# PlayHaven Farm LLC & Green Building Project

## Sustainable Farming : Beekeeping

**PLEASE NOTE:**

Everything included in "Sustainable Farming : Beekeeping" has been transposed directly from the website in alphabetical order. That includes references to the PlayHaven Farm LLC and Green Building Project (PHF&GBP) website pages, external websites, links to documents, etc. Because of how quickly things change on the internet, there are NO links from this document.

### Backstory (April 2012)

It is the hubby who expressed an interest in having bees once we moved to the country. We discussed it casually for a couple of years and then the hubby discovered that a work associate of his is a master beekeeper and suddenly the discussions became not so casual. It was too late to start a hive at that point, which is OK because it gave us some time to learn some things and gather what we needed to begin.

I don't know if any of you have experienced the phenomenon of your partner getting excited about a venture only to find it ends up being your venture. It's very much like when a child wants a pet and says they will be responsible for it and you won't have to do any of the work ("please, please, please"). Anyway, I have experienced this and decided it would be best for me to learn as much about beekeeping as possible on the off-hand chance that it could end up being my responsibility.

We started individually… I visited copious websites and watched videos about installing bees and the hubby had conversations with his friend and also did internet research. I tried to find someone locally who would let us experience their hives so we could see what we would be getting into… alas, no one returned my calls. We would have to go it alone.

This winter (2012) I discovered that Powell Gardens had scheduled a one-day class on beginning beekeeping and even though it was past the cut-off date, they were able to get us both into the class. (It doesn't hurt to ask… the worst they can say is no.)

It was taught by a very pleasant man (Mr. Hal Reidler of Holden, MO), who was assisted by his wife and a younger fellow. Mr. Reidler provided us with A LOT of information during that day and we both came away feeling like we could succeed at keeping bees. Of course, there is more to know and we have more to learn. Mr. Reidler also provided us with some current contacts for the local beekeeping association and suppliers. I like to buy local whenever possible, so I contacted Mr. Ed Fisher (Smithville, MO) and made an appointment to purchase the hive bodies, etc.

Before the trip to Mr. Fisher's store, I researched hive bodies, etc. and found there is a WIDE range of prices by the suppliers on the internet. Being a novice, it was difficult to know if I was finding comparable quality products or if the suppliers were simply using vastly different mark-ups. My rule of thumb in that kind of situation is to use a price somewhere in the middle and budget with that. In this case it was a good guesstimate.

Since we officially registered our place with the USDA as a farm, our farm expenses need to be tracked (for figuring costs and also for tax purposes) and that includes mileage to get supplies. I'm

sure that the cost to drive to Smithville and back was less than what we would have paid for shipping if we had purchased the lot on-line.

Mr. Fisher was very helpful and I learned a great deal from that trip. Like, when you buy hive bodies, etc. they come unassembled (unless you want to pay to have them pre-assembled for you). And when they say unassembled, they MEAN unassembled… you get pieces of wood that look like jig-saw puzzle pieces (pre-cut to the correct shapes) and nails/screws. The only things that were wholly put together were the bottom board (with a screen to reduce mite infestations), the top-feeder (which is plastic), and the queen excluder (which is metal).

Here is the list of what I came home with:

- Hive Kit (for 10 frames): bottom board with screen, 2 (large) hive bodies, 2 (smaller) supers, 20 8-1/2” frames, 20 5-1/2” frames, inner cover, telescoping cover.
- Foundations for the frames (we chose the plastic ones to start with).
- Hive Top Feeder.
- Metal Queen Excluder.
- Smoker with Shield.
- Bee Brush.
- Standard Hive Tool.
- Jacket with hat and veil.
- The Beekeeping for Dummies book.

Plus, I prepaid for the 3-lb. package of Italian bees (with queen) that we would pick up in April. We still needed to buy a jacket with hat and veil for the hubby and decided to get that when we picked up the bees. We also decided later that we would need a 2-gal feeder to add to the top feeder because we wouldn’t have anyone to refill the feeder if we go away for more than a few days. The only other thing to get is cane sugar to make the sugar water that the newly installed bees will eat while they are getting settled into their new home.

All totaled our initial expenses to become beekeepers came to $600 (give or take). (Oh, and the hubby told me last night that he picked up another book… this is a very good sign that the project has peaked his interest.)

During the month of March, I spent my evenings assembling the hive bodies, etc. Everyone recommends gluing the joints before nailing them. So I found a food grade, exterior construction glue. I used some corrugated cardboard (old shipping boxes) over the dining room table so I wouldn’t damage the finish and fitted, glued, and hammered the bodies and supers together. (I’d like to have a workroom for this kind of thing, but it hasn’t happened yet.) Then I started on the frames and found they were difficult to do without some sort of ‘third-hand’ device. Luckily, the hubby is very good at problem solving and when he was home from his latest business trip, he created a device that let me build one frame at a time very efficiently. Thanks, Hubby! I was able to assemble 10 frames a night (fit, glue, nail, and insert foundation). Getting the frames very securely fastened is very important because they carry the weight of the combs and honey and you don’t want them coming apart! I used extra nails and so had to purchase more than came with the kit. (Fingers and toes crossed that my efforts are successful.)

