

This is a companion piece to the presentation I gave at the January 2021 monthly meeting of the Northern Kentucky Beekeeper's Association. It includes directions and construction photos for 2 frame nucs. This covers making the boxes using wood or recycled yard signs. The process of using them to make queens is a separate topic, and was the main subject of my talk.

First, old yard signs.

If you are making more than one of these at a time, save the first set of parts to use as a pattern to mark the rest. It will save a lot of time otherwise spent measuring.

Materials:

- 2 ea 18 x 24 yard signs, cut to 11 ¼ x 24. Save the other portion to make lids.
- Stapler with 3/8 inch staples.
- 1 x 4 pine, at least 38 ¼ inches. (38 plus two saw kerfs). Cheap is OK, but use straight and true boards. Warped stock will leave you with a parallelogram instead of a rectangle in the end. Your frames may not fit.
- ¾ x ¾ pine or similar for the runner under the lid. I split 1 x 2's on my table saw, but you could buy cheap trim or just use the whole 1 x 2 instead.
- A yardstick. Or, a measuring tape and a hard straightedge like a drywall square. You need something to run the knife along and keep the cut straight.
- A sharp utility knife.

The yard signs are somewhat expensive to buy, but easy to find in the wild. Bygone elections, contractors, orphaned ads for past events, and overruns or unclaimed items at the local Fastsigns shop have all worked for me. (I paid for the last, but they were really cheap). Use caution in using national or well-known candidates for boxes you intend for anyone but you.



My bees wouldn't want to live in a box with that one pol's name on the side. Neither would yours. But you and I may not both be thinking of the same person.



Cut pieces to the dimensions shown on the left. Always cut the top edge of the sign, not the bottom.

Make the bottom board longer if you want a landing strip. I recommend against it though. The entrance is a lot easier to screen shut for transport if it is flush.

You could use something a little narrower than nominal 1 x 4, but I prefer at least that width to leave room so I don't break my new queen cells when I pull frames. This applies to wood boxes as well.

It isn't quite made to classic bee space dimensions. Just don't tell them. They will only be in there for four or five weeks.



Staple one side and then the other to the bottom board as shown. Again, leave the factory edge at the bottom and the one you cut at the top. This will keep everything straight and true even if your cut is a little off. The factory-made edges act as a square as you are assembling the parts. Each piece is 24 inches long. Each side is long on the left as it is nearest you. You will fold this extra length later to wrap around the front and the back.



Install the front and back pieces. Put a spacer made of $\frac{3}{4}$ inch scrap under the short one while you staple, then remove it. This forms the opening for the bees. The long one is flush with the floor. In other words, both sides fall at the same place at the top but the short one has a gap at the bottom.



The 9 ½ inch piece that forms the back is shown on the left.

Cut out the piece of sign that will form the opening in the front, as shown below.

Once both wood ends are installed and the opening is cut just fold both sign ends around and staple them down. Assembly once you've done the first one will take 5 or 10 minutes each.

You now have a box like the one on the first page. Frames rest on the lip formed by the wooden ends.

You may wish to trim the extra plastic off at each end. I usually fold that last half inch so it wraps around. You can see that on the right side of the completed box.

There is one thing missing in these pictures: handles! Put one on each end, as with the wooden boxes shown later. The plastic boxes are slippery and hard to carry otherwise. Drop one when it is full of bees and everyone will be unhappy. Ask me how I know!





Next, we will make the lid. Cut or obtain the rails per the materials list. Make them full length front to back or you will have problems with escapees when you transport. Mark the lid rail position using the solid bottom of box as a template. That way everything will fit tight when you are done. Staple the rails from the top. The end can be folded and stapled as shown or you can place shorter rails at each end instead.





The finished product. Add a scrap piece of sign for a landing board if you wish. Just cut it to size so it fits tight at the sides.



Now on to wood boxes. The general layout is the same, you are just using heavier material. Nominal dimensions using $\frac{3}{4}$ inch stock are:

Bottom board 5"x 21" Or use 3 $\frac{1}{2}$ x 21 but make the sides 11 $\frac{1}{4}$ high, same as the sign box. Shorten to 19 $\frac{3}{4}$ if you don't want the landing board.

Sides 10 $\frac{1}{4}$ x 19 $\frac{3}{4}$ (Most of mine are 10 $\frac{1}{2}$).

