

USER'S GUIDE

HONEY BEE SWARM TRAP



Dr. Leo Sharashkin who lives in southern Missouri has provided comprehensive information about swarms and swarm trapping on his website. Especially note his suggestions about where to place and how to bait swarm traps.

<http://horizontalhive.com/honeybee-swarm-trap/bait-hive-how-to-catch.shtml>

Dr. Thomas Seeley's classic EXCELLENT publication about swarm trapping is here: <https://ecommons.cornell.edu/handle/1813/2653>

Swarm Trap Parts:

The swarm trap consists of very few parts and has been constructed for ease of assembly by Chris Heston, owner of Traditions in Woodworking and Timberworks Toys in Columbia, Missouri. The $\frac{3}{4}$ " plywood is exterior grade and made from radiata pine. The major parts are shown in the figures.

Top: A $9\frac{1}{8}$ " x 19" panel with a ventilation hole centered in the board.

Bottom: A $9\frac{1}{8}$ " x 19" panel with 4 small drain holes in each corner.

Sides: Two $19\frac{1}{8}$ " x 22" panels with $\frac{3}{4}$ " rabbets on the sides and top, and a $\frac{3}{4}$ " dado groove near the bottom. There are six pilot holes for screws along the edge of each side.

Front: A $9\frac{1}{4}$ " x 22" panel with an entrance slot, a dado groove on the bottom, and a $1\frac{1}{2}$ " frame rest on the top. If not already present, drill a $\frac{1}{8}$ " pilot hole centered and $\frac{3}{8}$ " down from the top of the box. This is for the eye screw that locks the lid to the box.

Back: A $9\frac{1}{4}$ " x 22" panel with a dado groove on the bottom and a $1\frac{1}{2}$ " frame rest on the top. If not already present, drill a $\frac{1}{8}$ " pilot hole centered and $\frac{3}{8}$ " down from the top of the box. This is for the eye screw that locks the lid to the box.

Roof: A sheet of polyethylene material with 6 pilot holes.

Hanger: A metal bridle that is bolted to the sides through the holes.

Strap: 25-30' Nylon strap that is tied to the hanger for hoisting the trap into a tree.

Fasteners: 32 torsk head screws (#15 bit), 3 screw eyes for locking the roof and attaching the entrance gate, two $2 \times \frac{1}{4}$ " bolts, washers, and nyloc nuts,

Porch: small cleat with two pilot holes

Entrance Closure: A piece of perforated polycarbonate plastic



Enhancements:

The inside of the box should not be painted. However, the inside of the can be treated in several ways to make it possibly more attractive to The first enhancement is to char/burn the inside of the panels. This mimics the inside of a tree cavity that has been created by a forest fire. Secondly, nearly everyone recommends coating the inside of the box bee's wax or propolis if they are available.



box
bees.

with

Assembly:

Tools: Electric drill for driving screws, # 15 torsk bit, ¼" hex drive bit, 7/16" socket driver or wrenches, rubber mallet, stapler, optional clamps that open to 20".

The Box: Lay one of the side panels on a flat surface with the inside of the box facing upward. Place a bead of Tightbond II glue on the two side edges (along pilot holes) and in the groove. Insert the bottom panel that contains 4 drain holes in the groove on the bottom of the side panel. Press the bottom panel completely into the groove with a mallet. Center it so that there is 3/8" overlap along the side rabbets. Next, place the front (with entrance slot) and back panels on the edges of the side panel. Press these panels into the overlap of the bottom panel so that front and back panels are flush with edges of the side panel. Apply a bead of glue to the top edges of the three panels. Now take the second side panel and press it into place. Clamp the box if necessary. Insert screws into the pilot holes and screw them down. When all screws are in place, gently lift and flip the box so that you can place screws in the other side panel. Tighten those screws and the box is together forever.

The Top Panel and and Roof Cover: Staple or nail the piece of #8 screen over the ventilation hole in the top panel and drop it into the box. Place the POLYETHYLENE cover on top of the box and center it side to side. Then position the roof cover so that there is only a ½" overhang on the BACK of the box. [Note: a larger overhand on the back of the box may make it more difficult to hang the box properly in a tree.] I suggest arching the roof panel so that there is a ½ - ¾" space between the top panel and the roof. **This will allow for adequate ventilation.** To do this, place a board or rod temporarily down the center of the top panel. Install the screws and then remove the board or rod. The screws to do not need to be driven down tight (the tip of the screws should not be visible below the top panel).



The Hanger and nylon strap: Bolt (¼" x 2 1/2") the metal bracket to the sides using the pilot holes. Use a nyloc nut and flat washer on the inside of the box and outside of the hanger. **DO NOT TIGHTEN DOWN THE NUT – YOU NEED THE BOLT LENGTH SO THAT THE HANGER WILL CLEAR THE ROOF COVER.** Tie the nylon strap to the hanger.

