Apis m. Esoteria 18

8 frame vs. 10 frame or even Top Bar hives

Or

Why 8??

The discussion of 8 frame or 10 frame hive equipment seems to crop up with every new beekeeper. You need to make this decision early in the year.

Why lift 10 frame supers if I can lift 8 frame supers? Why lift mediums instead of deeps? The easy answer is to go with 8 frames. It is 12 lbs. lighter.

The impact is much greater than just lifting the honey supers. Can the bees live in 8 frame hive bodies? And then, are the hive bodies deep boxes or Illinois (medium) supers?

I have heard beekeepers say they keep their bees in single deep hive bodies. When deeper discussion is pursued, you discover very few beekeepers really use <u>just</u> a hive body. They will admit to either placing a medium or shallow super on the hive body after the normal nectar flow, and honey collection, is completed. This allows the bees to put up a little more honey in the fall to help them winter over. Sometimes the extra honey super will be removed when the bees empty it in the early winter. The net gain for this strategy is that it provides more food for the winter leaving the hive body to be the last food consumed. So, in reality, the bees were not wintered over in a single hive body. You might as well admit it and go double deep 10 frames as soon as the colony is big enough to handle it.

The admission that a single deep hive body is not quite big enough for a strong honeybee colony to winter over in, leads right into a smaller eight frame hive body being two frames smaller for about the same number of bees. Frequently, 8 frame practitioners also use medium size boxes and frames.

The most common 8 frame set up is to use a deep hive body, and any combination of 8 frame medium and shallow honey supers. How many bees can the queen produce with 2 less frames of brood? Will this smaller colony collect the amount of honey you desire? Stacking more 8 frame supers on the smaller brood chamber

does not collect more honey. The queen will limit the egg laying rate based on the size of the brood chamber, available nurse bees, and an adequate food supply. She will more easily fill the 8-frame brood box from corner to corner with brood. Since there is very little space for extra stored food, she must rely on the daily foraging success. If a slight dearth occurs, the queen will stop laying eggs until the incoming food supplies increase.

You can help overcome this problem by increasing the size of the brood chamber. Go to a double deep 8 frame. Or, add a medium 8 frame super to use as brood area. There is a current trend to make a cute garden hive that is 2 medium supers used as a brood chamber.

Look at the math of the square inches of space available for the queen to use. I will try to demonstrate that an 8-frame set up for growing bees is less than the best situation. A deep hive body is equal to 1. A medium super is ¾ the size of deep. A shallow super is ½ of a deep. Whether you are using an 8-frame set up or a 10 frame this ratio holds true.

2 deep hive bodies equal 2 times the space to raise bees.

1 deep and one medium equal 1 ¾ the space of a single deep

2 medium supers equal only 1 ½ the space of a single deep.

1 deep and a shallow super equal only 1 ½ the space of a single deep.

1 medium and a shallow equal only 1 ¼ the space of a single deep.

The more bees you have in the colony will determine the ultimate amount of honey collected in any given nectar flow. The more bees the more work accomplished. Your mission is to grow bees and then let the honey happen.

Any of the 8 frame arrangements will cause a queen to hit her maximum brood area space sooner than a 10 frame. This will cause the desire to swarm to be much stronger. The stimuli to swarm is when the brood chamber is full of brood, the food storage area is full, and the bee population is crowded with no work to do. You can reduce the impetus to swarm by placing honey supers on the brood chamber to give the workers something to do. The queen will hold off on

swarming until all the new food storage area is filled. However, she will have to slow down on egg laying because the brood chamber is full. This creates a very delicate balancing act between the beekeeper and the queen. You must keep the honey super space available. When the queen stops laying eggs she shrinks in size. Now she can get through the queen excluder and start using some of the space in the honey supers to expand the brood area.

You can see how your time and skills will be more critical to manage an 8-frame system.

Now, to address the weight of an 8 frame vs. 10 frame system. Most people using an 8-frame system are concerned that the 10-frame honey super will weigh too much for them to manage. Yes, the 8 frame is lighter. But to create the same cubic space the colony requires you will have to stack more boxes higher. However, you can create a management system where you never have to handle the entire super (or hive body) full of frames. There is no rule saying “you cannot stack shallow honey supers from the bottom to the top using them as the brood area and the honey supers.

You use two shallows to equal each deep box. The only concern arrives in the number of spaces the bees must cross going up into the next box. Don’t worry, they will build wax bridges to help. It does disrupt the queen a little bit.

When I was inspecting my hives, I would transfer the full frames to an empty honey super or hive body to hold the frames while I looked lower in the hive. Then I would replace them on the hive one frame at a time until the entire stack was completed. Did it take a little longer, yes? But I never had to lift the entire box of honey or bee brood. I have reverted to this technique a few times as I recovered from hip replacement, knee replacement, back surgery, and shoulder surgery.

For years when I robbed my honey, I pulled each frame out, dusted the bees off with a bee brush and placed it into an enclosed box so the bees could not get back on it. That box was in a garden wagon or my pickup truck, so I never had to lift it full. I could drive my garden tractor pulling the wagon right into my garage where the honey extractor was.

The remaining concern is making sure there is enough food remaining in the colony for over wintering. A strong colony going into the winter will be a good colony in the spring. That larger colony starting the winter will have a greater stored food consumption rate than a smaller colony. The same number of bees in a larger hive box area will start the winter with more food. Two frames more food. That could be just enough to make the difference in early spring.

It is hard to get bees to take up syrup in the coldest part of spring. This creates a touch and go situation trying to manage around the erratic spring weather. It is best to do your spring feeding in the late fall. Let the bees put up enough (even extra) food for the entire winter dearth period until spring blossoms start with the red maple tree.

The objective of the fall colony, coupled with fall food collection and storage, is the creation of new young bees. The last bees born in the fall will be the bees that make it through to spring. The fall foragers will die first. Nurse bees that go into winter without doing foraging will die second (as they age out of nurse bee duties) but the newest bees who really never get a job will have the best chance of making it all the way until spring nectar flow. This is disregarding the impact of varroa mite or other diseases which I assume you have managed to nearly eliminate mites in your hives.

If you want to use 8 frame medium hive boxes, I recommend 3 mediums for the brood chamber and 1 medium for extra winter food. During the year you will have 3 medium brood areas and then your honey supers. As soon as honey collection is over, remove your honey and place an empty medium to be filled with honey for the winter. Feed your colony like crazy to fill it with honey as the brood area shrinks in the fall. The brood area will be backfilled with honey creating the food that will be eaten first by the winter cluster.

You can also "bottom" stack the empty new honey super. Remove all honey supers containing honey and place the empty just above the brood chamber. The bees will fill it with honey more readily than if it is way up on top of the stack. You can remove and replace the filled honey frames one at a time to reduce the weight while working.

As for top bar hives, they are purely an interesting project. They work well. It is difficult to inspect your hives as the comb is not firmly attached on all sides to a frame. As you move the comb around it can break apart.

Some top bar practitioners make odd shaped frames to be more sturdy. If you collect honey, you cannot use an extractor because of the odd shape of the comb. You can only do chunk honey in the comb or smushed honey (see smushed honey procedures).

Good Bee Keeping!!