



What your mentor forgot to tell you!

(Selling Honey - Weight of Boxes + Addendum)

The conventional wisdom about beekeeping is that there are no pat answers. Whatever works for you is the right way for you to do something. Of course, most beekeepers are never satisfied and are sure there is always a better way of accomplishing a task or solving a problem. Consequently, if you ask five beekeepers the best way to accomplish something you get seven or more answers. None are wrong just different. It is what works for that beekeeper at that time. Here is a collection of hints that may help you in your beekeeping endeavor.

Note: See a previous issue of “Bee Culture” for hints from “Ants - Installing Bee Packages”.

Note: See the previous issue of “Bee Culture” for hints from “Marking Queens – Removing Supers”.

Selling Honey – Let the bees draw customers in.

When selling honey at an event, take along a portable observation hive. Its best without a queen but with capped brood. The lure of bees is a direct eye catcher by kids and their parents who want their kids to experience something they will probably never be able to see anywhere else. Once you have delivered your bee spiel, the parents will buy something 40% to 60% of the time.

Skunks – They will find a good meal.

Carpet tack strips nailed to the bottom board will stop most skunks. Face the sharp tacks toward the opening.

After trapping and killing three skunks this year I finally gave up and installed the carpet tack strips. We still have a lot of skunks, but I don't have to strip in the garage before my wife will let me in the house.



Slumgum – A fancy name for crud.

Slumgum is the residue of the beeswax rendering process. When the beeswax from brood comb is rendered to produce clean wax, it leaves behind the pupa casings, skins shed by molting larvae, excrement from larvae, wax moth cocoons, and other residual debris included in the original material.

Ref: <https://en.wikipedia.org/wiki/Slumgum>





Smoker 1 - Selection

You need to consider the following features of the smoker you are purchasing:

- 1) Size – The larger the smoker the more work can be done before you need to refuel it. They always seem to burnout just before the last hive do for inspection that day.
- 2) Safety guard – This feature is to protect you and whatever you lean the smoker against. A guard does require more room for smoker storage.
- 3) Opening tab – A sturdy tab can be pulled to open the lid of the smoker. A flimsy tab bends easily. Also consider the gripping action. A smooth tab will allow your gloved fingers to slip.



Smoker 2 – Fuel

If it burns than you can probably use it as fuel. Everyone has their own favorite fuel. My favorite was dried cow manure. The hard part is collecting the manure. You need to be fast with the smoker when the cow decides to void itself. A second method is to invade a pasture with a wagon and a shovel and get the not so fresh manure. After drying it out on the patio and chopping it into small pieces, store it in the ever present five-gallon buckets. Other forms of fuel are: Jeans, Pinecones, Pine needles, Rags, Sawdust, Wood chips, landscaping shredded wood and bark and anything else that burns. Try for something that is cheap and easy.

Smoker 3 – Lighting.

If you are having trouble starting the smoker, give the fuel a squirt of hand sanitizer. Most sanitizers are about 66% alcohol and catch fire very easily.

Warning: Do NOT use anything that will explode.

Smoker 4 – Lighting.

Use a propane or MAP torch to start your smoker. This is probably the easiest way to start a smoker. Get a torch that has a self-starting trigger. It will ignite when you squeeze the trigger and extinguish when the trigger is released.

Smoker 5 – Embers - Use grass as a filter.

After your smoker is lit stuff the chimney with grass or weeds. This filters the embers from the smoke and at the same time cools it a little bit.

Smoker 6 – Keep it lit.

After your smoker is lit, add a much fuel as possible. It always needs to last longer than you planned. Some small action that was only to take fifteen minutes always ends up taking a half hour. Leave the fuel loose enough that air can get through to allow it to burn.



Smoker 7 – Using.

Before opening a hive, smoke the entrance and under the cover. As you need more smoke allow the smoke to drift over the bees rather than hitting them directly with the smoke.

Smoker 8 – Opening.

After your smoker is lit, you need to add more fuel and it is hot. If you cannot open it with the top tab then use your thumb under the tab and encircle the top with your fingers. Gloves are recommended for this operation.

