

PROCEDURE FOR SUCCESSFUL BEEKEEPING

Caution: Author is still learning - reader discretion advised!

by Jerry Freeman

After being away from beekeeping over 25 years, I started helping some friends with their hives in 2007. Because of the pest and health issues facing honey bees today, I had to re-learn beekeeping. It was difficult because there was *too much information* available.

Many beekeeping authors – even most – hesitate to say, ‘This is how to do it.’ And for good reason. There are so many variations in honey bee behavior, weather, diseases, pests, environment and everything else that it’s impossible to be definitive. Details and possible variations are usually included to avoid misleading anyone. The un-intended consequence is that people with only a few years experience in beekeeping can read stacks of beekeeping literature and still not know what to do in their bee yard. Too many details confuse people. Even with 20+ years of beekeeping experience, it was difficult for me to find a reasonably simply way to deal with today’s beekeeping environment. After nearly two years of study, experimentation and hard work, Clyde Hammil (my partner) and I developed a simple procedure for successful beekeeping.

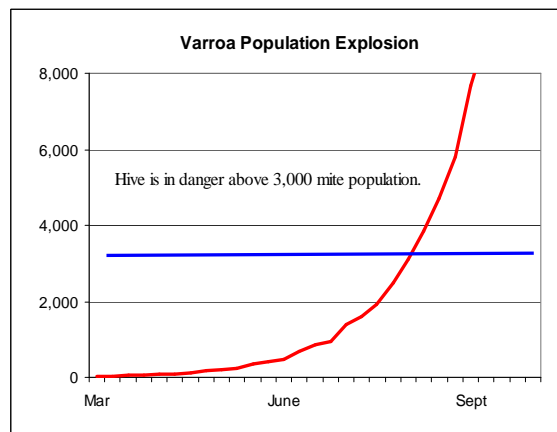
Instead of trying to cover all the possible variations, I will explain step by step what has to be done in the bee yard, why we have to do it and when we have to do it. Honey bees will no longer thrive on neglect. Some actions by the beekeeper are required. Those critical actions will be highlighted in red. I won’t nag or call you a ‘bee-haver’, but if you do not have the time and discipline to take these few required actions at the right time, your colonies will be weak, will not produce surplus honey and are likely to die out. That’s just the facts of today’s beekeeping.

Certainly, this procedure is not complete. Read all the books you can, join a beekeeping club and talk to experienced beekeepers. Really good beekeepers want to know all we can about honey bees. But keep this simple guide close at hand. A lot of things can go wrong, but they usually go right!

My experience is in south Arkansas. People farther north will have to adjust the suggested actions to the calendar and conditions in their area. If you have corrections or suggestions, by all means, let me hear them. My email is: jfreeman1944@yahoo.com. My phone number is: 870-853-2412.

JULY – Extract honey and **TREAT FOR VARROA MITES**

For me, the beekeeping year begins in July. Our honey flow has ended and the VARROA MITE population is beginning to explode. I extract honey the first part of July and *treat for Varroa beginning in the middle of July*. The chart shows why Varroa mites are such a threat in summer and early fall. I realize some people still have a honey flow in July, but fall treatment of Varroa is too late. *The colony must raise healthy babies in the fall to produce honey next year!* If the fall brood



has been chewed on by Varroa mites, they will not be healthy enough to build a strong colony for next spring.

Hygienic queens may solve the problem for you, but you need to make sticky board counts to be sure the mites are under control. (I use the oil tray in our beetle trap for a sticky board.) Randy Oliver's web site, <http://www.scientificbeekeeping.com/>, provides more details.

Most of my bees are not hygienic enough to deal with Varroa on their own. I make two treatments with Apiguard – the first one in the middle of July and the second one two weeks later. I use Apiguard for two reasons. First, it is effective. Second, it is not a poison. The active ingredient in Apiguard is Thymol – made from the herb, Thyme. This is the only 'chemical' I use in my colonies. I believe chemicals and poisons are major contributors to the current decline in honey bee health.

Formic acid is also a natural ingredient, but is much more harsh than Apiguard. It kills some brood and may even damage the queen. **GOOD NEWS!** The makers of Mite-Away-II, formic acid pads, have developed a new product called MAQS – Mite Away Quick Strips. They claim it is so mild it can be used even when honey supers are on the hive. It has not yet been approved, but surely will be by next year. This means that even beekeepers with summer honey flows will be able to treat their colonies when the Varroa mite population is expanding.