Front 3 $\frac{1}{2}$ x 8 $\frac{3}{4}$ (this is nominal 1 x 4 and may also be used for the bottom as noted above)

Back 3 $\frac{1}{2}$ x 9 $\frac{1}{2}$

Lids. 5" x 24

1 x 2, 1 x 3 or similar for handles

1 x 2 or similar for lid ends



Examples and discussion. From left to right:

Yellow lid. Store bought from Barnyard Bees in Chatsworth, GA. I've gotten a lot out of their YouTube channel, so I support them with some purchases. I got this one in person when I happened to be near there visiting relatives. It was unassembled. If I bought one of these by mail order I would just get the yellow pieces to save on shipping. The sides are from a standard deep, the kind of thing you could get at any bee supply. It lacks end handles, which I will add before I use it again. The stock cut-in handles on the long side are awkward to use at best.

The other three (and several not pictured) are all made from odds and ends that I had in the garage. Dimensions vary some from the measurements given above. Mark pieces and test fit using a spare frame as a guide before you cut.

On to the middle two. Note that the bottom goes underneath the side pieces of the second one (white end) while it goes inside the sides of the next one to the right. That made the side height different. The ends can also go inside or outside, but now the side length will vary. I used several configurations in order to make best use of the lumber I already had on hand.



Notice below how the ends are capped, and those caps also form the handles. Consider lowering the back handle about an eighth of an inch and making the lid end rails fit a little loose. This forms a vent, allowing hot air to exhaust without giving the bees a back door.



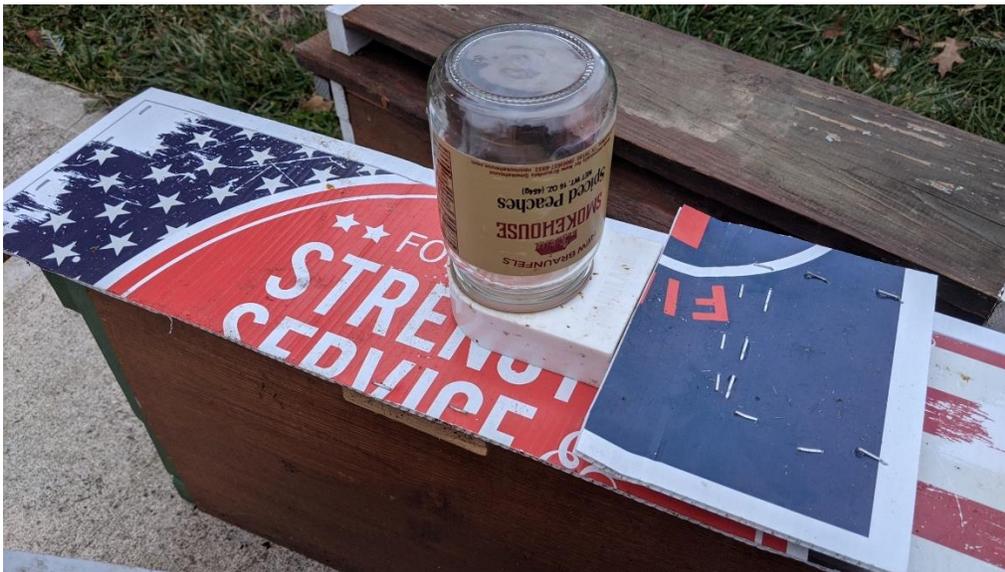
The last one on the right (previous page) is made for 3 medium frames, just because I have a lot of extra medium equipment. It is used exactly the same way as the 2 frame deeps. Ends on the inside and sides running outside as used with this one makes fashioning the end caps / handles easier. There is a gap at the top to deal with otherwise.

Most of the wood lids only need rails under the short ends.

I finished these boxes with some leftover deck stain and whatever paint I had handy. Different colors make it easier for me to keep track of what is going on with each, and I like the jellybean look.

Note that these boxes are narrow and will tip easily. Make sure they are secure. I variously use bricks on the sides, a wood rack of 2 x 4's that looks rather like a big napkin holder, or wedge them in against a full-size colony but with the entrance facing the back of the larger box.

Last, a feeder lid. This works with either a wood or yard sign box. Start with a standard yard sign lid. Put a Boardman feeder on top so the jar is right in the middle. If you put it at one end the weight will make the other end ride up. It may not fit tight. Mark where the lip meets the lid.



Working from the bottom, staple a 3 sided “garage” made of 3/4 inch scrap for the feeder to fit tightly into. Cover the top with a leftover bit of sign. Cut a hole in the bottom so the bees can get in between the two pieces and access the syrup.

Questions? Need help? Maybe you aren't handy and would rather just buy a box, either empty or already full of bees? Reach out!