

How to Make and Use a “Fluffy Fondant” Feeder

An easy way to make sugar candy/fondant, by Everett

I learned about this feeding method from Mel Disselkoe when he presented it at the November 2009 Indiana Beekeepers' Association Meeting at Turkey Run State Park. I loved the idea the moment he presented it! There were several speakers leading up to Mel's presentation, "Out-Breeding Mites and Over-Wintering Bees", (www.mdasplitter.com), where Indiana bee keepers talked about candy boards. Candy boards must be popular in this region because there were several elaborate top feeders and brood frame feeders presented and for sale. I've never liked candy boards because the "candy" requires cooking and the result is as hard as a rock. I've often wondered if bees under starvation stress could muster enough water to dissolve the candy and even if they could, why add more stress by giving them what amounts to a big lollipop? It has been said that all beekeeping is regional! In Rhode Island we use fondant which is purchased from a bakery wholesaler (www.bakersniche.net). Fondant is a mixture of white granulated sugar and corn syrup that bakers use to make cake frosting. We buy it in 50-lb blocks and it is stiff but moist. The downside of fondant is the 50-lb blocks. They require muscle power to handle and cut up the blocks and the process is quite sticky! Mel's formula to make what I call, "fluffy fondant" is much easier. So thanks to Mel, I now have my winter feeding method down to a screened feeder frame, bag of sugar, cold water and a plastic pail into which I

mix the fondant. The result is a no-mess, no cooking required, easy to handle solution. All you need is a screened feeder frame (some call it a shim), or empty shallow or medium super, with a screen attached to the bottom. To save on equipment many keepers put granulated sugar on the inner cover or directly on the frames over newspaper, but screened frame feeders make removal for inspection quick and easy. They also allow the fondant to absorb heat and moisture from the bees. Your inner and outer covers simply stack over the feeder in the normal order. Drill a hole in your feeder and you now have both a moisture vent and upper entrance! Just one word of caution... Make sure you can plug the hole with a wine cork or cover it up with duct tape when the bees are flying. Neighboring bees quickly figure out that there is a free source of food available to be robbed, so only open the holes in the dead of winter when the bees aren't flying. How deep should your screened frame feeder be? Mel recommends 2-1/2". This depth holds about 25-lbs. The depth only governs how much or how little the feeder holds. I like the 25-lb capacity because it reduces trips to the apiaries. Mel also claims that he no longer uses liquid feed – ever! He said that the bees will draw foundation just fine using the fluffy fondant. We'll see next spring!

Materials List

Pine boards or plywood to make the frame:
2 pieces, 3/4" x 2-1/2" x 16-1/4"

2 pieces, 3/4" x 2-1/2" x 18-3/8"

Note: Adjust the length dimensions to fit your regional standard sizes. Most bee boxes are 16-1/4" x 19-7/8" so the above will yield a box that size.

Hardware Cloth to make a screen for the bottom:
1/4" or bigger mesh cut to 16-1/4" x 19-7/8"

Note: Some call this, "chicken wire." Although not technically correct the less stiff chicken wire will do the job. You just need a screen material that will hold the weight of the sugar and whose mesh is wide enough to allow the bees to freely pass through. Bee space is 1/4" so we need a mesh that is at least that wide.

Fasteners:

You will need nails or screws or staples to nail the frame together. Galvanized or coated fasteners are best to prevent rusting.

Fluffy Fondant:

White granulated sugar (table sugar), 5-lbs
Cold tap water, 1-cup
Pail in which you mix the sugar and water
Stir until mixed. No cooking!
No hot water.

Make a frame from 1 x 3 lumber. You want all the pieces to measure 2-1/2" wide (or close) and then cut the pieces to length 2 @ 16-1/4" and 2 @ 18-3/8".

Nail, screw or staple these pieces together to make a box that measures 16-1/4" x 19-7/8" overall.
(Note: The measurements that I give you are for standard size brood chambers. Since regional variations come up, so please measure your brood

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2010 Bee School Schedule

Northern Bee School

Davies Career and Technical High School, Lincoln

Wednesday Evenings -
March 3, 10, 17, 24, and 31

Southern Bee School

URI East Farm, Building 75, Kingston

Wednesday Evenings -
February 17th, and 24th,
March 3rd., 10th, and 17th

CCRI—offered by CCRI as a non-credit course at the Warwick Campus.

Are You Winter Ready?

