Cool Breeze for the Beez

By Lori Stahl

Screened inner cover

After hearing of how important ventilation was for the bees and of how much of their time and energy goes to gathering water and fanning to cool the hive, beekeeper Lori Stahl began to wonder about why we use a screen bottom board but a solid inner cover on top.

Hive cover removed to show inner cover in normal position...the **bees can enter the hive from top, note 2 different entrances.**

Ike Zook of Forest Hill Woodworking patiently listened to an idea I had for a screened inner cover. He and I in his shop created one that would serve two purposes. First to allow the bees easy hive top access (saving them the time of coming in the bottom and up through to supers), giving them a nice ramp to land on and walk up and in.

The screened inner cover would also double, when flipped over, as a bee secure moving screen to give them good ventilation during colony transport. The ramps are made of metal that will bend to desired angle.

Cheers!.....Lori

Cover in position for moving hive. Gives bees plenty of ventilation, screen keeps them in during transportation.

How do I know if I have a strong hive?

There was a discussion during our May meeting about wintering hives and making sure your hives are **strong** going into the winter. One of our newer beekeepers asked this question and it got me thinking. How do you define a strong hive? If you have a very strong four frame nuc and you move it into a single hive body it now appears to be weak. Given time, it will build up numbers and stores until it becomes strong and will need that second hive body added. Now, again, it appears to be weaker than it was as a single hive body.

On top of that you have the different hives that winter differently. Some winter with a small cluster of bees, using very little honey, then build up quickly in the spring. Does that make them a weak hive because they do not have the number of bees that some other hive has? Then, there is that other hive (like one of mine last winter) goes into the winter, strong, with an over abundance of bees, only to run out of honey in mid January and starve. Obviously this hive did not have enough honey, but the small cluster survived the winter with say 20 pounds of honey and the other starved with 60 pounds. This can be very confusing in the first year or so of beekeeping and I probably just made it worse.

So getting back to the question, I am going to reword it. **How can I tell if my hives are doing well?**

Looking at the entrance of the hive
(It is a fair day with no rain) are there bees coming in with pollen on their legs?.....that is a good sign that they are doing well.

When you take the cover off, are there bees up on top of the inner cover, just hanging out and taking a break from the hive work?....that is a good sign.

If you lift out a frame of open brood, (cells that the white larva can be seen), and the frame is covered with so many bees you can hardly see the open cells, they are doing well.

When you look at the frames from the top (like the picture on the left) (this hive was open for a few minutes and not smoked) the frames with no bees on top will have few bees on the face of the frame. Often times the frames with the most bees on top will be the frames where you will find the queen working, or at least a good place to start looking for signs of presents.

When you open your hive and you see 1 egg per cell and may cells with eggs... that is a good sign that the queen is alive and doing well. You do not have to go through every frame looking to see her, she is there.

I think the best advice for newer beekeepers is to read all you can, but more important, go out and watch your bees. See what pollen they are collecting. Watch the activity at the entrance; it is different in the morning than in the afternoon. When you open the hive, look at the organization of brood, pollen and honey. Marvel at what a group of insects can do working together in total darkness. Much of beekeeping comes with time, experience and a few stings, be patient, we are all still learning and will continue to learn for some time.

The most important thing is to keep asking those questions. Ask them at our meetings or if you need something answered right now call or e-mail another member ....Beekeepers always like to talk about bees, and besides, our opinions are free.

Just my opinion.....Jim

Bee Math

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All of the numbers about the life cycle of bees may seem irrelevant, so let's put them in a chart here and talk about what they are useful for.

Caste	Hatch	Cap	Emerge			
Queen	3½ days	8 days +-1	16 days +-1	Laying	28 days +-5	
Worker	3½ days	9 days +-1	20 days +-1	Foraging	42 days +-7	
Drone	3½ days	10 days +-1	24 days +-1	Flying to DCA	38 days +-5	

If you find eggs and no queen how long ago do you KNOW there was a queen? At least there was one three days ago and possibly is one now. If you find just hatched larvae and open brood but no eggs when was there a queen? Four days.

If you put an excluder between two boxes and come back in four days and find eggs in one and not the other, what do you know? That the queen is in the one with eggs.

If you find a capped queen cell, how long before it should emerge for sure? 9 days, but probably eight.

If you find a capped queen cell, how long before you should see eggs from that queen? 20 days.

If you killed or lost a queen, how long before you'll have a laying queen again?
24 days because the bees will start from a just hatched larvae.

If you start from larvae and graft, how long before you need to transfer the larvae to a mating nuc?
10 days. (Day 14)

If you confine the queen to get the larvae how long before you graft?
It will be four days because some won't have hatched at the beginning for day 3.

If you confined the queen to get the larvae how long before we have a laying queen? 28 days.

