

Sugar bricks recipe from Betterbee

Of all of these homemade feeds, sugar bricks are the easiest to make, and also the easiest to install in the hive. In marginal weather, you can just slip the brick in on top of the frames, right above the cluster. No need to fully expose the bees.

In order to have enough vertical space for the bricks or winter patty, you'll need to have either a feeding shim or a deep inner cover installed on the hive beforehand. The best time to get these in place is when it's still warm enough for the bees to propolize the joint between the hive body and the shim. However, in an unexpected feeding emergency, you can also install a feeding shim and then tape over the joint on the outside with blue painters' tape to close off drafts. When the bees can, they will seal it up from the inside.

Bricks are made from three simple ingredients: sugar, apple cider vinegar and citric acid powder. You can buy citric acid at health food or home brewing stores or online. Do not substitute ascorbic acid. Both the vinegar and the citric acid powder help invert the sugar to make it more digestible for the bees.

After mixing, the sugar is placed in shallow pans. Then it's rolled with a rolling pin to compress it evenly and scored to divide the pans into manageable chunks. And then allowed to dry until it is hard.

Some people, with dry winter houses, have good success letting the bricks air dry. But using a dehydrator or an oven with a convection function and a very low temperature range (140 degrees F, or lower) will speed things up. However, baking the sugar mixture at temperatures above 140 F, may result in pans of gooey melted sugar that won't ever dry. If you don't have a dehydrator, or a low-heat oven setting, try air drying a small batch to see how that goes. It can be a satisfactory, though slower, method.

Sugar Brick Recipe

Makes 6 one-pound bricks, in two quarter-sheet (9" x 13") jelly roll pans.

- 14 cups (6.25 pounds) of granulated sugar
- 1 cup of apple cider vinegar (Get real apple cider vinegar, not artificially flavored and colored "cider vinegar." A good brand is Bragg's.)
- 1 ½ teaspoons citric acid powder USP

Place the sugar in a large bowl.

Combine the vinegar and citric acid together, then pour half of the vinegar mixture over the sugar.

Stir and then add the rest of the vinegar.

Stir until fully combined. (You may find using your hands works best.) The sugar mix will feel like barely-damp sand.

Scoop the mixture into shallow, jelly-roll baking pans, no taller than about 1" deep, over-filling the pans slightly above the rims. Then use a rolling pin to smooth and compress the sugar into the pan until it is firm and level with the pan rim. Press down firmly to make sure there are no voids.

Use a knife to cut lines in the sugar to separate the bricks. Cut completely down through the mixture to make sure you will get a clean break after they are fully dried.

Alternatives to jelly roll pans:

Use shallow, disposable, foil pans from the grocery store. Or re-purpose shallow plastic trays from frozen dinners. If your dehydrator has circular layers, use any kind of shallow container that fits on the trays. Your bees won't care what shape the bricks come in. Just make sure the finished brick will be no thicker than about one inch so that it will dry easily and fit within the space on top of the hive.

If you have a top bar hive, you can create a brick-form that matches the shape of your combs, then attach the dried brick to an empty bar within a wire cage. Install the bar with the sugar brick next to the bees.

Place pans in the dehydrator or a convection oven set for 140 F until the sugar is very hard, which can take 8-36 hours. You can pause the drying process if you need to use the appliance for cooking, or don't want to run it while you are asleep or at work.

The drying will give off a distinctly vinegary smell, at first, which may be a bit off-putting. But the smell doesn't linger and it actually removes other odors from your house.

Once the bricks are hard, remove them from the oven and let them cool. Store in air-tight containers, until needed.

To install a sugar brick in a hive, choose a calm day that's not too cold (mid-30s or 40s F would be OK, if necessary) and have a smoker lit to push the bees down into the hive if needed. Remove the top and lift the inner cover or quilt box up enough so you can see the tops of the frames. Slip the brick in, placing it directly on top of the frames, pushing any bees aside. Close the hive back up before the bees get any ideas about flying out. Check back in a week or so, to monitor consumption. Push any remaining brick chunks together and add another brick if needed, right over the cluster. Once you have started feeding, you are committed to continuing it – so don't start if you won't be able to keep it up. Plan ahead if you expect a long stretch of bad weather that would prevent you from checking and resupplying – add two bricks at once, if necessary.

Whether you choose to use commercial winter patty, or want to try a DIY method, like sugar bricks, it's important to keep tabs on how much honey the bees have left. Lift the back of the hives (or weigh them) from time to time during the winter. If they seem to be getting lighter, too fast, don't hesitate to add some extra insurance. The cost of adding the extra food is minimal compared to the cost – and chagrin – of losing an otherwise viable colony to starvation.

A cautionary note: there are two kinds of commercial "patty" that are fed to bees. One kind, winter patty, is almost entirely carbohydrates and intended as a calorie-supplement to augment whatever honey is in the hive. The other kind of patty, pollen substitute, is intended to stimulate brood rearing in the same way that natural pollen might. Pollen patty, which increases the need for the bees to go out to poop, can cause intestinal problems if fed during the winter when cold can keep the bees confined to the hive for weeks. So, make sure you know which kind of "patty" you're buying, and stick to the special winter patty version if your goal is replacing honey. Or just feed them a pure sugar product, like sugar bricks.

This recipe taken from Betterbee's December newsletter. Used with permission.

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