

"Alas," answered the girl, "I have to spin straw into gold, and I do not know how to do it."

"What will you give me," said the manikin, "if I do it for you?"

-- *The Brothers Grimm, Rumpelstiltskin*

We've had a pretty good honey flow so far in my neck of the woods. Tulip poplar, blackberries, clover and other miscellaneous nectar plants have been busting out like crazy. This won't last forever, but maybe, if we are lucky, it will run for a few weeks into June before it comes to a screeching halt. Then we'll have to deal with the summer dearth, which for me lasts from around mid June to early September. But for now, let's celebrate the nectar flow and honey harvest!

When to harvest

Normal people (non-beekeepers) often seem to think that we harvest honey in the fall. This notion probably comes from stories originating in the Northeast and Ohio Valley, where the season starts later than here and the main nectar flow extends well into the summer months. In Piedmont North Carolina, our main nectar flow ends sometime in June and the wise beekeeper harvests honey not long afterwards.

It would be possible for us to leave surplus honey on the hives all summer and harvest in the fall, but there are many reasons why this isn't the best approach. They include:

1. If the colony swarms during the summer, they'll fly off with a large share of our valuable honey
2. If the colony dies suddenly from neglecting proper management of varroa mites (which often happens during the summer to our most populous and most productive colonies) or maybe just bad luck, neighboring colonies will rob all of our honey, leaving us with a box full of empty comb.
3. Similarly, if the colony weakens significantly during the summer, small hive beetles can turn honey-packed frames into an oozing, slimy mess.



This is the reason we keep HONEY bees and not yellow jackets!

4. Spring honey (tulip poplar, fruit trees, blackberry, etc.) is usually considered to be higher quality than summer/fall honey (goldenrod, asters, etc.). Mixing them degrades the taste, desirability and value of our whole crop.
5. It is tremendously easier to separate bees from supers when there is a nectar flow going on, even if it is a light one, versus a dearth. Moving honey frames around during a dearth incites furious robbing of the frames and aggression toward the beekeeper.

I've known beginning beekeepers who won't harvest spring honey because they are "afraid they'll take too much" and fear the bees will starve during the summer or winter dearth. This concern arises from either inexperience or poor understanding of good management practices.

Excess honey in surplus supers is an extremely inconvenient way to provide stores during the dearth. When I try it, as the post-spring bee population decreases, I invariably end up with more space in the hive than the number of summer/fall/winter bees can patrol, leading to small hive beetle and wax moth issues. Or I end up with way too much honey in the supers in the fall and must figure out how to get it out of the supers and into the brood chamber before winter sets in.

In my opinion, it is far better to manage the

bees so that the stores needed for summer and then winter are kept in the space designated for the year-round brood chamber. For me, that is two ten-frame deep brood boxes per hive. Just before the spring nectar flow begins to subside, I remove my surplus honey supers. The remaining flow goes into the space allotted to the permanent brood chamber. But if the brood chamber is already chockablock with honey, then mission accomplished -- I can leave the supers on and get more harvestable honey for me.

Another aspect of my management is that I expect the waning spring flow to provide for summer stores. I expect the winter stores, for the most part, to be provided by the fall flow. Any shortfall in either the summer or winter provisions can easily be backfilled by feeding sugar syrup. Note that I don't necessarily want to feed sugar syrup and I don't manage my bees so that I must always feed, but I am ready to do so when the natural flows are inadequate. The point is that I have found that storing what is genuinely too much honey can be just as much or more of a headache than storing too little, but storing too little can be easier to rectify.

Honey inside, bees outside

Now that we've decided when we will harvest, we have to figure out how we'll do it.

The first step is to separate the bees from the honey. There are many, many ways to do this and a few of them actually work well.

Tent escape

C.C. Miller¹ used a large scale bee escape which he called a tent escape (see photo). A sheet covers a large stack of supers that have been removed from their hives. A tall wire

¹ C.C. Miller, while not the "father of modern beekeeping", should at least be regarded as one of the "favorite uncles of modern beekeeping." He invented a wide variety of handy devices that we still use nearly a hundred years after his death; perhaps the best known is the Miller feeder. His delightful autobiography, [Fifty Years Among the Bees](#), is a source of countless lessons on bee management and life in general.



C.C. Miller's tent escape, as described in his book [Fifty Years Among the Bees](#).

pyramid, open at the bottom and at the apex, sits over a hole in the center of the sheet. Bees exit the supers through the opening at the top of the pyramid. They attempt to return to the supers via the bottom of the pyramid, which is futile because there is no access there.