Smoker 9 – Extinguishing

Save fuel by smothering the fire when you are finished. Putting a cork in it is one way. Another way is to lay the smoker on its side. The air flow will then be above the fuel and not through the fuel. Make sure you place the smoker on something non-combustible. Laying the smoker on its side was described to me by the U of MN. bee squad member during a queen rearing class.

Note: Emptying the smoker and leaving the top open is recommended. Once the creosote cools it is very difficult to get the top open the next time you want to use it.



Smoker 10 - Ash Disposal - Don't start a fire.

Your smoker of ash residue could still be hot. Dump it into a metal bucket. Any still burning fuel can smolder safely without burning your barn down or catching your neighbor's hay on fire.

Smoker 11 - Cleaning

Your lid never goes on easily or opens easily due to soot and creosote buildup. Remove the bottom grate and clean. Don't forget the holes in the bottom grate

Burn it out – Use a MAP or propane torch to start the residual creosote afire. Then use a scraper or screwdriver to chip the rest away. After cleaning the big chunks out of the smoker, use a 3" or 4" wire brush on an electric drill to remove the remaining soot and creosote.

You'll probably never get it completely clean but, at least you can put the top on easier.



Super Stacking – Seven feet of problems

Don't do this even though it is tempting for bragging purposes.

At some height a stack of honey supers can become dangerous. First is the possibility of the complete hive tipping over. Second is the effort required to remove the supers when pulling honey. This hive needed the back of pickup and a ladder to remove the top honey super and propolis added to the problem. In addition to the two-hundred forty pounds of honey this hive produced, it also produced a lot of very bad words. When confronted with this situation, you can always move some of the supers to a less energetic hive to wait for extraction. Note: This picture is of Sister Alice, a Franciscan nun who is 5'2" tall. The hive produced 240 lbs. of honey for her.



Swarms 1 – It will happen – be prepared!

Be ready. Have an extra brood box or a nuc available to store the swarm. A cardboard box will do in a pinch. But it helps to have prepared a site and brood box to house the swarm. It doesn't hurt to have that extra hive leveled and ready to go. Who knows, a swarm may take up resident without any help from you.



Swarms 2 – Use a funneled pail lid.

Build a five-gallon pail with a ¼ inch hardware cloth top. In the top add a six-inch funnel. Place the swarm in the pail (hopefully including the queen) and put the top the pail. If you have the queen, the swarm will enter the pail through the funnel. Usually within twenty or thirty minutes and be unable to escape.

Warning: If you are traveling through town with the pail in the back of your truck, be safe and make sure the lid is tight on the pail.

Ref: "Build a Swarm Trap" Bee Culture December 2015 p.75



Swarms 3 – Some swarms abscond.

Reduce the likely hood of having newly captured swarm from absconding by adding a frame with brood to the receiving hive. Bees will care for the brood. It doesn't need to be a frame from the swarming hive. Any frame of brood will help settle the swarm into hive.



Syrup – What proportions?

In the fall, feed 2:1, sugar to water syrup.

In the spring feeds 1:1 sugar to water syrup.

The chart shows the resulting volume when the two are completely mixed and their relative costs.

Ref: “Making Syrup” Bee Culture Feb. 2013 p.48

Sugar Syrup					
1:1 - Light Syrup			2:1 - Heavy Syrup		
Sugar (lbs.)	Water (pints)	Resulting Volume (pints)	Sugar (lbs.)	Water (pints)	Resulting Volume (pints)
10.00	12	16	10	6	11.0
5.00	6	8	5.0	3	5.5
4.00	5	6.5	4.0	2.4	4.4
		Light			Heavy
Sugar cost per pound		0.60			
Syrup cost per pint.		0.37			0.54
Syrup cost per gallon.		2.99			4.34

Telescoping Top – Aluminum cover.

