BEE VET

How to Stop Swarming

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With a title like that, I know I got your attention. Essentially, there **is** one sure way to **stop** swarming. Kill your bees. A dead colony will not swarm. If you prefer to keep your colonies alive, read on for a biological, health based and practical take on how to manage this topic of much discussion.

Personally, I believe swarming is an overdone topic in the beekeeping literature. Many have opined on the subject to the point of ad nauseum per my appetite. So up until this point, I have resisted writing about it. However, people have asked me to write on the subject… so here goes.

Close encounter with a hatched swarm cell.

I have observed that the honey bee swarming phenomena involves and interacts within three major aspects of beekeeping: the biology of the bee, the sector of the industry and the psychology of the beekeeper.

The Psychology

There is no denying that swarming is a fascination amongst the general public and many beekeepers, especially newer beekeepers. Many want to know the "secret" to stopping it, controlling it, like a quest for the Holy Grail. All types of gadgets, equipment, sprays and folks dressed in bee beards in precarious, peculiar places are devoted to capture this phenomenon. Beekeepers have favorite swarm stories to tell and one-up the next guy. Is it the excitement of the chase? The wonder of nature's workings? Or the "cool" (and somewhat narcissistic) reputation of being a bee wrangler?

Why do some hunger for more information on this age-old subject? I suspect it is analogous to weight loss. Everyone is looking for the next magical cure, gadget, plan or pill. Everyone also, already knows what it really takes to lose weight is obvious math (do not eat more calories than you burn throughout your entire life) but that's hard and boring and takes consistent devotion. We also already know how to *manage* swarming, but it takes a consistent plan, and it is still going to fail sometimes. But of course, this approach lacks ease and pizzazz.

I have also observed that most beekeepers, if they make it past a couple of years, go through what I call the progressive Stages of Swarm Management: Stage 1: Amazement, Stage 2: Annoyance, Stage 3: Acceptance.

Stage 1: Amazement, dominates in newer beekeepers. That first swarm you successfully caught or that weird local circumstance – Amazing! But after a few annoying phone calls at exactly the wrong time from unhappy neighbors and/or loss of your favorite queen… Stage 2: Annoyance enters the arena of the mind.

Recently, I had the opportunity to take a less than 24-hour horseback riding/camping trip into the "wilds" of Pennsylvania with a few family members. Which means I dared to leave town overnight. That same day a swarm occurred from a split I had made the previous day to *prevent* swarming at my campus's apiary site. But the moved, mated queen did not like her new abode, so she moved about a ½-mile away, right in front of the main science building on campus on a small ornamental tree lining the main walkway. Yes, in front of the building in the CENTER of campus with HUGE windows. Once I got back into cell phone range that evening, my phone was blowing up with emails, texts and calls from everyone and someone's mother about the ominous swarm on campus. I arrived the next day to see yellow caution tape and a crowd of nervous on-lookers wondering why I had not commissioned a jet to arrive sooner. The modest size swarm was resting peacefully on a lower branch of the small tree just within reach. My students and I easily caught the swarm, I gave the insurrectionist queen and her colony to a gracious beekeeping neighbor, and I have provided repetitive educational talks and pamphlets about swarms to the concerned crowd. Yet, I continued to receive paranoid calls to come and get the swarm again over the next several days, because clearly, I missed the swarm. I drove back to the area for several days to witness a finger full of bees clinging to the branch's residual queen pheromone, caution tape still intact. I prayed for rain. It still did not matter. I was officially revisited by Stage 2.

Stage 3: Acceptance comes along with time, patience and perseverance. Maybe old age and just being tired. It brings peace to accept that you cannot always control everything despite your best efforts within the best practices. Of course, portions of all stages will still be represented in the emotional and psychological state of the beekeeper. However, with experience and time, most beekeepers mature to Stage 3 dominating their overall outlook of swarming with various inklings of Stage 1 and 2 still within their minds.

Industry Management Caveats

From what I have observed, swarming concerns are found within

Our interactions with swarms.

the common vernacular of backyard to sideliner beekeepers. Commercial/migratory beekeepers, those that make a living doing this and manage most colonies in this country, have bigger issues to deal with and innately manage swarming within their typical SOP. Commercial beekeepers manage herds of honey bees by the yard or truckload. Each group has a working purpose, whether pollination, making nucs, packages or queens. These beekeepers keep their hives relatively small, busy and moving. Inspections are done by the yard. Inspections are done quickly and decisively, with queen replacements in their back pockets. Their colonies are typically not big, fat, tall backyard hives with nothing better to do than swarm. If they do happen to park their hives in a clover field to "rest" for the Summer, they mostly let them be bees and replace queens if/as needed. Economically, it is simply not beneficial to them to chase after possible swarms. They live in Stage 3.

For the rest of us, swarm management is not about stopping swarming. Anyone telling you that completely stopping swarming is possible is either an oblivious beekeeper, a gas lighter, trying to sell you something or all the above. As a vet, if there was a way to "neuter" honey bees, I would have found one. There is not. Swarm management is about awareness of the honey bee's biology, what your goals are and how you can intervene to provide stewardship to this natural process.