Everyone also recommends either painting the exterior walls of the bodies and supers, bottom board and cover or treating the wood with a preservative (like linseed oil). Since we have lots of paint left

over from having the house painted last year, I chose to paint the bodies, etc. with the same color we used on the south walls of the house (white with just a hint of brown). I put on two (2) coats of paint, sanding in between. There was so much rain and humidity this spring, the painted edges stick to each other even after the paint has cured; will need to deal with that.

I also found by reading other people's blogs, it is recommended to put some kind of distinguishing mark on the hive. The reason for this is when you have multiple hives set up in close proximity; it actually assists the bees in zoning in on their particular hive. So, I decided to draw a bee icon on each body of our first hive and I put an identification letter/number combination on each piece for record keeping. This hive is the "B" set… I suppose I should have started with "A", but I had bees on the brain and it got the label it got.

To make food for the newly installed bees, use cane sugar and water. The ratio everyone agrees on is 1 unit of weight of sugar to 1 unit of volume of water. That translates to... 1 pound of sugar : 1 pint of water. (5 pounds of sugar is added to 2.5 quarts or 5 pints of water, get it? got it? Good!)


This is easy for me to remember because some time in my childhood I was taught a rhyme: A pint's a pound the world around. I'm sure it was intended to remind us that there are 16 oz. to a pint and 16 oz. in a pound. But it works for this as well.

Heat the water just enough that the sugar will dissolve -- DON'T add the sugar to boiling water.


Make just enough to use in your feeder.

If you make too much, it's OK to refrigerate the extra.

Either way, let it sit out until it is room temperature before feeding it to your bees.

Our first toolkit - not much needed at this point. Note the bottle of anti-histamines... just in case.---

At right is the horse trailer with packages of bees... most people had already picked their's up already.

## GETTING THE BEES AND INSTALLATION (APRIL 2012)

We drove up to Mr. Fisher's place bright and early on Saturday (the 7th) and picked up the 'girls' (as the hubby has taken to calling them), the jacket and extra feeder. Someone else was picking up 3 packages and it was fascinating to see how the packages were attached to each other leaving space around them. That person was driving a pickup with a covered bed and so did not mind that their packages had 'hitch-hiker' bees holding on to the outside. We, on the other hand, were in the Honda Insight so Mr. Fisher carefully brushed any hitch-hikers off the outside so we would not have to worry about loose bees in the car.

He sprayed the package with sugar water and the girls were so happy eating away, that we didn't hear a buzz out of them until we were very close to home (45 minutes away).

We had set the hive up the night before. I should back-track a little bit here. We spent a couple months thinking about where we would put the hive. The location needed to be in a not too windy spot, with sun in the morning and shade after 1:00 p.m. and not in a hollow where cold would pool, and also not in a soggy spot. We chose to put it along the west fence line about 75 feet from the stock pond where there is a mature Locust tree that would shade it nicely in the afternoon.

We can also see the hive from the house, but it is not so close that the sounds of tractor, mower, etc. would be a problem.

The hubby used some cement cap stones to make a hard, level surface and then put two (2) cement blocks with cap stones on top of those to elevate the bottom board about 12 inches off the ground.

As I said, we set the hive up the night before and so we were ready to install the girls right away. The hive at this point consists of the bottom (screened) board, the entrance reducer, one hive body, five (5) frames, the top feeder, one super and the telescoping cover.

First, we gathered the five (5) frames and sprayed sugar water on the foundations (both sides) and on top of the frames. The hubby put them in the hive body and set the package in the space next to the frames.

Another thing we learned from others is not to hurry. Move slowly and confidently.

Now we are ready to do the install.

As recommended, we put a bit of grass in front of the entrance hole so the girls would spend a little time in the hive before they made their way outside.

Here is the hubby feeding the bees before pulling out the can that has the food they've been eating during their trip.

At this point, the bees are not in 'guard' mode at all. There is no hive to guard in any case.

They are also getting to know the queen that has been assigned to the group. Hopefully, they will be happy with her and all will be well.

Here is the hubby holding the queen cage in his left hand. The board on the package is there to cover the opening left by removing the can of food.

We opted for the installation where after you move the queen between the middle frames, you then open the package, set it in the hive body next to the 5 frames and let the rest of the bees find their own way to her and into the rest of the hive body.

