BEE VET

A Surgical Approach

Dr. Tracy Farone

Did you ever have a moment within the crazy pace of life where you suddenly stopped, looked around and asked yourself how (or why) did I get here? I find myself asking this question now that I seem immersed in swarms of all stuff bees, something I would never have imagined 10 years ago. What is the appeal? I suppose for many folks the reason or reasons for becoming a beekeeper are many and different: I wanted a hobby, my grandpa did it, I like to be outside in nature, I want to "save the bees," I like honey, I want to make money (ha-ha), etc. But it recently dawned on me that it is surgery. I am a surgeon. I do not mind getting my hands dirty. I like to examine things, take things apart, find the problem, hopefully fix the problem and put things back together for a positive outcome. That is beekeeping.

Really, think about it. A honey bee colony is a superorganism. Every time you sever the propolis barrier and open a colony you are looking at its guts. Donned in specialized PPE analogous to a surgeon, beekeepers review the workings of distinct parts of the organism's systems. During an inspection procedure, various parts of the hive normally unseen are revealed and more closely examined. Queen status, patterns in the brood and energy stores are evaluated. This assessment is a review of reproductive systems, metabolic systems excretory systems, immune systems, and even communication systems analogous to the endocrine and nervous systems within any mammal. Any abnormalities are noted, removed, cut out or treated with medications. Parts of the hive can be manipulated to put the colony into a healthier position. "Donated" parts from other hives can be added to colonies to replace damaged or missing components. Samples of tissue may be taken for definite diagnosis. But don't take too long, a patient's ability to thermoregulate can be affected by prolonged procedures. If you are a careful surgeon, you will only damage a few cells (smash a few bees) on your way in and out and the colony will heal any cracks in a few days. Many times, surgery can not only diagnose a problem, but it can also be the cure. Other times it can just provide the most accurate prognosis, whether good or grave. So, am I talking about beekeeping or surgery? Hmmm… like I said.

If you have had some struggles with keeping your bees, consider looking at it from a surgeon's perspective. No matter the subject, the details and intricacies of any topic can often seem complicated, but in both surgery and beekeeping, understanding and mastering a few, consistent practices can go a long way.

I have been hesitant to share this because I am sure as soon as I say it, bears will come and destroy all my honey bee colonies, and I do not want it to come off as a brag, even a humble one. However, so many beekeepers suffer 40% losses every Winter and I have been asked to share and summarize what I do by multiple beekeepers… so here goes… I have had 100% Winter survival for three Winters running. I started with one colony in 2019 and now I manage eighteen colonies as of yesterday (it is May). I could have many more colonies if I were actively trying to make more splits.

Disclaimer: This may not work for everyone in every situation, much may change or need adaptation regarding geography, operation size and purpose, but I am happy to share what has worked **for me** to this point and that I am starting to give away bees because I have too many. If this information helps you, awesome, if not, please turn the page to the next article.

Know thyself

With degrees in both biology and veterinary medicine, and decades of agricultural animal care experience… I **still** studied honey bees for two to three years, observed dozens of other beekeepers and scientists, the good, the bad and the ugly, **before** I became a keeper of honey bees. This certainly does not mean you have to have multiple degrees or certifications to be a good beekeeper, but it sure does help to spend considerable time researching what you are doing before you start doing it. You must understand anatomy before you can do any cutting.

A favorable diagnosis.

Know how to diagnose the guts of your hive.

Drone & PPE

Biosecurity

I only perpetuate or raise my own stock and queens. Period. I have never brought any outside bees into my yards. Only new equipment is used, and equipment is not shared outside of my yards. There is double electric fencing around my yards. Mouse guards are in place all year round. The local police are my friends. I wash my jacket once in awhile.

Nutrition

I leave some honey on... one or two honey supers over Winter or at least 60 lbs. (I live in Western Pennsylvania). It is their best food. The hives are located near water that is available year-round. Dry sugar is fed in January and pollen patties added in February, whether they need it or not. All supplemental feed is removed in April. A 1:1 sugar syrup may be fed during dearth, if needed or just leave some Spring honey on.

Medical management

Varroa. I test hives with an alcohol wash at least three times a year; Spring/Summer/Fall. This allows for treatment adjustments, if needed. Currently, all my hives are on this *Varroa* treatment plan: Apivar (amitraz) in Summer, after Spring extraction and before Fall supering, and OA vaporization, three times once a week in November and maybe a fourth time in December, pending weather. I remove drone brood, if it is convenient, during a hive inspection. Between swarms and splits there are natural brood breaks in my hives.

Antibiotics are never used on my bees.

I keep hives on gravel or another dirt barrier. This can reduce several different pests.

Hives must be checked at least on a weekly basis all year round. This means mostly external exams in the Winter but during the beekeeping season, internal inspections may be required weekly. You must know the when, how, why in doing a proper hive inspection and what it means. If you do not, please do not keep honey bees until you do.

General management techniques

These are the things that beekeepers will talk about until they ate all the donuts and drank all the coffee. What is "best" probably depends on your given situation. Here are some things I do:

1) Top entrance
2) Solid bottom board
3) Insulation board inside the outer cover of hives in the Winter; consider wind blocks that may work in your area
4) Limit pesticide use in yards
5) Freeze unused drawn comb frames
6) Keep detailed records on hives
7) Overwinter hives in two to four boxes depending on colony size, deeps or mediums, eight or 10 frame... whatever

Consider biosecurity risks in your yard.

Other disclaimers

I am not doing this as a (main) living. I have a small sample size. I have not been doing this for 50 years. (Although my great grandfather had a few hives at one point. Does that make me a fourth generation beekeeper?). I am not perfect. I have lost swarms and a couple of queens/colonies during the Summer due to robbing and failure to re-queen.

I hope this sharing of best practices can help you in planning out your operation!