Top lock eye screws: See photo above for location of an eye screw to be placed on the front and back of the box. The eye screw goes through the front and back panels and into the top panel. When the eye screws are in place the top panel is locked in place and the box is bee proof from the

top. This feature will allow you to lower the trap without worrying about the top of the box coming off and letting bees escape.

Porch: small cleat to be placed $\frac{3}{8}$ " below the entrance slot so that water does not enter the box.

Entrance Closure: A piece of perforated polycarbonate plastic is included to cover the entrance slot when a swarm is going to be moved. Place an eye screw through a hole in the upper left of the plastic above the bevel. Check for rotation and drill a pilot hole for the eye screw. The pilot hole should be tight enough that the plastic closure will stay in the up or down position as desired.



Painting:

Prime and paint the outside of the box as you would any other bee hive component. A lighter color is often recommended so that the box does not get too hot.

Adding Frames:

Place 5 or 6 frames in the box for the bees to start work on. If you use deep hive bodies, use deep frames in the swarm trap. If you are using mediums or other types of hive boxes, use the frames that you normally use. If available, a frame of brood comb should be placed in the center of the box. If you use 5 frames in the box, ensure that the frames are tightly locked into place by placing a screw or tack against them to hold them to one side.



If

Baiting:

According to Michael Bush, the author of the Practical Beekeeper book, the three most important things for a swarm trap are location, location and location.

Swarm lures that contain attractant hormones are available from all of the bee supply vendors. Some contain synthetically produced pheromones such as nasonov. Many of these synthesized products are effective but they have limited shelf life and must be stored in a freezer until used.

Lemongrass oil however, is a stable compound that is cheap and lasts for a very long time and is just as attractive to bees. We highly recommend the use of lemon grass oil. It mimics the pheromone that scout bees release when looking for a new home and has been said to double your chances at luring a swarm to a hive or trap. The **NOW** brand of lemon grass oil that we offer is highly effective. Just put a drop or two (**and no more – too much acts like a deterrent!**) of the oil inside the entrance of your hive and also put a drop on a piece of paper towel and place it in a sandwich bag. Place this on top of the frames – the scent will travel through the plastic bag. You can refresh the oil weekly to keep



the scent fresh. If you can smell the oil the bees can!! Old brood frames which contain brood pheromone also are recommended lures that attracts the swarm. The best bet is to use all of these recommendations at the same time.

Deploying: Locate an appropriate tree



with a limb or stub sticking out from the trunk. I recommend getting a piece of lightweight cotton string and attaching a weight to it. Throw the weight over the limb where

you want to suspend the box. Once the string is in the proper place, attach one end of the cotton string to the nylon strap and pull the strap over the limb. Hoisting the box is much easier with two persons. Have one person pull on the strap and the other person guide the box upward using a pole or rake. Once the trap is where you want it, use the pole to fine tune the orientation of the box. A slight angle towards the front is desired and it should be plumb from side to side. Once the bracket is pulled up tight to the limb you can use the strap in many ways to secure the trap to the tree so that the trap does not spin or rock. Tie off the strap around the tree or an adjacent tree. It seems that bees have location criteria much like deer hunters when putting up ladder stands.



If there are SAFE ladder deer stands in your area they might be a perfect place to mount a swarm trap. Hoist the swarm trap up onto the platform of the deer stand and secure it with a ratchet strap or rope. The disadvantage of deer stands are that you will need to climb the stand to raise and lower the trap. You must use caution to make sure the screw eyes are in place to lock the lid onto the box. **KEEP THE NYLON STRAP ON THE HANGER!**



Success:

Check the swarm trap every few days. You may first



see scout bees inspecting the box. When a swarm moves in you will see hundreds of bees

per minute going in and out of the box during the middle of the day. A sure sign that a queen is in the box is if the bees are bringing in pollen. Swarms are very proficient in making wax. I attempt to transfer the bees as soon as possible (less than 48

hours) to a hive box so that they do not build wax underneath the frames where it will be wasted -- BECAUSE THEY ARE ABLE TO VIOLATE BEE SPACE WHEN THEY ARE NOT IN A LANGSTROTH HIVE BOX.

Once you are convinced that a swarm has taken residence in the box you need to prepare to lower the box. Here is a list of useful items in that regard:

- Bee suit and gloves

- Duct tape to secure the right side of the entrance gate

Early in the morning or late in the evening nearly all of the bees will be inside the box. This is the time to close the entrance so that you will capture 99.99% of the bees. Pivot the perforated plastic gate down onto the porch to block the entrance. The top is bee proof when securely installed into the front and back rabbets of the box.