After attending to the queen and placing the open package into the super, we put the feeder on top of the hive body and added the sugar water into it (about 2-1/2 quarts) and then the super so that the telescoping lid would have something to rest on instead of directly on the feeder.


We put one of the supers on top of the feeder just to make it easier to deal with getting in and out of the cavity to add more food when the time comes.

A stone on top of the cover to weigh it down and that concluded the installation. It was much easier than I had expected.

The hubby spent a bit of time that day wondering down to check on the girls and I went with him a couple of times. By afternoon, they had moved away the grass and seemed very interested in checking out the exterior of their new home. Sunday morning, we took the rest of the sugar water (another 2-1/2 quarts) and filled the feeder. (We wore the jackets for this, but the girls didn't care about us at all, so probably didn't need to.)

It's now Thursday and the weather decided to be more seasonal, so the temps have been around 60 during the day and in the 40s overnight. The hubby has been on a business trip all week and I only have been peeking in at the feeder to be sure there is still food in it for the girls. I hope they are doing all right. The hubby will open the hive tomorrow or this weekend to be sure the queen is there and laying eggs.

## First Inspection (April 2012)

About a week after the installation, the hubby went down to the hive and lit the smoker for the first time. He figured he should have it handy to smoke himself in case he got stung so that the other girls would not come to the spot to do the same. He didn't really need it, the girls are still happy to be busy working and eating.

Most of the bees had moved out of the package onto the frames and he saw comb being made (known as 'drawing comb') on parts of 3 frames. The hubby wasn't able to see the queen because there were so many bees working on the frames, so we don't know for sure that she survived and/or was accepted. Hoping for the best there.

The hubby took out the package and removed the little bit of comb that they had built in the package. He also left the package sitting in front of the hive because there were a few bees still in it. Once they

realize they are not in the hive, they will make their way to it. He also put the other five (5) frames (sprayed with sugar water) into the body. So, we have our first little bit of bees wax! It is in an old yogurt container in the freezer waiting for more (and for me to decide what to do with it).

## SECOND INSPECTION (APRIL 2012)

Another week has gone by and it is time to open the hive again. The hubby will look for eggs and determine if it's time to add the 2nd hive body and next ten (10) frames.

We will also put more food in the feeder, because you should feed the new colony of bees until they stop eating your food in favor of full-time foraging for pollen.

This is a busy time for the girls and they need all the help getting food they can get! It will be a couple weeks before the queen will have laid enough eggs to replace the ones that came in the package (they will be nearing the end of their lifespan at that point).


We have been seeing lots of activity around the hive during the last two (2) weeks and also pollen has fallen through the screen, so we know they are foraging in addition to eating the food we are providing.

Here is a close-up of the entrance. The reducer is in place so that with the small number of bees available to guard the hive, the entrance is a good size for just a couple guards to protect.

Here is the hubby smoking the hive before he goes into the hive body. The smoke is calming and it also kind of slows the bees down from their work, so we don't want to smoke them too often.

There are bees in behind those white walls in the feeder collecting food, so the smoke is also encouraging them to get back in the body before the feeder is removed.

We don't want to drown any of the girls, so the huby puts the inner cover over the feeder and puts a towel over the hole in the cover to keep the girls from approaching the food from the wrong direction.

You can see that the bees are pretty much concentrated over the number 2, 3, 4, 5, and 6 frames (you count from the left as seen from the front of the hive). So, the hubby started from number 10 and worked his way in, inspecting each frame on both sides. The 10, 9, and 8 frames were empty.

The way he did this was to remove the #10 frame and set it aside, which left room to move the next frame into the gap, and very slowly pulled up the frame. Then after inspection, he slowly put it in the gap close to the previous frame.

There was comb on six (6) frames and brood on at least three (3) frames.

That yellow bumpy covering on the cells of the drawn comb is where the eggs have been layed and the larvae fed enough that it's time to seal it up and let the new bees develop. Brood is (basically) the term for baby bees.

Here you see the girls working away.

This is a close-up that shows the eggs that have been laid growing into larvae (at various sizes) before the cells are capped. This is our proof that -- even though we did not see her -- the queen is alive and well and doing her job! YIPPEE!!

A couple more shots of the hubby inspecting the frames. It's not a big deal to turn them sideways and upside down... he just went very slowly so as not to disturb the girls at work.

Since there was not activity on seven (7) frames yet, he will wait to add the 2nd hive body until the next inspection. We want to encourage them to use up all the space available before we give them more. (As is recommended.)

In the meantime, we will keep feeding the girls.

---

Our farmer neighbor to the north has been out spraying his fields preparing for planting. The wind was light but coming from the north so we get the smell and some residue. Hopefully, there wasn't pesticide being sprayed. Fingers and toes crossed.

