



55 Gallon Top Bar Barrel Bee Hive

by [foodplotsurvival](#) on September 18, 2012

Table of Contents

55 Gallon Top Bar Barrel Bee Hive	1
Intro: 55 Gallon Top Bar Barrel Bee Hive	3
Step 1: This 55 gallon drum will be the foundation of the bee hive.	3
Step 2: Using standard landscape timbers, measure and cut the four legs. The legs should be somewhere around waist high to make it easier to work the hive.	3
Step 3: Once the legs are cut to length, mark notches on one end of each leg. These notches will be used to support the hive frame and roof.	4
Step 4: Closeup view of markings.	4
Step 5: After measuring for the correct depth, on a radial miter saw, proceed to make a series of thin cuts. It will then be easy to chisel out the notch.	5
Step 6: Chisel and hammer, cleaning out the notch.	5
Step 7: This is how the 2x4 should fit once completed.	5
Step 8: Continue to notch all four legs.	6
Step 9: Using the seam of the barrel, find top dead center (tdc). The seam runs thru the center of each bung hole and is a mold mark from the manufacturing process of the barrel.	6
Step 10: Once the top of the barrel is located use masking tape to mark the saw line all the way around the barrel.	6
Step 11: Barrel is marked and ready to be cut in two.	7
Step 12: Yes, trying to cut a round plastic barrel is awkward. An extra set of hands will help.	7
Step 13: A jig saw may work for cutting the barrel but the easiest way is to use a reciprocating saw.	7
Step 14: After making sure I still had 10 fingers and 10 toes, I admired my work.	8
Step 15: There is a barrel lip on the front edge that must be removed for the frame to sit properly. Remove the lip down to the yellow mark.	8
Step 16: Measuring for the hive foundation frame. Notice why the barrel lip had to be removed.	9
Step 17: This frame is just large enough for the barrel to nest into.	9
Step 18: With the barrel installed a series of screws holds the hive foundation to the frame.	10
Step 19: Now the notched legs can be fastened to the hive frame.	10
Step 20: My helper is making sure everything is level and plumb, lol.	10
Step 21: Measuring for a cross support.	11
Step 22: The support will later be drilled for vent holes at the top of the hive and will aid in controlling moisture.	11
Step 23: This cross support will also give a little clearance at the entrance of the hive before the first comb is started.	12
Step 24: The woods gnome says its time to start on the top bars....	12
Step 25: To keep everything square, rip the first edge off. These edges can be used later for spacers.	13
Step 26: The top boards are ripped.... 1 inch thick, 1 1/4" wide.	13
Step 27: The spacers are saved to be used later when the bees start to build comb.	13
Step 28: Cove moulding is attached to the top bars. It gives the bees more surface area to attach the comb to in addition to helping them keep the comb straight.	14
Step 29: Roughing up the cove moulding, gives the bees a better surface to grip.	14

Step 30: The cove moulding is attached to the top bars with ring shank nails.	14
Step 31: The top bars just lay on top of the hive foundation frame.	15
Step 32: Bee view of the front entrance of the hive.	15
Step 33: Honey, I'm home!! (see what I did there? lol)	15
Step 34: One more picture of the top bars installed in the hive.	16
Step 35: The back wall of the hive is moveable so the hive can expand as the colony grows. A cardboard template is used to trace the outline of the barrel.	16
Step 36: The back wall is cut out of a piece of hardboard.	16
Step 37: The hardboard is attached to a couple extra top bars and lays on top of the foundation frame just the same.	17
Step 38: Backwall installed with plenty of room to expand as the colony grows.	17
Step 39: Another view of the backwall with top bars installed.	17
Step 40: Here is the backwall with more top bars in place.	18
Step 41: Starting on the roof frame.	18
Step 42: The roof frame is wider than the cross supports and rest on the tops of the legs.	18
Step 43: Good view of the roof frame at rest on the legs.	19
Step 44: Tin is then installed for the roofing material.	19
Step 45: Drill a 1 inch hole below the bung hole, this serves a few purposes...	20
Step 46: A standard cork is used to plug the larger hole when it is not needed.	20
Step 47: Drill two 1" holes in the cross support bar and cover with screen. The bees can then plug the holes with propolis to regulate the air flow themselves.	20
Step 48: Also drill two holes in the bottom of the hive to help drain any water collected inside due to condensation.	21
Step 49: Holes drilled and ready for screen.	21
Step 50: Vent holes covered.... ready to cover bottom holes.	22
Step 51: Completed!! I really enjoyed this project and....	22
Step 52: I had so much fun I decided to build 3 more!!	22
Step 53: We are ready for bees next spring	23
Step 54: Roof off, showing the top bars.	23
Step 55: These hives will last a lifetime and my kids will be harvesting honey from them once they're adults...	23
Step 56: Hope you've enjoyed this instructable!!	24
Advertisements	24
Comments	24
Step 5: After measuring for the correct depth, on a radial miter saw, proceed to make a series of thin cuts. It will then be easy to chisel out the notch.	24