The Biology and Health Considerations

First if you are not in your "queenright" hive(s) every seven days within the beekeeping season – you simply do not know what is happening inside that hive. If you only do inspections on your hives once a month (or less) you **will** miss many swarms. That is not my opinion, that's biology. Ignorance is bliss is not a strategy based on reality here. Those that believe/claim that their hives "never" swarm live in this happy and clueless place.

Swarming is a natural process that occurs in healthy, often vibrant, honey bee colonies as part of their reproduction cycle. Swarming (but not absconding) indicates that the hive is healthy and has enough reserves to reproduce. It has some benefits to the bee and beekeeper and some downsides. It provides a brood break for the stationary colony that is helpful in reducing or slowing down various diseases that affect the brood, including our chief nemesis, *Varroa destructor* and the many viruses it vectors.

It allows for re-queening, through a returning virgin or an introduced mated queen. Re-queening is often a remedy for getting things back on tract within a hive, whether it be disease recovery, poor brood patterns/faltering old queen or colony behavioral problems. The swarming nature of the honey bee, in part, allows us to utilize their system to create new hives to replace those that are lost within the current disease and environmental challenges our bees face.

One should also consider your purpose with your honey bees. Do you just want a few hives? Do you want to make a lot of splits? Do you want to make more honey or nucs? What equipment do you have available? Do you really like that queen

or not? How much effort you put into controlling swarms may depend on what you are trying to do. There are various actions we can do to slow/manage swarming if that is your desired effect.

Things that slow swarming down:

1. Adequate space before they start to swarm. Whatever that means to different bees may vary. Drawn comb is better space.
2. Clipping mated queen's wings, so she cannot fly away... I have had a clipped queen swarm onto the ground ten yards away from her original hive. One must appreciate her grit.
3. Reversing boxes – even deeps. Bees like to go up. Reminding them they have space in the basement can sometimes slow swarming.
4. Knocking off empty queen **cups** – might give you another week. If it is a queen cell/swarm cell it is too late to stop the swarming behavior, but you may still be able to find the queen mother and move her. If it is capped, it is too late. She has gone and now you are left to decide what you would like to do with her pupating daughters. If you want only the original hive, knock off all queen cells but two or you can divide up the hive and try to make multiple nucs per couple of cells. If you do not know the difference between a queen cup and swarm cells, do some reading on the topics asap.
5. Splitting. Move the queen mother if you can... to another yard if you can, with more honey and less brood frames. Re-queen or be sure to leave eggs in the original colony and recheck in a week for the appropriate number of queen cells/emergency cells.
6. Caging the queen. Personally, I have not done this so I cannot speak to it much. But if the queen is in jail, she cannot leave, it provides a brood break and a population hold. It also requires intense management timelines. You must go back in and release her at some point and the process could damage the queen and/or negatively change the pheromone balance within the colony.
7. Some races/genetic lines may be less likely to swarm or may be more likely to swarm. You can experiment with it as you wish. I would recommend buying an extra box of tissues for when you watch

Big swarm

New queen emerging.

your designer queen sail fifty feet up into the forest.

8. Telling the bees you are leaving so they do not swarm. Okay, so there is no scientific proof for this, but it is an endearing adage. For me personally, if correlation equaled causation, the data would be compelling. Much "science" has been proclaimed with less.

Things that do not help slow swarming (as much as one may hope):

1. Undrawn comb for "space".
2. July-November – Swarm season is over! Nope, not really.
3. Fencing.

Reasons to try to prevent swarming:

There are reasons beekeepers should consider making an effort to manage swarms.

1. Spreading feral hives into the environment and the problems therein.
2. Increasing competition with other native pollinators.
3. Increasing disease spread.
4. Unhappy neighbors.
5. Public health safety concerns.
6. Phone calls, texts and emails at the most inopportune time.
7. Ultimate death of the swarmed, now feral colony.
8. Loss of control of queen/genetics in the hive.
9. Risk of failure to re-queen.

Reasons to not feel bad when they swarm:

1. Keeps hive size more manageable. Any more than five to six boxes are taller than me anyway.
2. Brood break.
3. Fresh virgin queen, a chance to change age, performance, disease, attitude.
4. It is a positive indication of hive health.
5. Slow brood diseases.
6. Keeps honey in one hive. Instead of splits. You ran out of equipment anyway.
7. Fun playing with queen cells/swarm cells.
8. Chance to try/introduce a new queen.
9. You are human and need a life outside the beeyard, too.

The Last "Take Away"

Hopefully, you have noticed that I have tried to supply a summary of practical advice on swarm management along with some beekeeping humor to keep it real. My best overall advice is (and I have not really heard this much in the literature): Have a seasonal swarm management plan fit for your purpose and expect the bees to not always read the books, ESPECIALLY AS FALL APPROACHES. I hear a lot of talk about swarm season in the Spring months and while it is true that swarming more commonly happens in the Spring, it can also happen throughout the Summer and Fall, especially if you have good weather conditions and healthy bees.

The problem with this time of the year is with less time to requeen and recover, Fall is the time when swarming can be "deadly" to colonies. Spring has time and resource forgiveness for swarming. Fall does not. I would suggest that this is the most crucial time to have a plan for the possibility of swarming. Do you have a late source of queen replacements? Are you going to combine hives? What if it gets too cold to inspect? Awareness of how to prevent or take your "losses" in the Fall may be a good strategy for making it through the Winter and flourishing the next Spring. BC