

Why to Inspect a Beehive & Procedures

1st Season Beekeeping, Instructor Athena Contus

1. **New colonies in a new location** require checking. Your new beekeeping skills require double checking. It is not uncommon for a beginner beekeeper to leave out a frame here or there or fail to recognize when the colony is failing. Regular peeks inside allow you to become familiar with normal vs unusual behaviors – yours and the bees.
2. **Spring & Fall** are very dynamic times for the honey bee and the beekeeper. Weather changes and nectar or pollen flow starts-and-stops will impact the new colony more than an established over-wintered colony.

Inspections Reveal When the Bees Need Space

“Space” to a honey bee is a cell they can put stuff in like pollen, nectar, or an egg. Drawn comb is space. New colonies have to draw comb to make space. If all comb is being used by the colony, new frames or a new box with frames must be added.

The term “empty frames” - when speaking about adding them to a hive that needs “space” - means frames with **empty wax cells**. Honey bees that draw foundation into wax cells are young and will only do so when a nectar flow is on or they are being fed. Feed the colony 1:1 syrup when all they have is foundation and there is no nectar flow on.

Inspections Catch Beehive Engineering Errors – Yours & the Bees

Honey bees are precision engineers. If the box you give them is imperfect or failing their needs in any way, they will strive to fix it. This can result in making the hive impossible to take apart without injuring the colony.

Beehive hardware is designed with “bee space” in mind and everything fits just so to keep bees building only in the spaces you want them to build in.

Langstroth hives are built in two styles meant to hold either 10 or 8 frames. *If you put less frames in than the box is meant to hold, the bees will build rogue comb in the empty space. (photo)*

If you add a super to your hive and you do not put in the frames, you will end up with a whole box of cross comb attached to the roof of your hive. So, always make sure you have the proper number of frames in your hives.



One feeding technique involves adding an empty super and placing a feeder inside. If you do this, you should place an inner cover between the bees and this empty super with the feeder, you should also take care to remove the super once you are no longer feeding. The bees, given enough time, will begin to build comb up around the feeder and fill this top box with crazy comb.

Inspections Help You to Recognize Queenlessness

Without a queen to lay eggs, your hive's population will gradually decline. The first sign will be a lack of eggs, and then a lack of young larvae, eventually your colony will have no brood at all. A beehive cannot survive without its queen. Every day worker bees will die of old age and they will not be replaced. The population will start to noticeably drop.

Note: You may see an increase in honey and pollen because without any larvae to care for the bees can focus entirely on foraging. If your colony is queenless for too long, they hit a point of no return.

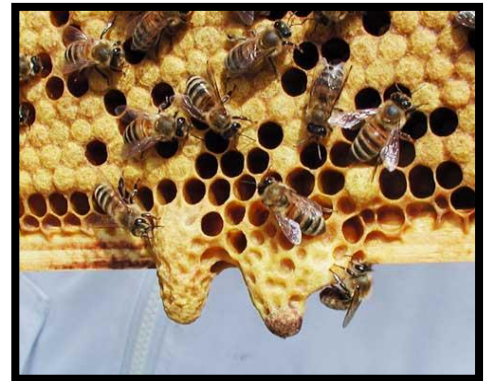
Learn to recognize eggs. Finding eggs in your hive tells you not only that you had a queen as of at least three days ago, but it tells you that she is laying - her one, all-important function.

Inspections Help You Recognize Swarming

Happy, healthy honey bees "on a roll" want to do the natural thing and multiply the entire superorganism. This is not **absconding** due to some unacceptable situation inside the hive or the hive's vicinity. This is reproducing a successful colony.

Note: absconding is a southern honey bee trait. Northern bees know they will not have time in this climate for a complete evacuation to rebuild elsewhere.

Unless the beekeeper acts quickly when swarm procedures have begun the departing portion of the colony will have only a 25% chance of 1st winter survival; but that 25% will go on to 75% success in its 2nd winter.



How to Avoid a Swarm Event: A Win-Win-Win approach:

The easiest, most successful practice when observing swarm cells is to take the queen out with some of her young bees and frames of food & brood, creating a nucleus colony with them.

The main colony will not swarm without the queen; they will believe they missed the departure of the swarm, and they will love the new queen from the swarm cells left behind. Inspections allow the beekeeper to check that the new queen returns from her mating flight and is happily laying. If not, the beekeeper can recombine the old queen with her nucleus colony and the original hive now that swarming is off the home team colony's radar. Optionally, by take some eggs on a frame from another colony so the bees can raise their own queen. Otherwise, queens can be purchased.

Win #1 – You curb the swarming instinct and save your original queen.