Intro: 55 Gallon Top Bar Barrel Bee Hive

FPS combines my passion for hunting and wildlife conservation with the overall need for self sufficiency.



TOP BAR BARREL BEE HIVE

www.FoodPlotSurvival.com

Step 1: This 55 gallon drum will be the foundation of the bee hive.



Step 2: Using standard landscape timbers, measure and cut the four legs. The legs should be somewhere around waist high to make it easier to work the hive.



Step 3: Once the legs are cut to length, mark notches on one end of each leg. These notches will be used to support the hive frame and roof.



Step 4: Closeup view of markings.



Step 5: After measuring for the correct depth, on a radial miter saw, proceed to make a series of thin cuts. It will then be easy to chisel out the notch.



Step 6: Chisel and hammer, cleaning out the notch.



Step 7: This is how the 2x4 should fit once completed.



Step 8: Continue to notch all four legs.



Step 9: Using the seam of the barrel, find top dead center (tdc). The seam runs thru the center of each bung hole and is a mold mark from the manufacturing process of the barrel.



Step 10: Once the top of the barrel is located use masking tape to mark the saw line all the way around the barrel.



Step 11: Barrel is marked and ready to be cut in two.



Step 12: Yes, trying to cut a round plastic barrel is awkward. An extra set of hands will help.



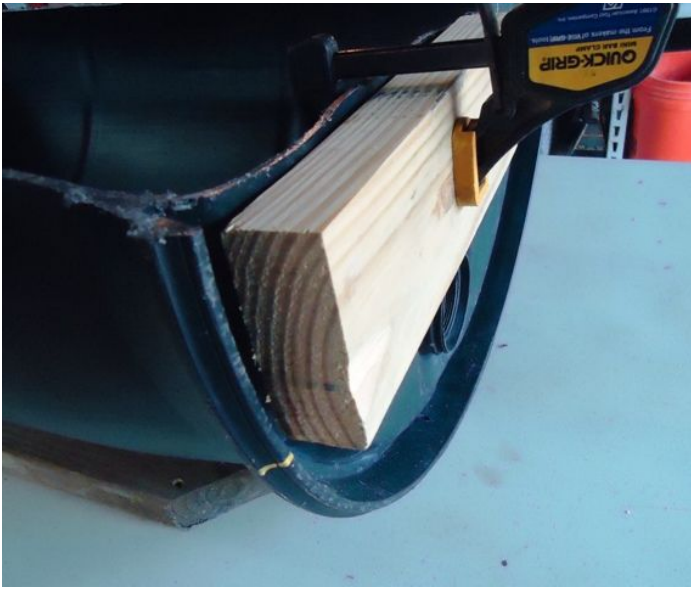
Step 13: A jig saw may work for cutting the barrel but the easiest way is to use a reciprocating saw.



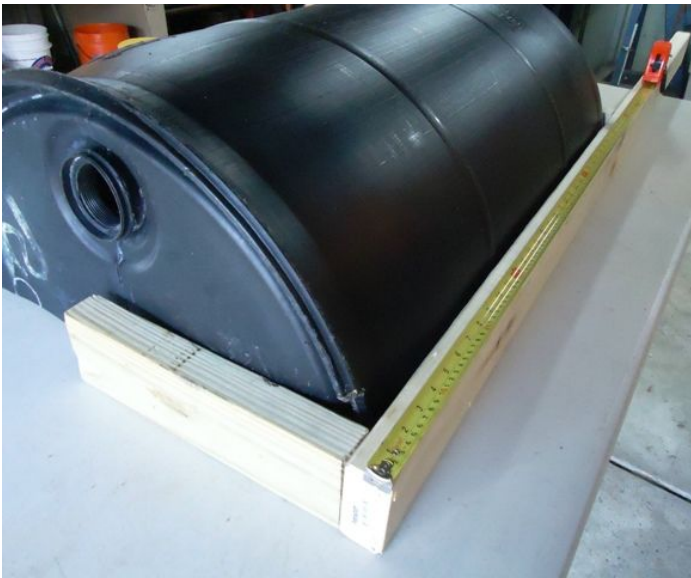
Step 14: After making sure I still had 10 fingers and 10 toes, I admired my work.