LATE AUGUST – Re-queen every year (Sort of optional, but a great help)

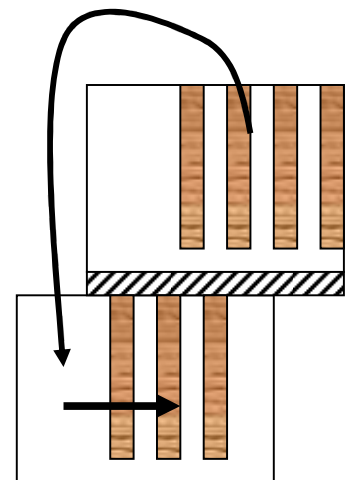
Colonies with queens less than a year old are less prone to swarming than colonies with older queens. Maybe this is because young queens produce more 'queen odor' or maybe they are more vigorous and lay better. To me, it doesn't matter why, I just don't want them to swarm next spring. Besides, it's really difficult to get queens early enough in the spring.

The problem with fall re-queening is finding the old queen in a hive with lots of bees. To help with this, I put a cheap, plastic excluder on each hive body when removing the last treatment of Apiguard. Even Apiguard may cause the old queen to slow or even stop laying. I wait two weeks to give her time to recover and lay a few eggs.

By the way, I clip the queen's wing, not to keep the hive from swarming (they will anyway), but to keep the old sister from flying from box to box while I'm looking for her! I can then look in each box until I find eggs or young larvae. That box has the queen.

TO FIND THE QUEEN

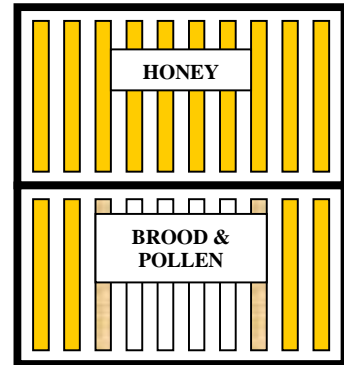
Set an empty hive body on the top cover; put a wood or metal rimmed queen excluder on the hive body. Offset the excluder about 4 inches to one side. Then set the box with the eggs and larvae on top of the excluder. I inspect each frame for the queen and brush the bees off if I do not see her. I put that frame in the empty bottom box and push it under the top box. As the frames in the top box become crowded, the bees crawl through the excluder to the familiar combs in the bottom box. Eventually, you will see the queen somewhere in the top box because she cannot fly and she cannot get through the excluder. Finding her is still a hard job, but this is better than searching the entire hive two or three times and maybe still not finding her.



Kill the old queen and introduce the new one in a cage. Re-queening before fall brood rearing starts also allows us to evaluate the new queen before winter. If you see any problems with the new queen, replace her or combine the hive with one that has a good queen.

SEPTEMBER – Raise healthy baby bees and store winter honey.

When the fall honey flow is over, remove and extract the *surplus* honey. The bees need 60 to 80 pounds of honey for the winter. Any amount of honey above 80 pounds is your surplus. Deep combs of honey weigh about 6 pounds. Medium combs full of honey weigh about 3 ½ pounds. The illustration shows how a hive with two deep hive bodies should look by Thanksgiving. Fourteen deep frames will provide about 80 pounds of honey. The bottom box has a little brood and pollen in the center.



Reduce the hive to two deep boxes or three medium boxes for winter. I want brood in the bottom and honey on the top. Medium boxes will have a similar arrangement, but there will be a little brood in the center of the bottom two boxes.

NOVEMBER – Run a sticky board count for Varroa and double check winter food stores

Again, I refer to Randy Oliver’s web site. However, I have far less tolerance for Varroa than Randy does. *If I see more than 25 or 30 mites on a sticky board after two days, I get out the Apiguard.* It’s not as effective in cold weather, which is good because it causes less stress on the bees and queen but will still kill quite a few mites. Apiguard is also effective against Tracheal mites. If used, be sure to remove the Apiguard in two weeks.

If your hive does not have 60 to 80 pounds of honey for winter stores, feed 2:1 sugar syrup (2 quarts of sugar in one quart of water) until they do.

When enough combs are filled to equal 60 to 80 pounds of honey, lift the back of the entire hive about an inch and remember what the weight feels like. Lift the top box full of honey and remember what the weight feels like. (You won’t forget.) Put a brick on the top, install a mouse guard and reduce the entrance. You and the bees are set for the winter.

VALENTINES DAY – Check honey stores

If the weather’s bad, just lift the back of the hive and compare the weight to last November. It usually won’t be much lighter. If the temperature happens to be 40⁰ F or above, break the top box loose and lift it just enough to feel the weight. It should still be heavy.

EARLY MARCH – Check for honey stores, brood rearing and signs of swarming

The busy season begins! *Beginning no later than very early March, beekeepers must check their hives every eight or ten days to be successful.* This is important. Mark your calendar and plan your next inspection. If your bees starve or swarm, you ain’t gonna make no honey!