I don't know if getting on the 'no spray' list will make a difference since the farmer was using a tractor and spraying a few feet off the ground. BUT, getting on the 'no spray' list is the next thing for me to do.

## Third Inspection (May 2012)

The hubby opened the hive and found that the #10 frame and the #9 frame facing 10 had no comb yet. There was extra space between #8 and #9 and they had bridged those with comb (that tells us we need to pay attention to the “bee space” and not leave frames too far apart). All but three (3) sides (of different frames) were now fully (or mostly) drawn with comb. He moved #10 to the number #2 slot.

Then he inspected the frames and saw that there are new eggs and larvae (queen is active) and evidence of emerged bees. Since the girls had hit the recommended magic “7” (frames drawn, in this case); the hubby added the second hive body with it’s 10 frames. He sprayed those frames with sugar water. He also changed the reducer from just one opening to the two (2) openings.

We are seeing a great deal more activity of foraging ... it might have something to do with the fact that we were away from home for eight (8) days and when we got back the feeder was empty (and it had been FULL when we left). The hubby filled the feeder again and the bees were happy about that. It’s likely that there are new bees available to be working in the hive, so the older bees are able to get out and forage more.

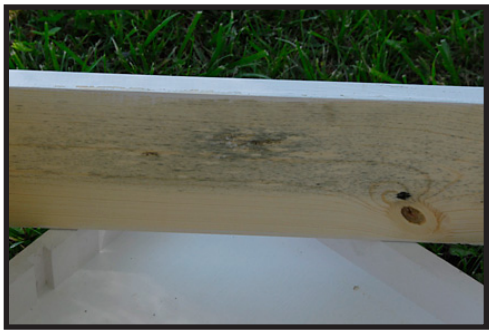
In the week that we were away, the red clover bloomed... and we learned at the first association meeting that the clover bloom is a big time for the bees.

## Fourth Inspection (May 2012)

The hubby is getting more comfortable working with the bees. Which is not to say that he doesn’t take precautions. He does a great job and moves slowly and is careful to avoid killing any of the bees... although, sometimes you just can’t help it if they get in the wrong spot at the last (wrong) minute).

Here the hubby is using the smoker to calm the girls before he goes into the hive.

When he took the top off the feeder, he found that the super we had set over the feeder between it and the cover has mold on it.



Before it gets used to hold frames for honey, it will be removed, cleaned with a bleach solution and left in the sun to kill the rest of the mold (and air out).

We are still feeding the bees sugar water and there does not appear to be any mold or fermentation of the sugar water, so we will deal with cleaning the super after we remove the feeder.

I didn’t show any photos of the 2nd deep hive body being put into place, so here is one of it being pryed from the original deep hive body.

The hubby lifted the 2nd (top) body off completely and set it off to the side so he could inspect the bottom body of frames first.

He smoked the top hive body before and after setting it aside and the bees did not seem to mind that they were not sitting on the bottom hive body.

Here you see him smoking the bottom hive body before his inspection of each frame.

As far as pictures of the inspections... for the website, they all pretty much look like the first inspection. Which is to say that some frames are full of working bees and brood or pollen or even capped honey; while others are only partially used and some not at all.

The bees like to do put comb anywhere they can, so the hubby uses the hive tool to remove the unwanted comb. It looks pretty easy doesn't it? Consider that he is resting that frame on the edge of the hive body with lots of bees in the frames below and lots of bees on the frame he's working with. Aso consider that he's holding the frame with one hand and working with the hive tool in the other. Not as easy as it looks!

Wow, these girls were REALLY wanting to do their own thing with comb!

I put 2 pictures together... the left image is the side of the frame that faced the side of the frame shown in the right image.

The hubby gently tapped and/or shook the frames to encourage the bees to leave while he removed the unwanted comb.

## TIME TO REMOVE THE FEEDER AND ADD THE FIRST SUPER (MAY 2012)

We learn from books...

We learn from other people...

but MOST OF ALL,

We learn from experience.

This time, the hubby learned that it's easier to pull the little red wagon full of tools, than carry them by hand. (LOL)

The feeder is empty and that meant that the bees were able to make their way into the area where the sugar water was. There were a few bees walking around getting the last of it.

There were also some dead bees in it. Don't know if they drowned or if they just went to bee heaven.

The other thing we discovered was comb being drawn from the bottom into the access at the ends.

The feeder is set in front of the hive so the bees crawling on the bottom of it can make their way back into the hive.

The top deep hive body is removed and set to the side and the hubby is smoking the hive in preparation for the inspection.

It's a bit tricky to hold onto that little area at the end of the frames; especially wearing gloves.

Those frames are heavy with bees, brood, nector, comb, pollen, etc.

The first frame is inspected and set aside to leave room to get to the others. After he finishes the inspection, he puts that frame back last.

