst-case guess is it may take as many as 28 days from the time you see the swarm leave to when the new queen begins laying eggs. It may take up to 34 days or so before new brood is plump enough to easily see.

The message here is ***don't panic*** when your colony has swarmed and now you don't see any signs of it being queenright. The colony will go through what I call "the twilight zone" – a period that from all appearances is hopelessly queenless, but isn't – before everything turns out just fine. Before murdering an innocent store-bought queen by introducing her into a colony that already has a developing virgin, do the math! You'll be more at peace, and richer, for doing so.

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Day (rough estimate*)	Estimated days until new eggs@	Estimated days until easily-seen brood@	Observation
1	36	42	Egg laid that will become virgin queen
3	33	39	Egg "hatches"
4 to 8			Virgin queen larva visible in cell
8-ish	28	34	Queen cell is capped. Swarm may now depart at any time.
<16-ish			Last of old-queen-laid brood is capped, no more larvae from old queen
16	20	26	Virgin queen emerges from cell
19 to 25-ish			Virgin queen begins mating flights
22 to 33-ish?			Mating flights cease
<28-ish			Last of old-queen-laid worker brood emerges, colony has no worker brood
<31-ish			Last of old-queen-laid drone brood emerges, colony has no drone brood
<28-ish to 36-ish			Colony appears to be desperately queenless
25 to 36-ish?	0	6	Egg-laying begins
31 to 42-ish?			New larvae are big enough for novice beekeepers to spot in cells
34 to 45-ish?			First of new-queen-laid brood cells are capped

* Estimated times are based on a variety of published resources (Winston's [Honey Bee Biology](#), Graham's [The Hive and the Honey Bee](#), etc.) and some clever guesses to fill in blanks. It is important to understand that development times can, and do, vary significantly from colony to colony and bee to bee based on genetics, weather, nutrition and a host of unknown factors. The numbers here reflect one hypothetical path; the values in your bee yard will differ. In other words, don't quote me on these numbers!

@ Worst-case scenario