- Entrance reducers should be in
- Mouse guards on
- Wrap or provide wind breaks if exposed to prevailing winds
- There should be 60-lbs plus of honey

Feed dry food if stores are light

Should screened bottom boards be closed? I think so. I've observed faster build-up on hives with closed up bottom boards. Others keepers report that bees do just fine with open bottoms.

Golden Pheasants

Call John

(401) 364-7431

What To Do If You Suspect Foulbrood?

Call Jim Lawson! See the sidebar that lists the officers. Jim is our State Apiary inspector and will help you deal with the process of diagnosing and dealing with a myriad of diseases and pests.

Contact Jim at DEM's Division of Agriculture, (401) 222-2781

Where to Buy Fondant and Sugar

JAR Bakers Supply
12 Crow Point Road
Lincoln, RI 02865
(401) 725-9660

Ask for Val

You can also make your own version of fondant. See the article in this newsletter.

JAR also sells granulated sugar in 50 and 100 lb bags. Get the extra-fine (this is not confectioners) as it mixes more readily in water.

Tom Dalton also has sugar, Contact Tom at (401) 497-3822

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chamber first and adjust my measurements to match.)

In the end, you want a box or "mini-super" that sits on top of the brood chamber (deep super). And the depth (width of the individual pieces) isn't critical either. If it is shallower it will hold less sugar and deeper will hold more sugar. You could for example use a old shallow or medium super to accomplish the same results.

Cut a piece of 1/4" hardware cloth 16-7/8" x 19-7/8" to match the size of your new feeder box (adjust measurements for regional differences). Staple the hardware cloth to the bottom of the feeder box. To give you a mental picture, the result will be a sieve when you are done! Some people call hardware cloth chicken wire. Although this isn't exactly correct it helps to get the idea across. Hardware cloth is stiffer than chicken wire and the holes are squares instead of ovals. It really doesn't matter which one you use so long as the wire is stiff enough to support the sugar and the holes are large enough to allow the bees to pass freely through. Remembering bee space, you will need a mesh that is 1/4" or bigger.

Now that you know which side is the bottom (the side with the hardware cloth) you can drill a hole into the feeder that serves both as a moisture vent and upper entrance. I like to use a 1" diameter drill bit, but any opening 1/4" or bigger will suffice. I use a 1" diameter because it is easy to block up with a wine bottle cork.

Corks can be purchased at some hardware stores and most arts & crafts stores. Any material is fine such as cork or rubber stoppers. Some keepers also use a piece of duct tape to close up the hole. Why do you want to close the hole? It is wise to have this option in the early fall and spring. Hungry foragers will smell the sugar in the feeder and attempt to rob it. I close up my feeders in the spring and fall to prevent robbing, but open them up in the dead of winter to provide ventilation and upper entrance. Choose a hole-size that works for you and locate the hole in one of the short sides about 1/2" from the bottom. I locate the hole towards the bottom to allow it to show when the telescoping outer cover is placed on the hive. Center the hole left and right.

Make up the "fluffy fondant" by mixing 1-cup of cold water to every 5-lbs of white granulated sugar. Simply stir the water into the sugar. Don't heat it! Always use white refined sugar (common table sugar) not brown sugar or brown natural sugar. In general "brown" is a bad color regards sugar syrup and corn syrup. It may indicate that the harmful toxin hydroxymethylfurfural (HMF) is present which can kill your bees (Oliver, 2007). This is the infamous toxin that has caused high fructose corn syrup to have a bad reputation. MHF is produced from fructose by over-heating syrups and can be spotted as a slightly brown tint in the syrup. In any event, you will not have this problem with fluffy fondant if you stick to white granulated sugar, cold water and muscle power to

mix it!

Lay sheets of white paper towels in the bottom of the feeder. Mel suggests plain white paper towels since there is no imprint whose ink may be harmful to the bees. You could use newspaper so long as it isn't printed. Some art suppliers have plain newsprint stock available, but paper towels are readily available in any grocery store. You only need one layer, but 2-3 layers may be formed as you overlap pieces to cover the bottom. The bees will chew through the paper towels to reach the sugar. You want just enough layers to prevent the sugar from falling through the hardware cloth as you carry the feeder to your hive. Don't be surprised if you find fluffy white paper in the bottom board next spring. Oftentimes the bees spit it out and it falls to the bottom! Some keepers think the bees didn't eat the sugar. One taste will let you know that it is simply the chewed up white paper towel and not the sugar itself!