A close up of the bees. We think this picture shows them packing pollen into the comb.

See the bee in the middle? She has bright yellow sacks on her legs. That is pollen she has colected.

OOOPS! I told you those gloves make it hard to hold on to those heavy frames. Here is what it looks like after the hubby dropped one while removing wild comb. The bees did not seem to mind.

There was a bit of extra flying for a moment but no concern about the humans standing there. They slowly made their way back into the hive and by the time the hubby had finished, there were only one or two still hanging out in the grass.

Lots of honey on this frame... we think they just moved the sugar water from above to store in the comb down below. That is for their consumption anyway, so we don't mind at all.

A quick shot of the bees that were hanging out on the bottom of the feeder making their way back to the hive. With the reducer still in place, only 2 small areas are available for entry and exit. This kind of reminds me of going through a security check point... always a back up. LOL

This shot shows the difference between the comb used for honey. It is the white stuff at the top.

I am not sure if the rest is capped brood or pollen or what. We have our 2nd class on bees on Saturday the 2nd, we'll ask the teacher and I'll let you know.

AGH! The wild comb was filled with honey. So when the hubby removed the frame, the comb broke open and the honey escaped.

The bees were quick to make for it and retreive what they could.

Here you see the frame being replaced. The hubby is careful and slow to avoid squishing any of the bees.

He is sliding it down along the wall of the hive body so any bees climbing on top of other bees can get out of the way.

After all the frames are back in place, the hubby adjusts them for the proper 'bee space'.

That metal grate is the Queen Excluder. It sits on top of the highest deep hive body and under the lowest super. A worker bee fits through the grate, but the queen is too large. This way the super is left for the storage of honey without the queen being able to use it to lay eggs.

At right and then left, you see the hubby putting on the super and spraying the frames with sugar water.

After finishing with the super, the inner cover goes on (with the notches up) and that makes for a 'back door' escape hatch.

Over that goes the telescoping cover and the stone to hold it down in high winds.

The last thing he did this time was remove the reducer.

There should certainly be enough bees to guard the entrance.

We thought this was a pretty shot of the hive with the barn (garage) and house in the background.

## Mr. Reidler comes out to see the hive (June 2012)

The hubby became concerned when he went out to check on the hive a couple weeks after adding the super because he wasn't seeing any comb being drawn on the frames in the super. Plus he only saw a couple of bees in there.

As I understand it, the bees had put honey across the tops of the frames in the upper hive body and had started to put honey in the bottom super. For some reason, they were either not aware of the space in the super or they could not get to it. Now, if they use up the available space in the bodies for honey, the queen doesn't have any where to lay eggs and we could end up with a hive that might not survive the winter due to low number of bees. So, the hubby was doing a bunch of research to figure out what to do about this situation.

I forgot to tell you that we took our second class about beekeeping on June 2nd at Powell Gardens from Mr. Reidler (the same teacher of the first class). This one focused more on hive inspections and possible problems to watch for and solutions. Mr. Reidler had been surprised because of all the students in the first class, we were the only ones who had not called for help. So he was curious about our hive. The hubby and I were very pleased during class because what the hubby had been doing was confirmed as good.

So, the hubby decided to call Mr. Reidler about his concerns and Mr. Reidler decided to come out and see the hive himself. In the meantime, he agreed with the hubby that it would be good to remove the Queen excluder. He said it was possible that the bees were just a bit too big to get through it. The hubby removed the excluder and put it in the freezer so it would be easier to take the propolis off of it.

It turned out that both Mr. and Mrs. Reidler came out and while the boys were busy with the hive, Mrs. Reidler and I had a nice visit.

Mr. Reidler has a different kind of bee jacket, you can identify him because his looks like a hood instead of a hat.

The hubby got lots of info about smoking, using the hive tool, etc. that you only get watching an experienced beekeeper working.

They took the hive apart and set the components on the ground to the left of the hive.

Here you see them removing comb from the tops of the frames (cleaning up).

Before they inspected the frames individually, they lifted the bottom hive body, slid it forward a couple of inches and tilted it back to look at it from the bottom. This was something we learned in our second class.

There are alot of bees on the bottom of the frames because of the heat. They are trying to stay cool and also fan the area between the frames. Everything looked fine.

Instead of putting the first frame on the ground (as the hubby had been doing), Mr. Reidler showed him how to set it behind the hive body.

It was obvious that this inspection was going to be thorough and LONG, so I decided not to stick around to take pictures. (I was in the sun and it was HOT.)


As Mrs. Reidler and I toured the garden and yard around the house, we saw this crop duster come toward us. (And this was at or about 11:30 a.m.) It was spraying pesticides on the field directly across the road to the Northeast. The wind was light, but it was coming from the Northeast. This is a HORRIBLE thing to happen when the hive is open and exposed.

