Keywords: bee disease, honey harvest, propolis, Varroa, Warré

Part 1 of this article (BfDJ 95) presented the principles of the People's hive which Emile Warré invented to make it simple for people to begin beekeeping. The Warré hive has no frames, foundation, queen excluder or supers (honey boxes) and is designed to preserve the warm nest atmosphere of the bees' natural comb, thus promoting bee health.

First read Warré's Beekeeping for all1. If you are a beginner, read-up bee biology, for example Jurgen Tautz's beautifully illustrated book2. He presents several recent discoveries that indicate the importance of natural comb for the health and work of the colony. Join a local beekeeping association and learn about frame hive beekeeping - you can hear much of value. Members who are up-to-date on bee biology and behaviour, not just interested in how to profit from bees, will be interested in your venture.

Making a Warré hive

Warré hives are simple to construct and many beekeepers make their own. Construction details can be found in Warré's book1, or downloaded from the internet3. Nick Hampshire's site shows woodwork novices how to make Warré hives4. I made most of mine out of recycled wood, driftwood and pallets. Avoid treated wood and plywood. The latter does not 'breathe' and contains artificial adhesives. Planing is unnecessary.

Make at least four boxes per hive. Provided you keep their internal dimensions to 300 x 300 mm x 210 mm (high) you can use wood of any thickness greater than 20 mm. To support the top-bars, the box fronts and backs have 10 x 10 mm rebates in their top rims. Fix the corners together with simple butt joints using seven 65 x 2.65 mm galvanised nails. Fill outside cracks wider than 1 mm with linseed oil putty, leaving the bees to seal the inside with propolis (their universal sealant and antiseptic). Fix a handle batten on each side. Optionally, the box can be painted outside with two or three coats of raw linseed oil. Beginners like boxes with glass windows so they can watch progress inside5.

Cut eight 24 x 9 mm top-bars per box and nail them at 36 mm centres to the rebates (or battens) with 25 x 1 mm pins. If your combs must be removable, insert the pins just sufficiently to hold the bars while travelling or setting up the hives, and snip the heads off (protect your eyes!). Many beekeepers encourage bees to make parallel comb by forming wax starter strips under each batten. Warré describes how to do this by pouring molten beeswax on to the batten against a pre-wetted wooden former.

The floor comprises 15 mm boards nailed to battens underneath. For the entrance, cut a 120 mm wide notch extending 40 mm inwards (for a 20 mm box wall). Bees enter under the rim of the bottom box.
A pre-waxed top-bar and a way of positioning bars without nailing through them

Nail an alighting board 160 mm square under the notch, projecting 70 mm. The top-bar cloth is hessian. Warré advises stiffening it with flour paste to stop the bees fraying it. They will coat the exposed parts of its underside with propolis.

The ‘quilt’, the same footprint as the boxes, comprises four 100 mm tall pieces of wood nailed into a square. Fix hessian or other coarse natural fabric underneath and fill the quilt with straw, wood shavings, or chaff.

The bees propolise the top-bar cloth between the bars

Roof construction is more flexible. It is waterproof, has about a 10 mm clearance all round to ease removal, covers the quilt/box junction, excludes mice from the quilt, can be flat and covered with a metal sheet (for example scrap hot-water cylinder, printers' plates etc) or sloping like Warré's, with its ventilated cavity to shield the hive from the sun. This is an important feature for hot climates. You can make Warré's roof from wood scraps and paint it. Important: there is no updraught via the quilt (and roof). The bees control ventilation via the entrance.

The hive floor should stand at least 150 mm above ground. For example, blocks, an old sturdy crate or a wooden stand made of scrap, make serviceable stands. Mine are 300 mm high and have legs just outside the four corners of the hive to maximise stability.

Apairy site

Common sites include gardens, city rooftops, allotments, field margins (livestock fenced) and wasteland. Walls, fences, hedges and/or screening nets (windbreak) can help to funnel bee traffic in the desired direction.

The flight path near the hive entrance should not point over thoroughfares or any place where people pass frequently. The entrance should ideally face anywhere between east and south to rouse the colony to foraging at sunrise. Unless foraging conditions are exceptional, limit each site to three colonies to avoid stressing the bees through competition for food resources.