If a queen is killed and the bees raise a new one, how much brood will be left in the hive just before the new queen starts to lay? None, It will take 24 or 25 days for the new queen (raised from a four day old) to be laying and in 21 days all the workers will have emerged and in 24 days all the drones will have emerged.

If the queens starts laying today how long before that brood will be foraging for honey? 42 days.

You can see how knowing how long things take helps you predict where things are going or where things have been.

Sometimes you just have to figure best and worst case. For instance, an uncapped queen cell with a larvae in it is between four and eight days old (from the egg). A capped queen cell is between eight and sixteen days old. By looking at the tip of the cell you can tell one that is just capped (soft and white) from one that is about to emerge (brown and papery and often cleaned down to the cocoon by the workers). A soft white queen cell is between eight and twelve days old. A papery one is between thirteen and sixteen days old. The queen will emerge at sixteen (fifteen if it's hot out). She'll be laying by twenty eight days usually.

Michael Bush

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Top entrances…
They can be a pain...But the bees love them!

I ordered two entrance boxes from Ohio, they looked interesting. The idea was to put them on top of the brood chamber with honey supers above them. The queen should stay below and honey stored above, simple! Well the queen did not get the memo. She went right into the honey supers and began to lay eggs. So I just moved the entrance to the top. Given both top and bottom entrances, the bees use the top one most of the time. If we ever get snow, the top entrance allows for ventilation and the nail covered opening keeps mice out.

The pain part comes in when working the hives. When the entrance is removed, the bees continue to arrive at the same level that the entrance was located. This is just about in my face and that is where they circle looking for the missing entrance.

A top entrance can be made simply by putting door shims between the one of the supers or under the inner cover. Or the super can be shifted back making a ½ inch opening for an upper entrance. These extra openings also give your bees additional ventilation in the hot summer months when they have to work hard to cool the hive.

Jim

Getting Your Bees to Build on those Plastic Frames

By Jim Pinkerton

Are you are using plastic frames? After putting them on your hive, do you come back to find your normally cooperative bees have decided they would prefer to build comb between the frames rather than on the comb stamped pattern? Or they think East and West comb is better than North and South frames? You can understand the frustration of getting your bees to start building on those frames. The instructions that come with the frames say the frames have been coated with wax and acceptance can be insured by spraying or dipping them in sugar syrup. Well…….that didn't work!!

Two years ago, Tim Miller was demonstrating hiving a package at our spring meeting. He mentioned that painting a light coating of wax on the plastic frames would get better acceptance. Well, it was time to listen to the professional. I melted some bees wax and coated 10 frames. Then placed them in a hive body and set it on top of a, crowded, single body hive, that was ready to expand. They went right to work building on those frames with the extra wax coating.

As I was coating frames for the next hive a little experiment came to mind. I painted 2 stripes on a frame and placed it in the middle of a busy hive. A week later I went back and pulled the frame. The results are obvious. The bees built on the wax coated area, avoiding the uncoated areas. Nectar was also being stored in the comb. Thanks for the tip, Tim. I am just sorry I procrastinated for two years before melting some wax and giving it a try.

Jim

Personal Beekeeping Philosophy

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A lot of decisions on equipment or methods depend on your personal philosophy of life and your personal philosophy of beekeeping. Some people have more faith in Nature or the Creator to work things out. Some are more interested in keeping their bees healthy with chemicals and treatments. You'll have to decide where you stand on these kinds of things.

Organic

If you're the type to take an herbal remedy before you run to the doctor, you probably fall into this category. True organic would be no treatments whatsoever. Some will say this can't be done, but there are many people including me doing it. Many are online and help each other through it. After that there are "soft" treatments like essential oils and FGMO, and then slightly "harder" treatments like Formic Acid and Oxalic acid for Varroa.

Chemical

If you're the type who runs to the doctor for antibiotics the second you get a sniffle this is probably more your style. Some in this group treat for prevention. In my opinion the wiser ones treat only when necessary. Most of the recent research shows that treating for prevention has caused resistance to the chemicals on the part of the pests and has done little to help the hive and often hurt them. Chemical buildup in the wax from Cumaphos (Check Mite) and Fluvalinate (Apistan) used for Varroa mites, is suspected to be the cause of high supersedure rates, and known to be the cause of infertility in drones and queens.

Science vs. Art

"*Those who are accustomed to judge by feeling do not understand the process of reasoning, for they would understand at first sight and are not used to seek for principles. And others, on the contrary, who are accustomed to reason from principles, do not at all understand matters of feeling, seeking principles and being unable to see at a glance."*--***Blaise Pascal***

If you see beekeeping as an art or you see it as a science it will change your perspective a lot. I think it's a bit of both, but since bees are quite capable of surviving on their own and since we really can't coerce them into doing anything, I see it as more of an art where you work with the bees natural tendencies to help them and yourself. Part of this is also the ability to see intuitively the whole picture instead of seeing each individual piece as if it stands alone.