Not only did the crop duster turn over our property, it also oversprayed and we could smell the pesticide. Mr. Reidler said later he could taste it.

THIS is the reason that many States have enacted No-Spray Lists. Unfortunately, I have been slow to get on the list so we have no recourse. I'm actually not sure it would make any difference after talking with some farmers.

We will never know how many of our bees were killed because they were in that field or caught in the overspray.

The hive (luckily) is in a bit of a hollow away from the bulk of the overspray and the wind may have carried most of the pesticide past it instead of at it. It is clear that we have lost some bees, but we are hoping that the loss won't affect the ability of the colony to survive the winter.

I can tell you that most of the birds that live on our farm disappeared for about a week... I'm guessing they left in search of food since the pesticide will have killed the insects they feed on. I can also tell you that my Japanese Beetle trap is getting about half the numbers compared with before the spray. I suppose some people would see that as a good thing. The trouble with spraying poison is that it kills EVERYTHING; not just the problem insects, but the beneficial ones that naturally help control problematic populations. (You can see my rant about this topic on the blog.)

We will, at least, find out who this farmer is and ask them to help us out by contacting us before they spray in the future. This will let them know that we have bees and hopefully we can find a way for both of us to work our farms without affecting the other.

Anyway, enough about the nasty crop duster.

The hubby and Mr. Reidler did finally find the Queen. She was not where they expected to see her, but see her they did! Mr. Reidler recommended that the hubby leave off the Queen excluder and just leave the bees to put honey in the super without it. This should stop them storing honey in the bottom body and the hubby has learned some other techniques to encourage this (if I remember what they are, I'll share them with you).

He was hoping to go in and check on the girls this weekend, but the temps here were over 100 degrees Fahrenheit. WAY too hot to open the hive. Fingers and toes crossed for healthy bees and appropriate use of the super.

## Bees "Bearding" (July 2012)

One of the recommendations the hubby got from Mr. Reidler was to cover the screen at the bottom of the hive. You may recall that we opted for the screened bottom as opposed to the solid bottom. Well, by covering the screen, the hive is darker and that helps it stay cooler. So, if you look at the picture at left, you can see the 2 black spots on the bottom where the cardboard is taped.

What is that, you say? All those bees hanging around the opening?

That is called "bearding" and it is quite natural in this heat. It obviously gets that name because it looks like the hive has grown a beard!

These girls are hanging around outside so that there is enough space inside for air to circulate.

Do you see the girls on the landing with their heads down, facing the opening? They are fanning the opening to get more air into the hive to help circulate. I would have thought they would face away to do this, but I would be wrong.

## My Honey! (October 2012)

There is not alot for us to do with the bees during the summer and early fall. We did attend the other two (2) classes that Mr. Reidler teaches at Powell Gardens. We learned a great deal about the

problems you can have in the colony. Everything from mites to moths to diseases and pests.

We also learned about removing honey supers and how to uncap comb and collect the honey. However, this year we won't be doing that. The last class also covered yearly maintenance (what to do when) and it's time to be thinking about overwintering the bees. In fact, we are feeding the bees again. It's been a REALLY weird year for beekeeping. Not just for us newbees, but for EVERYBODY!

So, as you may recall, the hubby put the queen excluder in place and put a super on the hive body and nobody went up to draw comb. Well, we think we know why... we actually saw bee trying to push her way through the thing and get stuck! Either the bees are getting bigger or the excluder was manufactured ever so slightly smaller. We are guessing its the second.

Did I also tell you that the hubby was having fears of the colony swarming? With all the honey they had been storing in the hive body, he thought it was getting crowded and after consulting with Mr. Reidler, he ordered some more supplies and put on a third hive body. There was also something about moving frames and/or shifting the bodies from top to bottom. (Sorry, it's been a couple of months since he did this and my memory isn't helping.) (I should make the hubby write this page, hmmm.)

In September, when temps came down some, the hubby went in again to see how they are doing and this time one of the girls stung him in the hand. Not a problem, it had to happen sometime and this time of year they are rather protective of their winter stores.

More recently, he discovered that the bees were not drawing comb on the supers even with the excluder removed. So he decided to remove the supers and store them for next year. To do this, he put the inner cover on top of the top most hive body with a 'bee escape' in the hole. It lets any bee up above go down into the hive, but not come back up that way. He put the supers back on with the telescoping lid and left it that way for a couple days until all the bees were out of there. Then he removed the supers and the bee escape and put the telescoping cover over the inner cover (like it usually is).

Since the year has been so strange... everything a couple of months early due to the mild winter and then the dessert-like temps and drought this summer... the bees are in distress. The coming winter is also forecast to be mild which means that the bees are likely to be more active and that means they'll need to eat more... but there won't be much pollen or nectar for them to find.