I don't know anyone who uses a Miller tent escape. But the fundamental concept demonstrates that combining creativity with knowledge of bee behavior can solve many of our problems.

Triangle escape

Triangle bee escapes operate on the same general principle as Miller's tent escape. Bees freely exit but are confounded when they try to return so they cannot find their way back. With triangle escapes, exiting bees enter the triangular maze, follow the straight walls, and find themselves outside the honey super. Any bee that enters the maze from outside the super will follow the walls and oops... they are outside again. Most bees attempting to return will follow their noses² to the screen directly outside the round opening, forming an ever-growing cluster.

There are a few things that must be remembered for triangle escapes to work properly:

1. An empty super (no frames) must be placed underneath the escape. This allows the

² Okay, honey bees don't have noses. They smell via plate organs on their antennae. But you knew exactly what I meant, didn't you?



Triangle bee escape. The triangle is covered with wire mesh. Bees enter the maze from the honey supers via the hole in the center. By following the walls, all routes lead back to the outside.

bees a place to cluster as they try to reenter. Without this space, the bees attempting to return will clog up the exits, preventing the super from clearing.

2. Don't expect a single escape to clear more than two or three supers at a time.
3. Ensure that there is no brood in the supers. Bees will not leave brood.
4. Any bee-sized gaps between the stacked supers must be sealed with duct tape.
5. Most important of all: the round hole must face the honey side! The triangle maze faces the outside. If this is reversed, the supers will fill up with bees instead of emptying.

In addition, it helps to know that supers/escapes do not have to be stacked on the hive the supers originated from. They can be stacked away from the hive similar to how C.C. Miller used his tent escape, or stacked on a different hive than the one they came from.

It takes a few hours for the supers to clear of bees. I put my triangle escapes on in the

evening and pull my honey supers the next morning.

Porter escape

The Porter bee escape is a beginner's classic. It is a small oblong device that fits in the handhold of an inner cover. Bees enter through the round opening at the top. To exit they must pass through a "V" made from two strips of springy metal. Once the bee pushes through, the point of the "V" recloses and the bee cannot return. There are two "V" contraptions, one on each end of the escape, so the device can remove two bees at a time. Yawn. That takes a while. And if a bee is trying to exit while another is determined to get back in, we'll have gridlock. In my opinion, every informed beekeeper should be able to identify a Porter bee escape and describe how it works, but nobody should actually use one to clear honey supers.

Fume board

A fume board looks like a telescoping cover but the outside dimensions are slightly smaller, the same as a super, so it doesn't "telescope". The top is metal and the underside is felt or a similar absorptive material.

The procedure for using a fume board goes something like this:

1. Spray a stinky product such Fischer's Bee Quick or Bee-Go onto the felt surface.
2. Set the fume board in the hot sun for a while so the metal top warms up. Heat causes the stinky stuff to vaporize more effectively. Beekeepers often paint the outside surface black to absorb heat better, making the inside of the lid hotter.
3. Remove the outer and inner covers from the first hive. Place the fume board directly over the top honey super.
4. Wait five minutes. If you have several hives and several fume boards, you could use this time to move down the line and set boards on the others.
5. Remove the fume board and the top super.
6. If there are bees in the next super in the stack, replace the fume board and wait five

more minutes.

7. Repeat until all of the honey supers have been cleared and removed.

One advantage of using fume boards is that all of the supers are removed in a single visit to the bee yard.

Leaf blower

An industrial-strength leaf blower is a spectacular way to remove bees from honey supers. Set the supers on edge and blast away. Don't turn off the blower, though, or the bees will simply circle back to where they started.

Bee brush

A bee brush is, more or less, a poor man's leaf blower and for me, works about as well. Brush off the bees on one side of a frame and they'll fly around to the other side. This can keep you entertained for hours!

Other stuff

This short list of bee-clearing gadgets is by no means exhaustive. For example, there are conical bee escapes that work a little bit like Miller's pyramid tent escape. Anything that separates the bees from the honey combs is worth trying. Experiment. Ultimately, the best method is what works best for you. It comes down to a matter of preference.

Regardless of the approach that's used, don't let bee-free honey combs sit for more than a day or two before extracting the honey. Left too long, there will be wigglers (wax moth and hive beetle larvae) on the combs and in the extracted honey. If you must wait a while before extracting, freeze the combs to kill the moth and beetle eggs and larvae.