Scale

This is another thing that changes your philosophy on many things. When you have time to spend with the hives and the hives are in your backyard, then methods that require you to do something every week are not a big problem. For instance, when I requeen in my own yard, I don't mind if it takes three trips to the hive to get it done if that improves acceptance. But if it's at an out yard 60 miles away, I want to do something one time and be done. The same is true of the number of hives. If you have only two hives to deal with on a certain issue, you may not mind how complicated it is. When you have hundreds of hives to deal with, you have to have a streamlined system.

Reasons for Beekeeping

A lot of your decisions will be guided by this. If you have bees as pets you have a different agenda than if you have them solely to make a living.

Michael Bush

Building and Using a Simple Swarm Trap

How many times have you found one of your hives has swarmed and the bees are hanging 5 feet higher than anything you have to retreive them. Than they hang there for several days just taunting you to try something before they leave. Well for a few dollars and an hour or so working with power tools and brushes, you can make a few swarm traps to try to lure these swarms in before they settle into a tree or the neighbors house.

Supplies you will need.
12 inch by 4 foot cardboard tubes (used for concrete forms) …..$8.00 to $9.00 (makes 2) A few pieces of scrap wood or plywood to make the ends for the tubes. A dozon or so screws to secure the ends.
Some exterior paint for the outside of the tubes. Color?? What ever you have around.

Begin by cutting the tubes in half. Use the tube to trace the inside diameter onto plywood for the end caps. Just a note here, use each tube to measure for its own ends. Even though they are 12 inch tubes the factory makes them just a little bigger or smaller so they can slide several together for shipping. I found this out the hard way when my caps would not fit my second tube. I used ½ inch plywood that I had around, and cut them out with a jig saw. Screws can be put thru the tube into the back cap to hold it in place. I cut 3 blocks for the front cap to rest on and put a screw into each to hold the end secure, but make it easily removed to get a swam out. A piece of scrap wood on the front makes a handle for lifting the cap out. A tube with the ends capped, that's it.

The outside and ends should be painted to protect the cardboard. The inside can be coated with melted old combs and propolis scrapings, as an attractant. See more tips on the next page.

Make some extra traps and ask to put them in a friend's yard or lot. Ask them to give you a call if they see activity in the entrance. You never know where a swarm will show up and you may get someone new interested in bees. Today everyone wants to help the honey bees. I would guess that by midsummer they could be removed and put away for the year. ***What a treat it would be to find a swarm in one of your traps!!***

How you can make your swarm traps more attractive to swarms:

Research has shown:

- Swarms prefer a nest cavity about the size of a medium super or greater in volume.

- Cavity shape and entrance shape are not important.

- When given a choice between identical cavities, swarms will choose those which contain Nasonov pheromone (queen pheromone). Lemon grass oil, available at health food stores for about $5.00, can also be used as an attractant.

- Traps are most effective at about 15 feet off the ground, other sources say 8 to 9 feet, but swarms have also moved into traps on the ground …..So your choice, see what works for you **Safety First!** **There is no swarm worth getting injured over. Placing your Swarm Trap or Box no higher than arms reach will work just as well.**

- Lures used in combination with old combs and hive residue odors such as propolis is very attractive to swarms.

- Swarms prefer an entrance hole ¾ to 1 inch in size located toward the floor of the cavity.

- Swarms prefer the entrance facing south.

Suggestions:

- Use hive bodies that contain wax and propolis residue, and set entrance reducer to the large position.

- Using a hive body and stacking more hive bodies (1 up to 4 deeps) is highly attractive.

- Lower trap elevations, and on the ground are fine if height cannot be attained easily.

- Smearing melted beeswax, propolis scrapings and pieces of old comb in the trap makes it more attractive.

- Frames with starter strips, beads of beeswax at 1 ¼ inch rows encourages comb building in the desired direction.

- Place swarm traps near to large objects such as tree trunks, 'Y's in tree branches, sheds, fence rows and other landmarks and objects that serve as points of interest for scouting bees.

- Do not place your traps too close to your hives.

This information was collected and combined from various sites on the internet, most claiming to have success attracting swarms. Why not give it a try and give us a report on **your** success?