Cover your completed telescoping top with aluminum. Free or almost free aluminum sheets is usually available from the printers. Large high-quality sheet aluminum is scrap to the printer once it has been used. They can be cut with a utility knife and easily formed. If needed, the aluminum can be cleaned of residual ink with rubbing alcohol.



Temperature Requirements – Thermometers get sticky.

One handy tool I have in my toolbox is an infrared thermometer with a laser. It will allow you to take the temperature of honey, wax or anything else without having to clean it afterwards. To take a temperature, you just aim it and pull the trigger. Three seconds later the temperature is displayed on a screen. No mess no fuss.

Veil – Make sure it is secure.

Missing the closure of some Velcro on your bee veil can cause problems. Take your time and make sure you are “ZIPPED UP”. All it takes is the smallest hole for the bees to find and the next thing you know is that the buzzing in your left ear is louder that it should be. This usually occurs at the most inconvenient time.

Note: This also goes for the zipper on the front of your pants!

Washer women – Unexplained behavior.

There is an observed phenomenon of the bees lining up at the entrance to a hive and rocking backing and forth. It looks like a bunch of washerwomen scrubbing the floor. As of this publication date, I know of no explanation for this action.

Wax Cleanup 1 – Wax is almost impossible to remove completely. Use a paper towel and place it between an iron and your clothes with wax on it. Press the cloth through the paper towel. The towel will absorb the wax when it has melted. It may take a couple of passes to remove most of the wax.



Wax Cleanup 2 – A heat gun and cheap paper towels will clean up the sticky wax. First remove as much wax as you can with a scraper. Then warm the wax a little bit with the heat gun. Use the scraper to remove more wax once it is loosened. As a final pass melt all the remaining wax with the heat gun and wipe it with a clean paper towel.

Note: Heat guns are available at all hardware and lumber supply stores. A hair dryer will do in a pinch. But most hair dryers don't get hot enough to heat underlying metal or wood for an easy wax removal. They are also not for continuous use. Spouses will get upset when you ruin their hair dryer.



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Wax Facts – Basic beeswax information.

- Beeswax melts between 143 and 151° F (62-66 C)
- The flashpoint is 490-525° F (254-274 C)
This is the **temperature** at which **beeswax** can flare up and burn
- Boiling point of water 212° F (100 C)
Because of the difference in the water boiling point and the wax point, wax can be liquified in hot water. When water is available, the evaporation of water will limit the wax temperature to 212° F (100° C). Once the water has boiled off or evaporated the wax temperature can rise and eventually vaporize and possibly catch on fire.
- Because the specific gravity of wax and water are different (wax is lighter than water), when allowed to settle a melted wax/water mixture will separate. The wax will float on the water. Most impurities usually, although not always, are trapped in a layer between the two. Once the wax solidifies, it can be removed as a large solid cake.

Wax Molds 1 – How to form wax cakes.

Cheap and readily available wax molds are:

- 1 oz. – Mini cupcake mold (look in the Salvation Army Store)
- 1.5 oz. – ¼ cup – Cupcake baking pans (look in the Salvation Army Store)
- 8 oz. – 1 cup – Butter containers.
- 20 oz. – 2 cup – Small baking bread or meat loaf pans (look in the Salvation Army Store)
- 52 oz. – 6 cup – Larger bread or meat loaf pans (look in the Salvation Army Store)



Wax Molds 2 – Wax sticks to molds.

Use a releasing agent when forming wax cakes. Usually any silicone spray will work or at least help with the removal. You can also COOL IT! Another way to release the wax is to cool the wax. The wax shrinks and will pull away from the side(s) of the mold.

Wax Moths – How to stop them.

Wax moths don't seem to bother supers that are stored where it is freezing. I have kept my "DRY" and some "WET" supers in a barn with no problem. Of course, it gets to 20 degrees below zero here in Minnesota.



Wax Processing Preparation – Too much honey.

Honey mixed in with the wax you are going to melt is a sticky problem. Remove most of the honey before processing it by rinsing it. Place it in a five-gallon pail and add water. Mix it around and then drain it before melting it. You won't eliminate all the honey, but it will help.