From comb to bottle

I've discussed different types of extractors previously (see [Is Tigger Crazy?](#)) so won't plow that ground twice. However I will reemphasize one point that many beekeepers seem to overlook. Second-year beekeepers facing their first honey harvest often ask me how to get honey out of the comb if they don't have an extractor. There are ways to do that ("borrow

an extractor" is the most obvious; "crush and strain" is second), but even better would be to bottle cut-comb or chunk honey, where the comb is included. This is the old-fashioned way of selling and eating honey, and there is a large niche market for it. At the same time, it is rare for beekeepers to sell honey-in-the-comb these days. The result is that it commands a premium price well above liquid honey.

That said, most of us will extract our honey. As with everything else in beekeeping, there are lots of options for uncapping the honey cells before putting the frames into an extractor.

1. A "cold knife" can be had for about \$20; it works best when it is heated before use, say by immersing in a pan of boiling water.
2. An electric "hot knife" does the same job but much more efficiently; it costs \$125 or so and up.
3. A capping scratcher is needed for "misses" when using a knife. It can also be used instead of a knife; that's how I have always uncapped my honey combs. A couple of swipes on either side of the frame are all it takes. For me, it is far less destructive than trying to use a cold knife.
4. A nifty new product is a rolling uncapper. This looks like a mini paint roller with porcupine bristles. It works similar to a capping scratcher: a couple of swipes on each side are all that is needed to puncture all of the cappings. There will be very little cappings wax left over after using the roller, but if that isn't an issue for you then this little gem is worth trying. I was able to experiment with one last season and was thrilled with how easy it works, enough so that I got one for myself to use this year.

Bees' knees?

Once we've uncapped the frames and spun them out in an extractor, proper etiquette calls for straining out non-honey elements that may be in the bucket. These include bits of wax, blobs of pollen, bees' knees/heads/bodies, stray hive beetles, etc. Honey should never be chewy!

Hobby beekeepers strain their honey; we

don't "filter" it. This is an important semantic distinction. We've been told that imported honey is sometimes "filtered"; this involves adding water and heat to force the resulting slurry under pressure through extremely fine micro-filters, removing all sorts of things that the public and the government would probably frown upon if we knew they were there. In contrast, "straining" honey typically involves letting gravity move pure honey through a mesh, removing visible impurities that fell into the bucket and aren't inherent to pure, natural honey. In summary, "straining"=good, "filtering"=bad.

Is it any surprise that there are many options for straining honey? Metal strainers, mesh paint-strainer bags, bucket-fitting strainers, even nylon stockings all do a fine job. Again, experiment and find a technique that makes you happy.

Make sure to save the bits of cappings wax that get strained out of the honey. For me, this is my major wax harvest for the year. Once the cappings have drained as much as they are going to, I set them in a large flat pan outside on my covered porch. The bees make quick work of cleaning up the remaining honey, leaving me with fine, powdery, white wax.

Honey House or Honey-in-the-House?

Wouldn't it be great to have a dedicated honey house? We could keep it nice and warm so the honey would extract and flow better. We could hose off the floor when we're done. We could store all of our equipment so it would be out of the way when we aren't using it. We could set up a system of lights and fans to capture free-flying bees. We could even hang our NCSBA and Bee Culture calendars on the wall and nobody would mind.

If you have such a honey house, then I am envious. I don't. I extract my honey in my kitchen (gasp!) even though every bee book and apiculture expert says that is a horrible thing to do. I do it anyway and it works fine for me. I guess the key is to spread lots of newspaper on the floor, immediately clean up any drips as soon as they occur and arrange everything in



I arrange my supers, homemade uncapping tank and extractor in efficient assembly-line fashion to avoid drips and minimize unnecessary movement.

efficient assembly-line fashion so there is a minimum of movement of drippy frames. Maybe I have enough Felix Unger in me to keep things from becoming too much of a mess. No, that can't be it... I must just be lucky. But so far, so good. See the photo to see how my supers, uncapping tub and extractor are arranged.

The article [Is Tigger Crazy?](#) describes what I do with the empty comb once the honey has been extracted. Take care of it: drawn comb is extremely valuable!

All done

This whole process may sound like a lot of work, but it only takes me a few hours from start to finish, not counting the wait time for the triangle escapes to clear the supers. Uncapping and extracting are fun projects to do with friends and family, especially if you have a manual-crank extractor. Remember, this is our payday: an entire year of care, feeding, treating, worrying, stinging, frustration, exploration and perspiration culminates when we extract our honey. Celebrate!

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