Next you need to prepare to move the bees from the swarm trap into a regular hive. Here is a list of useful items in that regard:

- Bee suit and gloves

- Smoker

- Hive tools and frame lifter

- Hive stand – concrete blocks or wooden stand

- Hive bottom board

- Deep hive body box with at least 6 frames and foundation

- Front quart jar feeder, frame feeder, or top feeder (with ventilation box or super box if using top feeder)

- Inner cover

- Top cover

NOTE: You need to have an estimate of the size of the swarm to determine the most advantageous hive configuration to put them in. You may catch swarms that will cover 15 or more frames and other swarms that cover only 2 frames. Place the very large swarms in TWO double deep boxes to keep them from absconding. Place small swarms in a nuc box. The appropriate size



box will allow the colony to expand much more successfully. Michael Bush (author of The Practical Beekeeper) suggests installing bees in the minimal amount of space and then transfer them to larger boxes as they fill out the frames – 80% rule.

Position the swarm trap next to the new hive. Start by adding a few puffs of smoke through the entrance of the swarm box. Then remove the top of the swarm box. If you have a large “primary” swarm you should see bees covering all of the frames. Slowly transfer the frames of bees into the center area of the hive box in the same order as they were in the swarm trap. It is best to move two or three frames at a time so that you minimize potential damage to the queen. Add additional frames until you have a total of ten/eight in the hive box. Using the hive tool, compress the frames into the middle of the box.



At this point you may still have lots of bees (I had 1000s or more) in the swarm box. The simple thing to do is turn the box upside down on top of the hive so that the swarm box overlaps to provide an opening. All of the bees will work their way into the hive in a couple of hours.

Feeding the swarm the first couple of weeks may substantially increase the bees survival. Whatever you do you have to watch for robbing!!

- If you are using a frame feeder you will replace some of the empty side frames and add sugar solution at this point. If you are using a top feeder add the extra box to hold the feeder. Fill the feeder with sugar solution.
- If you are using a front feeder you will install it last on the bottom board.



Place the inner cover and top cover onto the hive. Check the feeder and add sugar solution every couple of days – especially if the weather is limiting foraging for the bees.



Storing your swarm box:

After the primary swarm season is over it is best to take down the swarm trap and clean it thoroughly. If old comb was used as a bee attractant it could be taken over by wax moths or other pests. Also mice and squirrels will chew holes in the box for a nesting cavity. Store the empty box in a dry place with frames removed and the top panel fastened with the eye screws and the entrance closure in the down position. This will greatly limit access of unwanted pests to the inside of the box.

If time permits, give the box a new coat of paint for the next season.

Here is an easy way to move the swarm trap if your vehicle is not close by. It especially heavy when you catch a large swarm that has been in the box several days.



can be

If you purchased bee hive frames with the swarm trap and have never assembled them before go to YouTube and watch a demonstration.
<https://www.youtube.com/watch?v=MWx9YY6SXEI>

The plasticell foundation snaps into the frames.
Just insert the foundation in either the top or bottom groove and snap the other side into place.



PREPPING A SWARM BOX

Posted on **Facebook** Beekeeping Wood Shop, February 25, 2018

Several Forum Users: WHY???

Carl Korschgen: Taking advantage of 100 million years of evolution. Don't you think they have a gene to detect cavities in trees caused by forest fires and lightning strikes? They can detect the first witch hazel blooms in spring without any experience.

Will Grunwalt, Chilliwack, British Columbia: pay no heed to negative posts here. Obviously, none of them have seen swarms move into chimneys. In my 30 years of beekeeping, I've seen more bees in chimneys (14 chimneys) than in walls. BTW, much easier to collect bees from a charred swarm box than a chimney. Carry on man.

Carl Korschgen: I had excellent success trapping swarms last year. I consider that locations, size of the box, old brood comb, LGO, and charred interior contributed to my success. It would take a sophisticated research study to determine which one or combination of factors were best. really don't care at this point. When a process that I develop works for me I will stick to it. I was able to rebuild my apiary with Missouri Mutts instead of spending \$130 per package of bees.

Arugus Bond, Hobart Tasmania: One of my main occupations during summer is bee nest rescue, two of the main places I gather nests from are well used chimneys and burned out tree hollows - from my experience, bees seem to love nesting in scorched coal environments so I would have to agree with [Carl Korschgen](#).

Stuart McKenie, Birkenhead, United Kingdom: When Seeley did his experiments on swarm preferences, what never gets a mention is that the first swarm didn't select any of his different size boxes, with their different heights and aspects.

It chose a chimney on a nearby building.

I don't think a preference for carbon has ever been proven but it's recommended to attract bees often as it's logical that many of their cavities would have been caused by fire/lightning.

See Thomas Seeley publication at: <https://ecommons.cornell.edu/handle/1813/2653>

Another good source for swarm information: <http://horizontalhive.com/honeybee-swarm-trap/bait-hive-how-to-catch.shtml>

Carl Korschgen