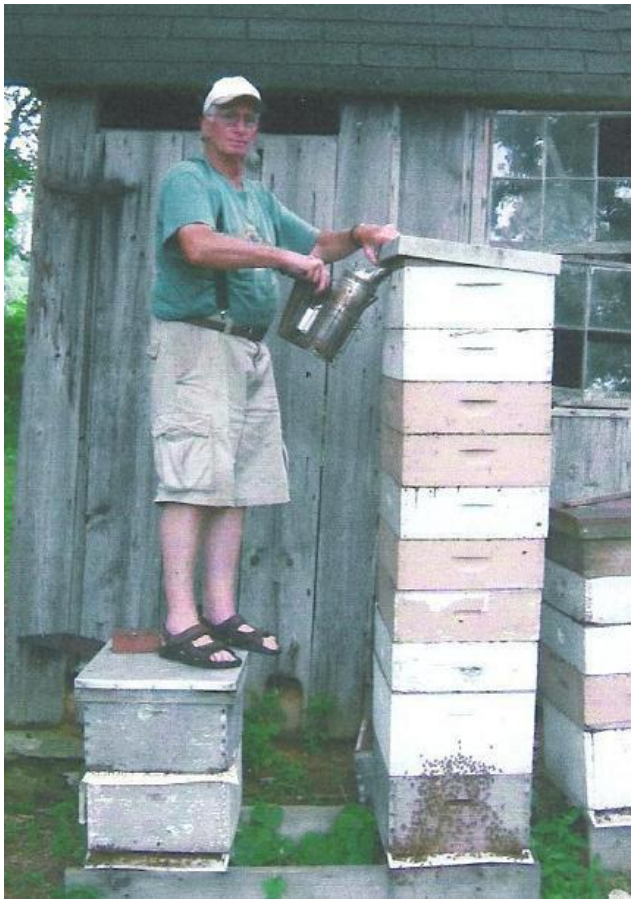
Mason or Hornfaced Bees

It's April and last week I got my first "Bee Call" of the year. The homeowner said he had 'ground bees'. He described them as small fuzzy bees, much like honey bees and said there were 20 to 30 or more, at any one time around a bush that he had started to dig out the week before. Of course he was concerned, because he has small children and he also wanted to remove the bush (and did not want to be attacked by angry bees). Too early for a swarm, too early for yellow jackets, I had to go check it out.

When I got to the house there was a Cardinal bush with a ditch dug all the way around it about 8 to 12 inches deep. There was still a lot of digging to complete the job, and I forgot my shovel!!! Anyway, I just wanted to see the bees. There were plenty of bees flying around the exposed damp clay soil and they seemed to be going into tunnels. I recognized them as Mason or Horn Faced Bees (just in case you prefer the scientific name it is *Osmia cornifrons*). Solitary bees work alone placing pollen, nectar and one egg in a tube or reed, lining up cells (6 to 8 or more) end to end separating each cell with a wall of mud. I have not ever seen so many bees working alone, together in one place. They do not nest in the ground so why the tunnels?? There were so many of them collecting mud at this site, that they had actually mined out tunnels as they carried away the mud for their cell partitions.

According the book 'How to manage Blue Orchard Bees', it takes 10 mud-collecting trips to build one partition. Then, 75 flower visits to get a full load of nectar and pollen. 15 to 35 loads to completely provision one cell before she lays one egg. Then she builds another partition and starts all over again, always working alone. If you are a numbers person, that is an average of 1875 flower visits (25 loads x 75 flower visits/load) to make one Mason Bee. These bees fly for about one month and then die. The eggs develop thru the summer and fall, wintering over in paper cocoons lined up, end to end, in those tubes or reeds. Hatching out in late March to early April, they start the cycle all over again. Mason Bees are very interesting bees, with lots of information on line.

……Jim



Club Member **Dick Paterson** of Narvon had one busy hive in the summer of 2008. This is a picture of Dick and his SUPER HIVE. Eight supers high and the bees are still hanging out on the front porch. Dick reported this hive produced 300 pounds of honey.

It is said that a hive must fly 55,000 miles to produce one pound of honey, sooo, Dick's hive logged a total of 16.5 million miles to produce that honey.

A recipe for one sweet finish.

The food-safe finish that appeals most to me is one recommended by Jim and Jean Lakiotes, West Virginia makers of spoons and other kitchen items, as well as furniture. Their finish is a mixture of mineral oil and beeswax.

To make it, warm the mineral oil in a saucepan over low heat, and melt a chunk of beeswax in it equal to about one-fifth or one-sixth the volume of the oil. At high heat, there's a potential for fire, so be sure to keep the heat low, and consider using a double boiler. As the wax begins to flake apart and dissolve, stir frequently. When the mixture is blended, pour it into a jar to cool and solidify.

To apply, wipe on an excess of the soft paste, let it dry a bit, and then wipe it off. If you want to apply it as a liquid, you can reheat it. Like any mineral oil or wax finish that will take a lot of abuse, this one will need to be reapplied often to afford decent moisture protection. But applying this fragrant finish is such a pleasure that you may find yourself looking forward to the task.