Step 15: There is a barrel lip on the front edge that must be removed for the frame to sit properly. Remove the lip down to the yellow mark.



Step 16: Measuring for the hive foundation frame. Notice why the barrel lip had to be removed.



Step 17: This frame is just large enough for the barrel to nest into.



Step 18: With the barrel installed a series of screws holds the hive foundation to the frame.



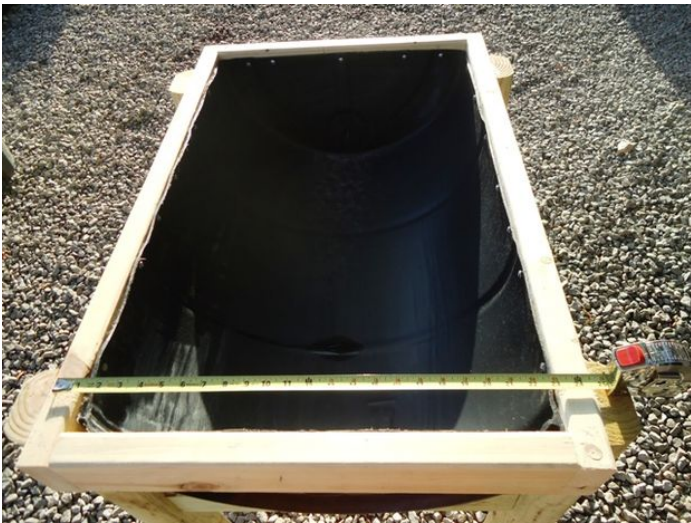
Step 19: Now the notched legs can be fastened to the hive frame.



Step 20: My helper is making sure everything is level and plumb, lol.



Step 21: Measuring for a cross support.



Step 22: The support will later be drilled for vent holes at the top of the hive and will aid in controlling moisture.



Step 23: This cross support will also give a little clearance at the entrance of the hive before the first comb is started.



Step 24: The woods gnome says its time to start on the top bars...



Step 25: To keep everything square, rip the first edge off. These edges can be used later for spacers.



Step 26: The top boards are ripped.... 1 inch thick, 1 1/4" wide.



Step 27: The spacers are saved to be used later when the bees start to build comb.

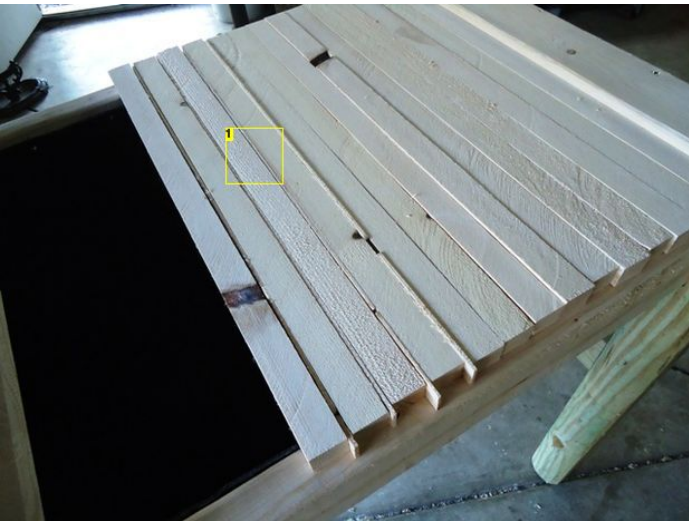


Image Notes

<http://www.instructables.com/id/55-Gallon-Top-Bar-Barrel-Bee-Hive/>

1. The comb in the brood portion of the hive is thinner but when the bees start to put honey on, in the back area of the hive, the spacers will be needed for the honey comb which is usually 1 1/2" wide.

Step 28: Cove moulding is attached to the top bars. It gives the bees more surface area to attach the comb to in addition to helping them keep the comb straight.