The hubby wants to make sure our bees have enough food for the winter so he is making the fall mixture of sugar water and putting it in our top feeder. The girls are VERY protective of that as well! He hates to smoke the colony just to add sugar water, but he got another sting doing just that! This time in his ear lobe.

He will continue to give them liquid food for them to move down into the hive bodies to store until they stop needing it or until it's too cold to give them liquid. He's made three batches so far... about 30 lbs of cane sugar. Hopefully that will give them enough so that he doesn't have to make 'bee candy' food for them during the winter.

Here are a few photos of him putting on the bee escape and finding that there was no comb on the super frames (even though there were bees).

I know I include a "getting prepared" shot an awful lot, but I think it's an important point. You should ALWAYS be fully prepared BEFORE you enter the hive.

The less stress on the bees (and you) the more calm everyone is... the happier everyone will be.

Watch out! a Wasp! That wasp did not stand a chance... BWAH HAH HAH!

Well, lots of bees on the honey super frame, but where's the comb? They won't be storing honey up there this year.

The inner cover with the bee escape in place. This is the top.

And, the hive with it's three (3) hive bodies, the inner cover above them and the two (2) supers with the telescoping cover on top.

The hubby has removed the supers now so there are just the three (3) hive bodies.

He has also removed the cover he taped to the bottom board. There was a lot of residue on it (it sits UNDER the varroa mite screen, so the bees can't get to it to clean it) and we saw moth and moth larvae on it too.

Last time the hubby looked, he did not see any moth infiltration.

He is making a new solid cover for the bottom for this winter.

## SAD NEWS (DECEMBER 2012)

We finally had a warm enough day for the hubby to do the winter check on the bees. Sadly, I have to report that they have all died. I am talking photos of his inspection so we have documentation for our mentor when he comes out to investigate the cause. From what we can tell, they had plenty of food, so that was not the problem. More to come when we know more.

The hubby is still set on beekeeping. He is getting two (2) nucs (small hives on frames already) in the spring from a source that promotes natural beekeeping... as in selective breeding of bees that survive mites, etc.

## A NEW START (JUNE 2014)

I see that I have neglected to tell you news... in Spring 2013, the hubby contacted a bee breeder from Illinois who specializes in Queens that are VSH (Varroa Sensitive Hygiene). Here is a link to the Illinois Queen Bee Initiative to learn about what that means. Basically, these bees are REALLY clean! They keep their hive clear of invaders of all kinds but especially those nasty Varroa mites that are a plague to bees. AND, I am happy to report that there are bee breeders in Missouri who are also breeding VSH bees.

The hubby was able to purchase two (2) queens with brood in the summer of 2013... they arrived in July. So we had two (2) hives set up and while one seemed to be thriving, the other we were concerned about. Then the Winter arrived with it's multiple Polar Vortexes and when it finally ended... we were left with one (1) hive. BUT, one is better than none!

I am SO grateful that the hubby has taken such an interest in beekeeping! I am no longer worried that I will have to pick up this project. He has been studying diligently and really seems to be enraptured with it.

The new hives in the Summer of 2013. (The openings are to the Southeast... so the one on the left is the West Hive and the one on the right is the East Hive.)

You start out with just one box high and the opening is highly reduce/restricted so they can easily defend the hive with minimal guard bees.

There are 5 frames of bees in each of these hive bodies with 5 empty frames so they can expand.

Seen from underneath... this is the East hive (the weaker of the two hives). Each hive has a screened bottom board for ventilation as well as letting any mites that might be in the hive the chance to fall out of it.

Seen from underneath... this is the West hive (the stronger of the two hives).

The same 2 hives in November 2013 after they grew and needed a second hive body to use for storing their winter food (we DID NOT take honey out of these hives in the fall).

The west hive (the one that was doing so well) was the one that died. They had more bees than they were able to store food to feed themselves. In other words, they starved. :(

My beekeeper wishes he had fed them more ... but hind sight is 20/20 and how could he have known... he says ‘experience is a harsh teacher’.

This is the remaining (east) hive with insulation around it, on top of it and the bottom covered during the Polar Vortexes.

Don’t know how much it assisted them, but any help (I’m sure) was appreciated. LOL

At least they survived.

Here the beekeeper made available the honey from the hive that died to the remaining hive.

To aid the bees in finding all the honey that was left in the hive that died, the beekeeper laid one on top and put one more in the “nuc” box next to it.

He says the bees were happy to have the extra food.

Here is my beekeeper doing the Spring inspection of the hive that survived.

Lots of boxes, you ask? OK, here’s what they are:

The bottom 2 are the hive bodies they spent the winter in.

The next hive body (above) has empty frames for them to start building comb and expanding into.