Hiving bees

In the UK, a natural prime swarm of around 2 kg gives best results. Run the swarm into a prepared 2-box Warré on a board sloping up to the entrance. A 1.5 kg bought package of bees has been found to work well in many parts of North America. Tell your local association, police, pest control department and fire station that you will take swarms. At your first hiving you may want to enlist the help of another beekeeper. An ideal time in the UK is May, just before a main nectar flow.

With a mature package of bees, that is one that has been in transit for a few days, release the queen from her cage at the entrance once the inrush has begun. If the package has only just been given its queen, remove the protective plug over the candy and hang the cage from the top-bars of the top box. Check in a few days that the queen has been released, and remove the cage.

If there is no nectar flow, feed with syrup made from honey produced in your own apiary or from a known disease-free apiary (2:1 honey : water by weight), or, if no honey meeting that specification is available, syrup made from 1 kg refined sugar in 500 ml water. Put it in an open container loosely filled with straw (to stop the bees drowning in it) on the hive floor.

One way of hiving bees from a commercial package

Monitoring progress

Storch details how a lot can be learned from entrance activity. All is well if, on rainless days, the bees are purposeful, many returning with pollen which is generally first seen after a day or two. The first box can fill with comb in a fortnight, occasionally in a week or less in warm, melliferous localities. In about another two weeks you can add a third box. If you do not have an assistant to help you lift the hive, various sorts of lifts can be contrived using scrap materials. If you have not fitted windows to check how the comb has progressed, slide the hive backwards a little on the floor to make a satisfactory opening and look upwards with a torch, or use a mirror. Do not do this often. An important aspect of Warré beekeeping is to leave the bees alone.
Swarming

Suppressing swarming, part of the natural reproduction of the honey bee colony, risks compromising the long term fitness of the bee population. You can let your bees swarm and catch the swarm to start new colonies, if necessary by using bait hives\(^5\). This is not an option if there is any chance of annoying neighbours. In that case you can split the hive before swarming time in the second and later years, or do more complicated artificial swarm manipulations as Warré describes\(^1\).

**Varroa control**

Beekeepers generally use chemicals against Varroa mites. This is not sustainable in the long-term and adversely affects bee health. Honey bees will eventually co-adapt as they co-evolve with the mite. Intervention hampers this. I do not treat my Warré colonies as they create ideal conditions that help the bees to control the mites themselves. But I nevertheless risk losing some colonies. If you do not want this risk, consider dusting the hive with icing sugar (very finely ground sugar): intrusive and messy, but it works if done regularly\(^6\).

Later years

Check the colony survived the winter. Clean the floor and add one or two boxes. In later years you might harvest two boxes of honey. But remember that Warré beekeeping means not over-exploiting bees, so they should always be left with an adequate amount of their own honey. The golden rule is to keep it simple.

References

3. www.warre.biobees.com/plans.htm
4. www.thebeespace.net/
8. www.dheaf.plus.com/warrebeekeeping/solar_extractor.htm

Acknowledgements

I thank Dr Johannes Wirz (Switzerland) for introducing me to Warré beekeeping and Bernhard Haueß (Germany) for advice on sustainable beekeeping. In the UK, Phil Chandler - *The Barefoot Beekeeper*, Dr William Hughes (web space to support this work) and Northern Bee Books who published our translation of Warré’s text.

Also the Warré beekeeping e-group members providing valuable input on the performance of the hive in different climatic zones: www.uk.groups.yahoo.com/group/warrebeekeeping

Ms Hitomi Enomoto of the Asian Apicultural Association has contacted B/D to say she is translating Part 1 of this article into Japanese. David Heaf says “This will add Japanese to the Flemish and Spanish translations already circulating. Your correspondent might be interested to know that Japan already has a Warré-like beekeeping with Apis cerana. The material was contributed by Syouichi Morimoto and I have put a web page about it on: www.warre.biobees.com/japan.htm”. See also ‘The box pile hive – Profitable beekeeping with Apis cerana’ (BfDJ 94).