Step 29: Roughing up the cove moulding, gives the bees a better surface to grip.



Step 30: The cove moulding is attached to the top bars with ring shank nails.



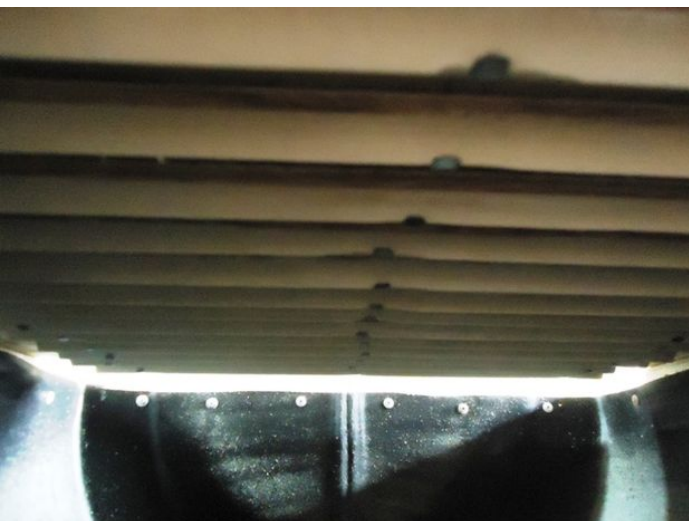
Step 31: The top bars just lay on top of the hive foundation frame.



Step 32: Bee view of the front entrance of the hive.



Step 33: Honey, I'm home!! (see what I did there? lol)



Step 34: One more picture of the top bars installed in the hive.



Step 35: The back wall of the hive is moveable so the hive can expand as the colony grows. A cardboard template is used to trace the outline of the barrel.



Step 36: The back wall is cut out of a piece of hardboard.



Step 37: The hardboard is attached to a couple extra top bars and lays on top of the foundation frame just the same.



Step 38: Backwall installed with plenty of room to expand as the colony grows.



Step 39: Another view of the backwall with top bars installed.



Step 40: Here is the backwall with more top bars in place.



Step 41: Starting on the roof frame.



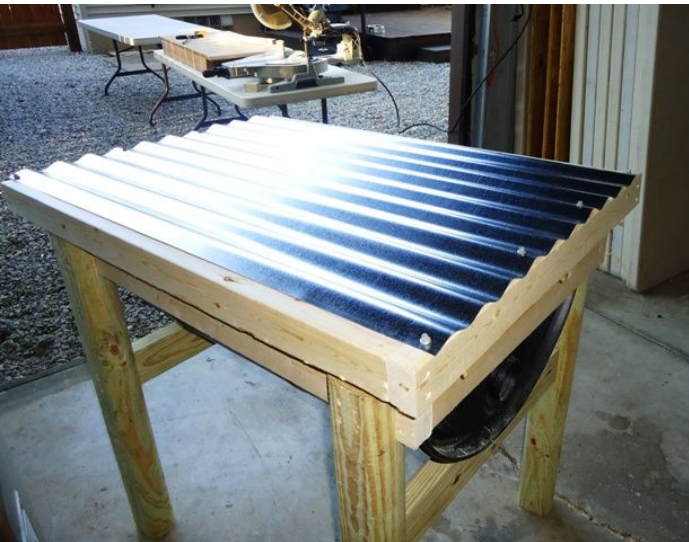
Step 42: The roof frame is wider than the cross supports and rest on the tops of the legs.



Step 43: Good view of the roof frame at rest on the legs.



Step 44: Tin is then installed for the roofing material.



Step 45: Drill a 1 inch hole below the bung hole, this serves a few purposes...

With the small entrance hole being level with the floor of the hive it will be easier for the bees to remove other dead bees etc. This hole will also serve as the entrance reducer until the colony gains strength and finally it will help the hive stay warmer in winter because of the reduced size.