Pour the fluffy fondant onto the paper towel lined feeder. You can use a spatula to level the mixture with the top of the frame. You can "dig" a hole with your fingers to expose the entrance hole and bottom screen to encourage the bees to use the entrance hole. This is not necessary, but it seems like a logical thing to do!

You can feed pollen substitute patties with your feeder. Put the patties in the bottom of the feeder and then cover them with the fluffy fondant. I start feeding pollen substitute in February in Rhode

Make a “Fluffy Fondant” Feeder, continued

Island.

You should check your feeders monthly to determine the rate of feeding. You may need to recharge the feeder if they eat the sugar.

Put the feeder on top of the brood chamber. Which one is the brood chamber? Better said, put the feeder on top of the cluster of bees so they only have a short walk up to the feeder. Ideally, this will be the top box, but it doesn't matter where you place the feeder so long as it is over the feeder. The shorter the walk the better chance you will have that the bees will feed. Place your covers over the feeder in the usual order. Some keepers place a burlap grain bag or Homasote™ board over the feeder to further control moisture. This is helpful, but not necessary, if you drilled a hole in the feeder and the hole is open in the winter.

Reference:

Disselkoen, Mel. Presentation adopted, adapted and applied. Indiana Beekeepers' Meeting, November 2009.

About The Newsletter

Greetings from the new RIBA Newsletter co-editors: Carolyn Fluehr-Lobban (cfluehr@ric.edu) and Valerie Allison-Davis (vallisondavis@aol.com). We want your ideas and contributions to make the Newsletter a means for better communication and exchange among Rhode Island's beekeepers.

We need YOUR help!

Disselkoen, Mel. *MDA Splitter Nuc Box*.

<www.mdasplitter.com>

Oliver, Randy. “Fat Bees (I-IV)”. *ScientificBeekeeping.com - Bee Nutrition*.

<www.scientificbeekeeping.com>

P.S. Please share this evolving Apiary Tech Note with others and provide feedback about usage of the method, clarity of wording, spelling, grammar, style of writing, i.e., anything! Send comments to: everett@beehavin.com, or to: Everett Zurlinden, Beehavin' Apiary, LLC, P.O. Box 364, East Greenwich, RI 02818-0364.

Tip: You can wrap your hive in a variety of materials. The most common is perforated roofing paper. This is an excellent material, but it can be stiff and leave black marks on your hive. An alternative is Tyvek house wrap. This material is more paper-like, but completely durable to the weather and comes black on one side. You can get Tyvek free from some lumber yards if you ask them for the coverings they use for construction lumber packs such as 2x4's. They throw these covers away and are often willing to give them to you for a “green” application!

Recipe of the Quarter

Pumpkin Muffins

(from Val Allison-Davis)

2 cps. Flour
1-½ tsp cinnamon
1 tsp baking soda
½ tsp salt
½ cp chopped walnuts
1 cp pumpkin
1 cp honey
¼ cp vegetable oil
2 eggs, slightly beaten
¼ cp milk
1 tsp vanilla

Stir together flour, cinnamon, baking soda, salt and walnuts.

In a separate bowl, blend pumpkin, honey, oil, eggs, milk and vanilla until smooth.

Pour pumpkin mixture over dry ingredients. Stir until mixed. Spoon into paper lined muffin cups, filling each just below the rim.

Bake at 350 degrees for about 25 minutes or until a toothpick comes out clean. Let cool for 5 minutes before removing from pan. Let cool completely.

Frost with cream cheese frosting if desired.

Cream cheese frosting: Beat 8 oz. Cream cheese (softened) with 1/3 cp honey until fluffy.

2009 - 2010 Meeting Schedule

All meetings are the second Sunday of the month at 2:00 unless announced otherwise.

December 13th: Rocky Hill Grange, Christmas Social

January 10th: Rocky Hill Grange, How to make Creamed Honey

February 21st: Rocky Hill Grange, Topic TBD
(Third Sunday of February)

March 14th: Rocky Hill Grange, Topic TBD

April 10th: Location TBD
Topic TBD
(Second Saturday of April)

May 16th: Rocky Hill Grange, Topic TBD
(Third Sunday of May)

Meeting Directions

December 13 @ 2:00 pm

Rocky Hill Grange
 1340 S. County Trail (Rt. 2)
 East Greenwich

Take I-95 points north or south. Take exit 8/RI-2S/Quaker Ln (8 from the north, 8A from the south) to East Greenwich. Merge onto Rt. 2 South. Go through the light at Division St. The Grange is on your left just after the shopping center.

Rocky Hill Grange