The 2 supers (shallower boxes) are in case they were able to make lots and lots of food beyond their needs and to put extra in those supers for us. (This did not happen, ah well.)

A close up of the ladies loaded up with pollen!

Those bright ‘saddle-bags’ are packed with pollen.

Good food for growing/raising young.

The beekeeper is removing the excess pollen patty (food) since there is plenty of pollen and nectar now that Spring has finally arrived.

This is ‘wild comb’ that the bees create where there is extra space. The beekeeper will remove this to keep things ‘tidy’ (no matter what the bees think, LOL).

During the inspection, the use of smoke encourages the bees to stay inside and eat, which keeps them from coming out and attacking the ‘invader’ (translation: beekeeper).

There is a handy tool on this side of the hive body... it is a frame hanger. As the beekeeper removes a frame to inspect, they can temporarily hang it there to give them room to go to the next frame (for example).

Removing a frame for inspection. This frame has lots of capped brood and honey. NICE.

The metal thing in the beekeeper’s hand is the hive tool. IT IS VERY SHARP to scrape propolis and wild comb off of frames, etc. Also used to pry hive bodies apart.

This frame is nurse bees taking care of brood (baby bees).

---

This is the last photo from this inspection, because the smoker ran out of fuel, the inspection was lengthy, the photographer was standing in the wrong place (close to the front of the hive) and the bees were getting agitated.

Results: both beekeeper and photographer (me) were stung. Luckily, only once each.

AND the beekeeper amazingly remained very calm and put everything back together (stopping the inspection a bit early). The photographer calmly moved away as fast as possible (cuz I was NOT wearing veil or other protective garments... silly me).

More pictures from another day....

Close up of a white clover and a bee sipping nectar (which it stores in a compartment in its stomach... unlike the pollen that goes into it's saddle-bags).

Lots of activity, both going in and out. Especially interesting in this image is the DRONE!! A drone is a male -- I repeat -- a MALE bee. Their only job is to fly around and find a virgin queen to mate with. In the act of mating, they die.

The drone is in this photo near the bottom... he is the one about to take off from the edge, nearest to the blue dot in front of the 'door'.

These next 2 images are close-ups of the drone.

It has HUGE eyes (the better to see you with, my dear).

In this photo it is centered just above the opening and you can tell him also by his larger size.

And (below) he is all by himself. Once you've learned to recognize him, it's pretty easy to spot him.

The beekeeper says that it's GOOD that the hive is producing drones, because they send their VSH genes to other hives.

By the way, each Queen mates with 15 to 20 drones. Which provides LOTS of varied genetics in a single hive. (This is partly why we are happy to see drones going out to mate... the odds are improving in their healthy favor.)

Recently, my beekeeper went to a 2-day workshop on breeding Queens. He also purchased 2 'Queen cells' from the instructor (these are eggs that will be placed with a frame of nurse bees each -- in different compartments. The nurse bees feed the larvae royal jelly and create new queens. Then each queen goes on several flights in order to mate with all those drones (hopefully with several of ours).

I have to tell you that my beekeeper is learning so much! Unfortunately, some of those lessons are hard... like finding you didn't tack the screen between the frames of nurse bees raising the queen cells enough to keep them on their own sides. There can only be one queen and that little hole means it's one space instead of two and there will be a fight between the queens. Shucks!

He is also experiencing 'robbing'. This is where the bees from another hive come to take away food and other bees from a different hive back to their own hive. Every beekeeper goes through lessons like these. Hopefully, they enjoy beekeeping enough to tough it out and know what to do the next time to keep expanding their hives.

## UPS AND DOWNS IN BEEKEEPING (AUGUST 2015)

Unfortunately, once you've seen a hive with honeybees going in and out... and have seen the frames with brood and food, etc.; the photos all seem pretty much the same. Although a beekeeper may have other opinions in that regard. LOL. So, you won't see more of those images. There are plenty above and on the previous page.

My beekeeper was supposed to provide me with a report to share, but he's been really busy with work that pays for everything in addition to farm chores and, and, and... so it's up to me to remember and relate it to you. Sorry about that. LOL

May 9: Our hive produced a swarm today. We caught it "in the act" as they had gathered in the honey locust tree right by the hives. We were able to cut the branch off that they were assembled on and shake the queen and her girls into a "nuc" (a cardboard box, sized to hold 5 hive frames, with an entrance and one frame of ). We then put the nuc into a larger box to keep the girls that didn't make it into the nuc some time to climb in. Within 30 minutes almost all of them were in the nuc. The frames were then transfered into a new 10-frame hive body, with 5 frames of old foundation (wax combs). The workers were already measuring up the frames to add new wax comb and start a new home. Keeping our fingers crossed that they decide to stay and the old hive does not decide to swarm again. IF they do, hopefully we'll catch them, too.