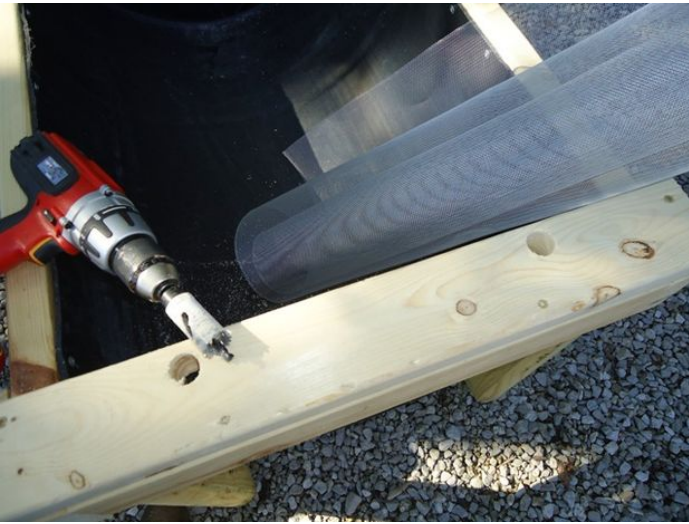


Step 46: A standard cork is used to plug the larger hole when it is not needed.

Yes, the cap for the barrel could be used but this barrel did not come with a cap and I already had the corks. As the colony grows the cork can be removed to give them a larger entrance hole.



Step 47: Drill two 1" holes in the cross support bar and cover with screen. The bees can then plug the holes with propolis to regulate the air flow themselves.



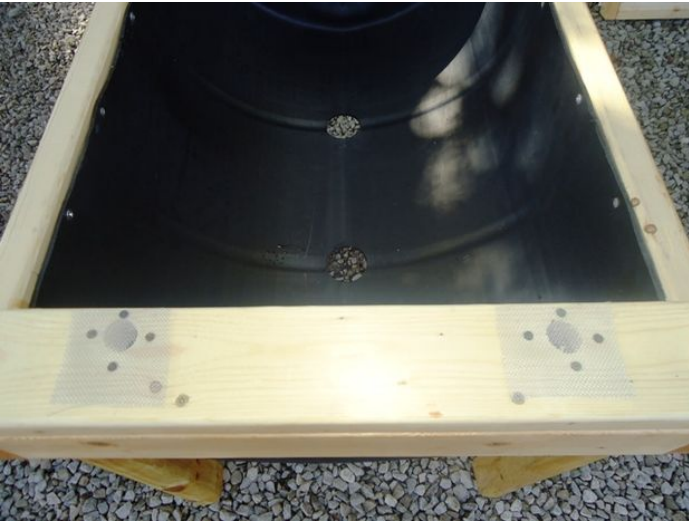
Step 48: Also drill two holes in the bottom of the hive to help drain any water collected inside due to condensation.



Step 49: Holes drilled and ready for screen.



Step 50: Vent holes covered.... ready to cover bottom holes.



Step 51: Completed!! I really enjoyed this project and....



Step 52: I had so much fun I decided to build 3 more!!



Step 53: We are ready for bees next spring



Step 54: Roof off, showing the top bars.



Step 55: These hives will last a lifetime and my kids will be harvesting honey from them once they're adults...



Step 56: Hope you've enjoyed this instructable!!

If you have any suggestions or ideas for future Instructables visit our Facebook page and tell us about them.

We are always listing how to articles, coupons and project updates, follow along and stay informed.

Food Plot Survival

<http://www.facebook.com/#!/FoodPlotSurvival>



Comments

50 comments [Add Comment](#)

[view all 89 comments](#)



velacreations says:

Apr 3, 2014. 8:33 AM [REPLY](#)

You can use the threaded barrel plug for the entrance. That's the way we do it in our design:

<http://www.instructables.com/id/Make-your-own-Honey-Cow-Top-Bar-Bee-Hive/>



Wroger-Wroger says:

Mar 31, 2014. 5:08 AM [REPLY](#)

A faster way of doing this:

Step 5: After measuring for the correct depth, on a radial miter saw, proceed to make a series of thin cuts. It will then be easy to chisel out the notch.

Given that wood is a dynamic material to cut... I make ONE cut across the end or ends of the mitre (?) or slot, and simply come in from the ends, or the sides...

Taking out single huge chunks can be faster, and then coming in to finish the last few bits... taking out the last few mm of material... but wood grain can steer the cut in all directions, so perhaps coming in from one side or the other.

I like the one big bang and almost all of the wood is out...





txadams says:


Jan 31, 2014. 3:06 AM [REPLY](#)


I used plastic honeycombs frames from betterbee.com. They needed to be trimmed a little to fit with a jigsaw. I used a jigsaw blade made for paneling so as to minimize vibration and cracking.





