

## In the Workshop – Bait Hive

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*Last month, we discussed how to make brood and super boxes. A relatively simple adaptation is to make a bait hive or swarm trap/box.*

Free bees are great. Free bees from your area can be fantastic as they may be locally adapted. We all appreciate that swarming is an entirely natural impulse but we don't have to rely on judicious queen cell culling, swarm collectors and bee rescue specialists to help deal with swarms. Indeed, excessive swarming can raise concerns amongst non-beekeepers who can feel very threatened by the sight and sound of a swarm.

### They aren't my bees

Of course, your bees never swarm. You may just occasionally end up in a confusing situation where your queen is no longer marked for some reason. The only way to have a high level of confidence that it's not your swarm cascading through a neighbour's airbrick is to clip your queen's wing on one side beforehand. It doesn't stop the bees from swarming but the bees do return home as they have no queen to lead, chaperone or follow. If they are bees from a nearby hive, that's good. If they are from a local free-living colony, that is great news as they will likely be used to minimal treatments and feeding, making them very locally adapted.

### Bees look for a suitable new home

For a swarm, they would ideally find a new location within about 400 metres of their original colony. The box would usually be a fair height off the ground and with an accessible but defensible entrance. The cavity inside needs to be dry and secure, with research showing that a volume of around 40-50 litres being a preferred optimum for most bee types. There are few restrictions on the shape of the cavity although bees tend to naturally want to form a brood pattern of around 25cm diameter if possible.



swarm entering bait hive within one hour of it being constructed

### Replicate the preferred box size and shape

Most people aren't aware of their brood box volumes. The following is for guidance;

Standard 14" x 12" brood box = 50 litres

Langstroth brood (9.5" tall) = 42 litres

National brood box (8.5" tall) = 36 litres

National super (5.5" tall) = 24 litres

### Create the base and mount

Most of us will use a National brood box as the main cavity. The most important point is to make the brood box replaceable without having to detach and re-fix your swarm mount each time.

Some points of note....

- 15mm diameter hole at the top of the rear slat. This will rest on a nail or screw in a tree.
- Entrance at the front right is 25mm diameter. Make the hole larger if you wish.
- The bits of wood on each side hold the brood box in place.
- The rear brace also acts as a stop for the brood box
- The gaps between the brood box retaining lugs should be around 46.5cm. Just bear in mind that most brood boxes are 46cm square but they are not always perfectly square when assembled.

## Position it in a preferable spot

Put your bait hive where bees are. Place it by a significant tree, fence or building (landmark) that faces an open area, ideally in dappled shade. Face the entrance south-west or west if you can to attract the swarms when they are most likely to be aloft.

As long as the frames are vertical in the box, you can place your hive at almost any height with the higher heights tending to be more attractive to the bees. Location points can include;

1. Up a tree
2. On a fence post
3. On a flat roof
4. On top of a shed

## Convenience for you

When working at heights, go only as high as you safely can and no more. A lightweight stepladder often allows you to place a box in an adequate position height accessible. When you go to collect your swarm(s), you will have an additional weight of bees to deal with (up to 2kg) and the encumbrance of protective clothing and gloves.

You must be able to see your swarm boxes without having to walk for ages to get to them. It is always prudent to have a bait box close to where you hives are. These are for toher people's swarms, of course.

## Make it attractive to scout bees

Place your brood box onto the base the 'cold' way, with the frame of old comb to the right of the entrance, facing south-east or south. This will warm up the comb each afternoon, giving off an attractive fragrance.

The entrance hole can be around 25-35mm diameter. If it's above 30mm diameter, drive a long nail across the diameter of the entrance to stop it being attractive to small birds. Putting the hole to the right of centre makes it closer to the older brood frame and may give an illusion of abundant space to bees coming in.

From the right;

- One frame of old brood comb, the darker the better (within reason)
- One or two frames of partly drawn comb, if you have them
- 6-8 frames with no comb or starter strips in them

Some attractant can be useful, which can include;

- A puff of proprietary swarm attractant spray.
- A drop or two of lemongrass oil.
- Old wax inside the box. Freeze a squashed lump of burr comb and 'crayon' it on the inside of the base and box.
- Propolis (dissolved in rubbing alcohol), painted into every corner, crack and crevice and where the frame lugs rest. Allow a couple of days for the alcohol to fully evaporate.

Don't put too much of the first two suggestions into the box. The bees can get a little overwhelmed by the chemicals.

## Monitor

Best to monitor them weekly during the swarm season because you don't want them to build up too much comb in a random fashion in the box and, where there is one swarm, there can often be two or three within a few days.

