



Hive Types

Practical Fact-Sheet

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Please note: This series of MBKA Fact Sheets are intended to accompany practical sessions and demonstrations at members' apiaries during the season.

Of course, there is no "right way" to keep bees and most objectives can be achieved in several different ways. The advice presented in these notes is therefore selective, representing the method or methods used commonly and generally accepted as "best practice".

They should be regarded as guidance notes. It is expected that revisions will be frequent in the early phase of their production!

In many parts of the world, there would be no need for this fact-sheet, only a single hive type would be in use and that would be the only hive type obtainable from suppliers.

The UK is different! There are a multitude of hive designs and, more recently, a multitude of construction materials; I'll deal with designs first, then materials of construction.

Designs (moveable-frame hives)

| Name | Top/Bottom space? ¹ | No. frames ² | Frame size | Short/long lug? | Comment |
|-------------------------------|--------------------------------|-------------------------|------------|-----------------|--|
| British National ³ | Bottom | 12 | 14 x 8.5 | Long | Good hand-holds |
| WBC ⁴ | Bottom | 11 | 14 x 8.5 | Long | Love them or loath them! |
| Smith | Top/Bott | 11 | 14 x 8.5 | Short | Double-brood Smiths at NBU, popular in Scotland |
| Langstroth | Top | 10/11 | 17 x 9 | Short | World-wide, most common hive |
| Commercial | Top/Bott | 12 | 16 x 10 | Short | Can use national supers |
| Dartington/Omelet | Top | 20+ | 14 x 1 2 | Long | Theoretically, manage swarming in the single box |

Perhaps the most important design consideration is that the total area available to the queen must be adequate; it is generally considered that a standard National Brood box, with 12 frames, is about the minimum for most colonies of bees in this area of Kent. It follows from this, that a standard WBC or Smith is too small. (The consequence of restricted brood area is a heightened likelihood of early swarming.) The most common adaptations therefore are either to use deeper boxes and National Deep frames (14x12) or to use the brood-and-a-half configuration; there are pros and cons to both approaches. It will be seen that the brood area available in Langstroth, Commercial or Dartington hives is more than adequate.

Materials

Wood-based - Until quite recently, beekeepers had a choice of **cedar** or **deal** (softwood) for their hives. Cedar is light, knot-free and resistant to decay but more expensive than deal which has been the "utility" grade. Both continue to be available but other materials are also on sale. Plywood is cheap, available in very wide sheets and is dimensionally very stable; it is not entirely weatherproof unless treated.

Plastic – High-density expanded polystyrene and rigid plastic hives are now available in BS sizes, they have been around in Langstroth for a few years. They have been heavily promoted and are an increasingly popular choice. They are manufactured with an accuracy not often found in wood, have superior thermal characteristics and are light (though little lighter than cedar and one must consider that the weight of hive boxes is only a small proportion of the weight of a colony – frames, bees and stores are heavy, whatever the box)

The disadvantage of plastic is that they are difficult to clean, very difficult to sterilise and, at the end of their life, difficult to dispose of. Recent documents available from the NBU via their web-site BeeBase deal with these issues and should be compulsory reading if one is contemplating the purchase of plastic hive bodies:

"Plastic Hives" (April 2013) and "Hive Cleaning & Sterilisation" (March 2014), both available at <http://www.nationalbeeunit.com/index.cfm?pageid=167>

¹ Any hive can be modified to use top- or bottom bee-space; table notes normal configuration

² The number of frames stated is the maximum number of Hoffmann (35mm) frames that can be accommodated. In many cases, one would recommend one less frame, plus a dummy board

³ The BS Deep frame may also be used, this is 14"x12"

⁴ The 14x12 frame may also be used in a WBC

There are further hive-types not mentioned above which are now covered for the sake of completeness – their use is certainly NOT recommended for new beekeepers. After a few seasons using conventional equipment, one might venture down these paths, but with eyes open!

Top-bar hives

Popular in parts of the world where frame materials are scarce and/or expensive. The comb within top-bar hives is very fragile, manipulations are far more difficult than with frame-hives, swarm control and varroa control are difficult, can easily get completely unmanageable. (I speak from personal experience!)

Warré hives

Hive designed in France at a time when there existed a fixed price for honey, a price so low that it was practically impossible to make a living from beekeeping if one had to buy foundation. The very first few lines of Warré's book are worthy of note : (Indeed, the whole book is worth reading; it contains observations on bees and beekeeping that are as valid today as they were 100 years ago. See <http://warre.biobees.com/heaf.htm>

"Apiculture or beekeeping is the art of managing bees with the intention of getting the maximum return from this work with the minimum of expenditure.

Bees produce swarms, queens, wax and honey.

The production of swarms and queens should be left to specialists.

The production of wax has some value, but this value is diminished by the cost of rendering.

The production of honey is the main purpose of beekeeping, one that the beekeeper pursues before everything else, because this product is valuable and because it can be weighed and priced."

Unfortunately, this fundamental basis for the hive design seems to have been overlooked by the "Natural Beekeeping" lobby, groups which now promote Warré beekeeping. Whereas Warré spends some time in his book discussing methods of swarm control, the Natural Beekeeping Trust states

"Husbandry approaches advocated by the Trust are based on allowing bees to express their instincts fully through swarming, presence of drones, overwintering on honey as well as taking due care to support colonies' brood nest warmth maintenance."

This irresponsible approach to swarming currently threatens beekeeping within some London Boroughs where allotments are a common location for apiaries. Multiple swarms issuing from Warré hives are giving beekeepers in general a bad name and bans seem likely to follow.