 **noelny** says: Sep 23, 2012. 4:48 PM [REPLY](#)
Very very interesting - but I have to ask - if I build it, how do I know they will come..."????
Sort of like the old question about a Thermos - how does it know to keep the liquid hot or cold???
Seriously though - I live about 30 miles from Canada in northern NY - I see a few hives (old style stacked box hives) here and there out in the rural area where I live - how do they find this "home" or what do I need to do to attract them?
Again - a wonderful project!!!


 **matthewtyler1** says: Jul 18, 2013. 8:59 AM [REPLY](#)
You live to far north for a top bar hive I think, top bar hives are good in cold weather

 **matchlighter** says: Sep 24, 2012. 2:28 AM [REPLY](#)
Waiting for bees to come can take a long time and not happen at all. Mostly, bees are purchased. You can probably find a apiarist's store and get a "Box O Bees" in the spring. If, like you mentioned, you know other people that have bees, you may be able to ask one of them to split his/her hive and buy the artificial swarm. If you are determined to catch a natural swarm, you can purchase pheromone to attempt to lure the swarm in. However, as I mentioned above, this may take a long time and may not happen at all.


 **caseymo50** says: Sep 24, 2012. 9:11 AM [REPLY](#)
In what climate do you live? I am concerned about the bees keeping warm enough through the winter in this hive.
This is a simple, durable, and elegant design, however.

 **matthewtyler1** says: Jul 18, 2013. 8:54 AM [REPLY](#)
Top bars are not practical for the winter. Bees move up during the winter. The orientation of the frames means they must brake there cluster to travel from frame to frame. Cold bees= dead bees

 **fretted** says: Oct 30, 2012. 12:24 AM [REPLY](#)
The bees that swarmed in the wall of my home started hanging their hive from the top cap of an inside wall i had to cut out a wall and suck them into a bee box and then they were transfered to a hive a couple miles down the road .
It was neat being that close to a swarm of bees and they didn't even act like they were mad i had them all over me just walking around and as soon as the queen was in the box they all settled down for the short ride to their new hive .
I tell you i have a new respect for hives and bees they are amazing creatures this hble will make for a great project on my little place i have enough room for a couple of these .
Great job keep up the great work ...

 **matthewtyler1** says: Jul 18, 2013. 8:50 AM [REPLY](#)
Get a langstroth it's better for beginners and in areas where there is a cold winter it is hard to maintain top bar hives do to the need to store 70+ pounds of honey. Also take a class

mjohnson84 says: Feb 13, 2013. 6:27 PM [REPLY](#)
what about keeping the queen from making brood in the honey cells?? No bee keeper - just want them.

 **matthewtyler1** says: Jul 18, 2013. 8:46 AM [REPLY](#)
In a "natural" beehive the honey is separated by height and in beekeeping queen excluders are rarely if ever used in everyday. In a horizontal hive it is needed only because it is not a "natural" shape for the bees.



RushFan says:

Jun 5, 2013. 6:52 PM [REPLY](#)

I love this. I want to start bee keeping, and I have a cheap source of plastic barrels. Thanks!!



deekelleybeelover says:

May 1, 2013. 7:40 AM [REPLY](#)

Very excited to find this. Thank you so much for documenting the process and sharing your work with us! We are helping to save our planet one recycled plastic barrel at a time... filled with bees!



rippa700 says:

Sep 24, 2012. 12:57 AM [REPLY](#)

If you drop a wooden dowel vertically down from the centre of the top bars it encourages the bees to build straight and it makes the combs easier to lift should you have to inspect them. Makes the combs less floppy. Otherwise great project I love it. A plastic drum might give better temperature stability to the hive. At least make sure that one is in the shade.

mjohnson84 says:

Feb 13, 2013. 6:28 PM [REPLY](#)

attached to the top bar?? brad?



rippa700 says:

Feb 14, 2013. 10:43 AM [REPLY](#)

Yes, drill a hole in the top bar and insert the dowel vertically downwards. I have seen a successful queen excluder built in wood. It is basically like a vertical hanging frame with wooden slats like a venetian blind. The bees propolysed up most of it but continued to work through it to store honey leaving the brood in the first half of the hive.

mjohnson84 says:

Apr 19, 2013. 1:10 PM [REPLY](#)

curious - could you also use 3 dowels the same way - to stabilize?