As a final note, be wary of swarms. The bees may have swarmed because they have a genetic tendency to do so. They may have swarmed because they were neglected by the beekeeper due to them being too aggressive. They may have absconded due to varroa issues.

## Further information

Tom Seeley helped produce a wonderful and timeless report in 1989. Google it using "Bait Hives for Honey Bees – Cornell eCommons". Over 7 pages of experience and wisdom!

## Download

To download some free of charge additional information, please visit

[www.beesinourcommunity.org.uk/resources](http://www.beesinourcommunity.org.uk/resources)

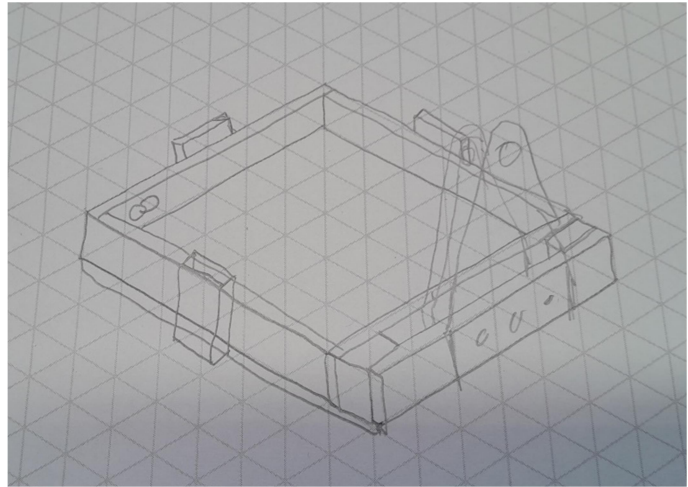
## Supplementary Information

Additional information to the BBKA article, omitted due to space restrictions.

### How it all started

Being an Engineer, the design had to fulfil a range of requirements.

1. To be hung from a tree or fence or placed on a flat roof
2. To hold the brood box in place if it is windy outside
3. To allow a brood box to sit on top
4. To store easily in the winter
5. Easy to make from a pallet
6. To be no cost or low cost



### The donor pallet



This is the donor pallet. Notice that the slats run the long length of the pallet rather than cross-ways. It's not critical but it prevents me having to remove nails as the length of the slats between nails is longer than I require to make the bait hive base.

### Cutting out the back brace and rear slat

This piece came from the above picture. It was cut out and a three slats were levered off to leave this as a partially assembled unit. It is amazing what a bit of lateral thinking and problem solving can accomplish.

Don't rely on the nails to perform in their new role. Put plenty of screws in to make things much more secure.

The piece of ply will be the base of the bait hive, Ignore the hole, the ply comes like that. I will cut out a circle of ply and glue it in there to permanently fill the hole.

If you wanted to be really creative, you could put mesh on the top of the hole and have a circular insert held in place by two twist latches. This could give ventilation when transporting a whole bait hive with a colony inside if the piece of wood is removed.



## The finished base

Some points of note....

- 15mm diameter hole at the top of the rear slat. This will rest on a nail or screw in a tree.
- Entrance at the front right is 25mm diameter. I had that size cutter available. Can make the hole larger if you wish.
- The bits of wood on each side hold the brood box in place.
- The rear brace also acts as a stop for the brood box
- The gaps between the brood box retaining lugs should be around 46.5cm. Just bear in mind that most brood boxes are 46cm square but they are not always perfectly square when assembled.

By making the bases this way, it is easy to produce batches of them using just a saw and screwdriver. There is minimal effort in unlatching slats from the original pallet and minimal effort in re-attaching parts to make the bait hive base.



## The entrance



You can put the entrance almost anywhere. Place it to the right of centre if you can. The right hand side of the bait box should get the afternoon sun and the old brood comb in there should be smelling like an abandoned hive and it will be reassuringly warm for the bees when they explore the comb.

### The rear cross brace

This particular point will receive a large twisting force which will try to lever the nails and screws apart. Three things are done to fully strengthen the area



1. The plywood base is cut to cover the square of the bait box base and is extended at the rear to also cover the rear pallet block and vertical slat. The block and slat is attached to the ply with screws to add a lot of rigidity.
2. Some pallet wood braces are added at the side of the pallet block to attach the slats to the block and the braces to the plywood, again to increase strength and rigidity.
3. As mentioned previously, the areas which were originally attached with nails to form the pallets should also have screws added to bring extra strength to the joints.