Win #2 – You break the brood cycle which helps with brood diseases, especially varroa mites.

Win #3 – during the break in brood cycle the bees are making a lot of honey with less demand from the colony so the beekeeper ends up with a honey harvest.

Detailed Inspection Instructions: Stay on the edge of your comfort zone. Soon you will become lost in looking and discovering the goings on in the hive. If you just can't bring yourself to crack open your hive on a particular day, find a less intrusive action like cutting the weeds growing up around, watching the pollen coming in or the activity of the bees at the entrance. Take photos. Make your visits successful and rewarding, even if all you do is watch the bees.

Steps 1 through 5 do not require any intrusion on the colony and should always be done as a best practice routine whether you get into your hives or not. Sometimes the thought of opening a hive can discourage a new beekeeper before they get started. Once out in the yard, the energy usually kicks in to go forward with the inspection.

1. Get suited up, get your tools ready. A smoker and a hive tool are the minimum.
2. Get out to the bee yard.
3. Undo the fence, place your tools handy.
4. Get your smoker going! Place your smoker on something safe, and keep it handy.
5. Watch the front of the hive for a moment; take a look around at the weather, time of day, temperature, & wind. Assess how these things may be impacting your bees and impact your visit to the hive.

To smoke or not to smoke? Don't smoke pre-emptively. Always have your smoker handy in case the bees are upset and you need to put the hive together quickly. It can save bee lives.

Traditionally beekeepers smoke the entrance to the hive before an inspection, and smoke once under the hood. The idea is that they will start gorging themselves with honey and be distracted from your intrusion. Some think this gorging keeps them from being able to sting.

My experience is that this pre-emptive smoking drives the bees up at you when you remove the covers and makes them reluctant to go down out of the way when you are trying to reassemble the hive. The majority of the bees in the hive are too young to have developed stingers and are blinded in the light of day. Honey bees that gorge on honey are breaking open capped honey comb. *Note: Smoking can sometimes be a waste of honey, bee energy, and requires extra work for the bees to recover from the assault.*

Instead of pre-emptive smoking: Working quietly from the back of the hive can eliminate smoking the bees. Life is going on in the hive: babies are being born, eggs are being laid, comb is being built, foragers are looking for a cell to unload their pollen, nectar is being fanned and evaporated, and honey is being capped. Their sense of smell is very acute and they do not need much to get the message. They may pelt your veil during an inspection, but are generally uninterested in stinging, thereby losing their lives unnecessarily.

Work quietly, methodically, and learn to do it efficiently. They will abide an inspection without the need for smoke under such circumstances. The best job for your smoker is at the end of the inspection when you are reassembling the hive. It gets them out of the way of being crushed. They are very sensitive to smoke so a gently waving of the smoker over the box is usually sufficient.

6. **Begin the inspection** by using your tool to insure the cover will come off easily. With one smooth, quiet move, lift the cover and place it upside down on the ground to act as a base for the boxes.



7. If you've only one box to inspect, leave it on the stand but crack the inner cover. **Once you start lifting up the inner cover to reveal the box, keep lifting!** The bees may begin to crawl out so letting the lid, box, or inner cover drop may crush bees. Bees may be on the bottom of the inner cover so lean or rest it underside-up somewhere so that the bees do not drop into the grass. Remember, baby bees don't fly and crawling back to the hive can get them stepped on. Brushing or shaking the bees into the hive is an option, and then lean the inner cover against the hive.

8. If you are working on a stack of boxes that make up your hive, leave the inner cover on the top box and place the whole top box on the upside down telescoping cover – kitty corner to minimize the chance of crushing any bees.



9. Inspect the bottom most box 1st. This will avoid disturbing, as much as possible, the flow of everyday life going on in the hive. Take out the least busy frame – 2nd frame in from one edge or one with no brood - to make space for lifting up and inspecting the rest of the frames without rolling bees. Place it leaning on the side of the hive or in a frame perch.
10. When you pull out a frame always do it over the hive. Young bees are blind, cannot sting, and are unable to fly. If they drop, let them drop back down into the hive.
11. When reassembling the hive, work in reverse.
12. **Always keep the frames you take out in the same order when they go back in,** unless you have a manipulation practice you are following. Never break up the brood nest area.
13. Wave a smoker over the top of the boxes before replacing the inner cover or the top box. This one time smoking during an inspection helps insure the bees will “go down” and away from the harm that could come from reassembly.

Clean your tools with some winter-green alcohol, throw your perspiration wet suit in the wash, and drink a glass of mead... or at the very least celebrate with a teaspoon of honey!