Do you have a picture of the queen excluder built as you say?

mjohnson84 says:

Apr 19, 2013. 1:12 PM [REPLY](#)

drill hole for the dowel - use wood glue to hold it?



rippa700 says:

Apr 19, 2013. 1:16 PM [REPLY](#)

Yes. My friend who does this has just one dowel in the centre and it works fine. No need for 3. I'll see if he has a picture of his queen excluder as it is a beautiful bit of work.

mjohnson84 says:

Apr 19, 2013. 7:12 PM [REPLY](#)

Yay, I will look forward to seeing it. I know nothing about bees, except that they love the borage I have in the summer. I am putting in a few blueberry plants, and 3 fruit trees. I have the suit - smoker - and almost have the hive. lol - and "want" the bees. I got my frame made today for the barrel top bar hive. got round post for the legs - too bad I didn't check out that pic again - cause he used landscape timbers. Advantage - two flat sides. ;/ guess I may have to chisel out a spot to flush the brace. ;/ live and learn. btw - are Italian bees more aggressive than the Carolinas? I'm from the south - so of course, I'm partial.



rippa700 says:

Apr 20, 2013. 1:25 AM [REPLY](#)

I'm in UK - and I use local bees, but so called Hawaii bees are popular here for being docile and good honey producers.

mjohnson84 says:

Apr 22, 2013. 6:03 PM [REPLY](#)

I saw a man online that said he would never use a queen excluder because it damaged the bees wings... ? I need to do more homework.



rippa700 says:

Apr 22, 2013. 11:50 PM [REPLY](#)

Possibly a cheap zinc one might but I have used one in all my hives for some years and all the friends who keep bees use them and I have never ever heard of damaged wings that way. Varoa mites cause wing defects and he might be confusing that...

mjohnson84 says:

Apr 23, 2013. 8:54 AM [REPLY](#)

thanks for your replies - I appreciate any and all info -



foodplotsurvival says:

Sep 24, 2012. 2:47 AM [REPLY](#)

Thank you for the dowel idea!! I will try it.

These hives will be slightly shaded... cooler in the summer and heat absorbers in the winter when the leaves have fallen.



BushkillFarms says:

Feb 26, 2013. 7:00 AM [REPLY](#)

Here is one that I made in 2007. Biggest issue is that you have to keep on top of them when building comb. Bees, by instinct, will curve comb on top bars that are longer than 12" or so, so you must cut and straighten as they build, otherwise by the time they get to the edge of the barrel the comb will be attached to the adjacent top bar. If you don't stay on top of it, you can end up with a huge problem/mess when all the top bars are attached to multiple combs.

More details can be found at <http://robo.bushkillfarms.com/beekeeping/barrel-top-bar-hive/>

It was also featured in the Jan/Feb 2011 issue of *Backwoodsman Magazine*.

I would also recommend <http://www.beemaster.com> for any new or hobbyist beekeepers, great community, ad-free, and geared towards hobbyist



mjohnson84 says:
awesome - one for me ;/ ^^

Feb 13, 2013. 6:32 PM [REPLY](#)

mjohnson84 says:
nice house.

Feb 13, 2013. 6:26 PM [REPLY](#)

mjohnson84 says:
it's not the level - it's the "pink shoes" ^^

Feb 13, 2013. 6:23 PM [REPLY](#)

mjohnson84 says:
beautifully done.

Feb 13, 2013. 6:22 PM [REPLY](#)

mjohnson84 says:
here's to ten fingers AND ten toes! lol

Feb 13, 2013. 6:21 PM [REPLY](#)



finton says:
Excellent Instructable foodplotsurvival!
One question though: given that the ends of the barrel curve inwards (thus making a smaller diameter), doesn't that mean that fully drawn comb from the middle wouldn't fit in the ends? I'm thinking of brood nest manipulation and so on.
Otherwise, I have one of these barrels and am considering following your very clear directions to make two of these.

Nov 23, 2012. 7:04 PM [REPLY](#)



foodplotsurvival says:

The brood nest should stay at the front of the hive. The bees leave plenty of room around the comb for all the farther you will slide the top bars in order to make room for more as you expand your hive.
Since the comb laden with honey is destroyed for honey extraction the size of those combs no longer becomes an issue.