First, look for honey stores. Brood rearing is in full swing. Usually more honey and pollen is being consumed than is available for the bees to bring in. The honey may be scattered over several frames, but if the colony has less than 20 lbs. of food (about three deep combs combined, or about six medium combs), start feeding 2:1 sugar syrup. Don’t be fooled into thinking that because the bees have three or four combs of honey left from winter, they’ve got it made. Not

true. With heavy brood rearing and more flight activity, *colonies can starve in late March*. Check the honey stores often!!

Next is brood rearing. I don't know if it's possible to have too much brood in the spring. If there's 'too much' brood, just make a split. But if there is no brood or very little brood, there is a major problem. It may be queen failure or disease. If you can't tell which, call your bee inspector for help. Tell him or her about your observations. Are the larvae any color other than pearly white? Are bees crawling on the ground? Schedule an inspection as soon as possible.

If you killed the Varroa mites last summer, re-queened last fall, raised healthy babies for the winter and left plenty of food stores on the hive, the only problem you're likely to have is swarming. I won't go through all the bloody details of swarm control, but here are the basics.

Bees swarm in the spring in order to create another colony of bees. It's like a cow having a calf. However, *the bees are not likely to swarm unless the brood nest is crowded*. Since bees tend to move upward, the first thing we need to do is reverse the boxes - *we want the brood in the bottom box*. Reversing the boxes keeps the queen and bees from 'bumping their heads on the ceiling' and feeling crowded. Just as soon as the bottom box has almost no brood, set that box on top. If the original bottom box has a frame or two of brood, take empty combs from the top box (or middle if you're using mediums) and exchange them. This will avoid separating the brood nest. Nights are still cold and *all the brood must be kept together* so the bees can keep it warm.

Also, move the frames with brood to the center of the box with pollen next to them and honey on the outside. After reversing the boxes, put empty combs in the center of the top box. This will give the queen a place to lay as she moves upward. As the hive population increases, you can take an empty comb from the outside edges of the brood box and put it in the center of the brood nest. This will give the queen a convenient place to lay and keep the brood nest from becoming congested. If you see swarm cells after all this, make a split!

Finally, put honey supers on early. When bees and brood fill a little more than half of each brood box, adding supers gives the bees plenty of room so they do not feel crowded. This is helpful, but not as important as keeping laying space for the queen in the brood nest.

SMALL HIVE BEETLES

Hive beetles winter inside the honey bee cluster. Because the beetle larvae have to pupate in the ground, they do not reproduce in cold weather. *Start trapping beetles early* so they don't have a chance to overrun the hive. *I do not recommend any type of chemical in the hive*. Ground drenches and nematodes may reduce the area population of hive beetles, but they will not protect your hive. The larvae do their damage before they leave the hive to pupate.

Of course, I believe the Freeman Beetle Trap is the best on the market, but this is not a commercial. Go to our web site at <http://freemanbeetletrap.com> to get more information on it and a summary of the Clemson University trials they ran in 2009.

LATE APRIL – The Honey Flow

Again, this date is for southeast Arkansas. Your honey flow may begin and end at different times. The point is, there's not much to do other than keep enough honey supers on the hive. This is when all the preparations we've made since last July pays off. Nothing is more beautiful than combs of white, capped honey!

CAUTION: Opening your hives during the honey flow can cause a major problem with hive

beetles. Read my article in the October, 2009 issue of ABJ: 'Things We Need to Know About Hive Beetles'. A condensed version called 'Hive Beetle Nightmare' is posted on our web site <http://freemanbeetletrap.com>.

QUICK REVIEW

❖ **CRITICAL**

By whatever means necessary, the Varroa mite population must be reduced to very low levels *before fall brood rearing begins* so the fall brood will be healthy.

❖ **OPTIONAL:** Re-queen AFTER treating for Varroa mites and before fall brood rearing begins. This will provide a vigorous queen for next spring and reduce swarming.

❖ **CRITICAL**

Make sure each hive has 60 to 80 pounds of honey by Thanksgiving. If not, feed 2:1 sugar syrup to get food stores up to minimum requirements. Reduce hives to minimum size.

❖ **CRITICAL**

Beginning in early March, inspect your hives every 8 to 10 days. Carefully monitor food stores and brood nest congestion. Respond as needed. Add honey supers early.

Now, sit back and watch the miracle of the Honey Flow! Try to get a set of scales on at least one hive. Even in marginal areas like mine, a strong, healthy colony can bring in over 15 pounds of nectar in one day.

This simple procedure works for me, the members of our local bee club and anyone else that's willing to take care of the critical issues described. We often make presentations at bee club meetings. Mike Sayers from Ft. Smith, Arkansas called to tell me he followed our procedure after we visited their club last year. He said this was the first winter that he had zero losses! At last, beekeeping is fun again.