Wax Processing 1 – Easy wax melter.

Look at the Presto Big Kettle Multi-Cooker & Steamer™ as a means melt your wax. It is relatively inexpensive and easy to clean.

Wax Processing 2 – Breaking cakes of wax.

If you have cakes of wax that are too large to fit into your wax melter. Place them in a cardboard box and use a hammer and chisel to split them. The cardboard box stops the wax chips from flying all over your workroom.

Wax Processing 3 – Use water to separate crud from wax.

When melting raw cruddy wax, add water while melting it. Water and wax do not mix. When the wax is poured into a container the water/wax mixture will separate into layers. Water will be the bottom layer with a mixture of impurities (crud) above it and then a layer of wax on top. The slower the mixture cools the longer the crud has to separate from the wax.



Weight of Honey – A quick easy way to estimate the weight of honey.

Honey weight about 1.5 times the volume of the honey.

A gallon of water weighs about eight pounds. A gallon of honey weighs about twelve pounds. Another conversion that is convenient is that honey weighs about 1.5 times the volume of water. A good example of this is the standard honey bear. It holds eight ounces of honey or water by volume. But it is considered a twelve-ounce honey bear (by weight).

Weight of Boxes – A generalized weight for standard bee equipment

55 - 60 lbs.	Fully filled 9 frame Medium Super
12 -18 lbs.	Wet 9 frame super (After extraction)
90 -100 lbs.	Large 10 frame brood box



Addendum:

Think

The following more thought full items were supplied to me by Kim Flottum editor of Bee Culture. These are not the little “HOW TO” operational items but some of the basic items that you need to be aware of.

Internet – Be careful.

Both Kim Flottum and Larry Connor warned me about this. Larry said that there is a lot of snake oil being sold out there. Kim said that “unless the information is from a University or well-known beekeeping business be careful”. At times the internet is a fantastic source of information. Other times it can easily lead you astray. Question both the provider and the contents of the information.



Know – What the bees are doing?

Right now – TODAY – what should the bees be doing and why. Knowing what to expect and identifying the unexpected can help. What doesn’t seem right can lead to the further investigation of a situation. Hopefully before it turns into a disaster.

Plan – Have a plan.

Think about what you are going to do. Some actions are rote, and some are **NOT**. When contemplating non-normal actions, think about them first and evaluate how you are going to perform them. Also give thought to the possible outcomes. There may be consequences to your actions that are not exactly what you intended.

Prepare – Be prepared – not just a Boy Scout motto.

An extra empty nuc or hive comes in handy when a swarm just shows up. Have extra smoker fuel available. Your smoker will always die just when you need it. Keep your bee jacket in the trunk. You never know when a friend will need help. What about your EpiPen? ETC., ETC., ETC.

Record – Keep records.

When you have one or two hives, you can remember the status of them. When you expand to more hives, there are more things to remember and maybe in the future act upon. A trend in your operation may not be obvious until you look back and see what has been changing over the last series of inspections or observations.

Being reminded to check for a queen or larvae in hive #13 could mean that the hive has gone queen-less and needs help.



Rocks – Hive cover rocks.

Even a telescoping cover can be blown off the hive with a gust of wind. The extra weight helps keep the cover in place.



Rock's Position – Positioning of hive cover weights.

The position and attitude of the weight can provide information you need to remember. Before starting inspection of the ten or twenty hives in your yard, place the brick or rock in a certain position on each of the hives. Then after the inspection is complete for that hive, place the weight in a different position. Maybe center of the top for a completed good inspection and the rear center of the top for a hive that needs food. This provides an instant view to the status of each hive.

I hope this helps. These hints and shortcuts have been collected from experienced and neophyte beekeepers. Additional hints would be appreciated. Please send them to:
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Get a copy of Ed Simon's book *Bee Equipment Essentials* with detailed drawings, construction hints and how-to-use instructions for dozens of beekeeping tools and equipment from www.wicwas.com. Ed can be contacted through SimonEdwin41@gmail.com.