Nov 24, 2012. 7:30 PM [REPLY](#)



finton says:

Okaayy, I think I'm with you. Couple more questions then, if you would:
1 Do you have problems inspecting such large combs, especially given they are unsupported
2 How have you gone with apiary inspectors checking your hives? For my Langstroth hives they've always done the inspections while I wasn't there - I'd be reluctant to let them do that with a topbar hive.

Dec 9, 2012. 4:51 AM [REPLY](#)

I have been a conventional beekeeper for years, and have read a *lot* about topbar hives, but would like your experiences in these questions. Thanks.



lucek says:
Your neighbors must love you.

Sep 29, 2012. 12:49 PM [REPLY](#)



aje127 says:
lol why? for the free honey or the bee stings. lol

Oct 7, 2012. 5:16 PM [REPLY](#)



lucek says:

From my experiences you get the honey (maybe a few neighbors to each side) They get the sting. You are literally bring a biblical plague un to your street to have honey.

Oct 7, 2012. 5:21 PM [REPLY](#)



Frozenlice says:
Am i the only one around here, that expected to read something funny in the bottom line of the main picture's caption?

Sep 28, 2012. 10:21 AM [REPLY](#)



LeumasYrrep says:

I seen the thumbnail of this Instructable and was expecting a meme or demotivational poster.

Sep 28, 2012. 4:08 PM [REPLY](#)



antoniraj says:

nice project... I have a few doubts..

I did not see any brood chamber in your design. Did I miss it?

Secondly, how are you going to extract honey without damaging the honeycombs?

However good project

Sep 28, 2012. 6:58 AM [REPLY](#)



foodplotsurvival says:

Please google top bar hives. it is not my design, top bars have been around much longer than commercial hives. the bees create the brood chamber naturally without interference from us.

Sep 28, 2012. 8:44 AM [REPLY](#)



caracal says:

Great instruction and I love the way it looks. We are new to bees. I got alot of good tips as well. I found 3 bee homes on our property, 2 in the ground and 1 in a tree. Joined the local bee organization for additional help. They got to run out of room sometime. Right?

Sep 24, 2012. 8:56 PM [REPLY](#)



Corvidae says:

As a warning if apiculture is big business for you area you may have restrictions on hive types. Top bar hives do not have easily removed and inspected frames so they are illegal to use here in Florida. We have to use framed hives. You can go foundationless in a hive type that uses frames if you want a more 'natural' hive. Your apiculture inspector may make you change out your top bar hives for something else if you go that route. I recommend getting inspected because your inspector is usually a really helpful person when you are getting started or have a problem. Don't worry inspection is cheap. In FL its \$10 for up to like 25 or 30 hives. You can probably get more help learning to keep bees if you use the same style hive that everyone around you uses. You may have a local bee club where all the keepers in the are get together. They are a treasure trove of info. Check with your local county extension office or ag office to see if they know about where the club meets.

Sep 23, 2012. 8:24 AM [REPLY](#)



hsteinbe says:

That statement is incorrect, "Top bar hives do not have easily removed and inspected frames" I have two top bar hives and in both of them all of the bars are easily removable.

Sep 24, 2012. 8:13 AM [REPLY](#)



hlanelee says:

Corvidae has a point. Bees have a tendency to build across the bars so that combs are not removable for inspection for foulbrood without destroying them. As a result a hive like this would not be legal to keep in South Carolina.

Sep 23, 2012. 11:25 AM [REPLY](#)



hsteinbe says:

I have two top bars hives and neither of them have comb build across the bars. All of the bars come right out for inspection.

Sep 24, 2012. 8:11 AM [REPLY](#)



karl w becker says:

My only concern is the use of pressure treated lumber, it has Arsenic and othe toxins in it. Otherwise it's brilliant! I raised bees as akid in West Virginia and you have me exieted about it all over again.

Sep 23, 2012. 11:41 AM [REPLY](#)



hsteinbe says:

Pressure treated wood is no longer made with arsenic, it is made with copper. Only the legs and frame need be treated wood, all of the wood that the bees contact can be untreated.

Sep 24, 2012. 8:09 AM [REPLY](#)



lemuzz says:

Most countries require hive inspection for bee diseases. These combs will not be legal in most countries because they will not be easily removed for inspection and could result in prosecution. Also as black will absorb the heat of the sun I suspect the bees would have trouble keeping the inside temperature at the correct level

Sep 23, 2012. 1:38 PM [REPLY](#)

[view all 88 comments](#)