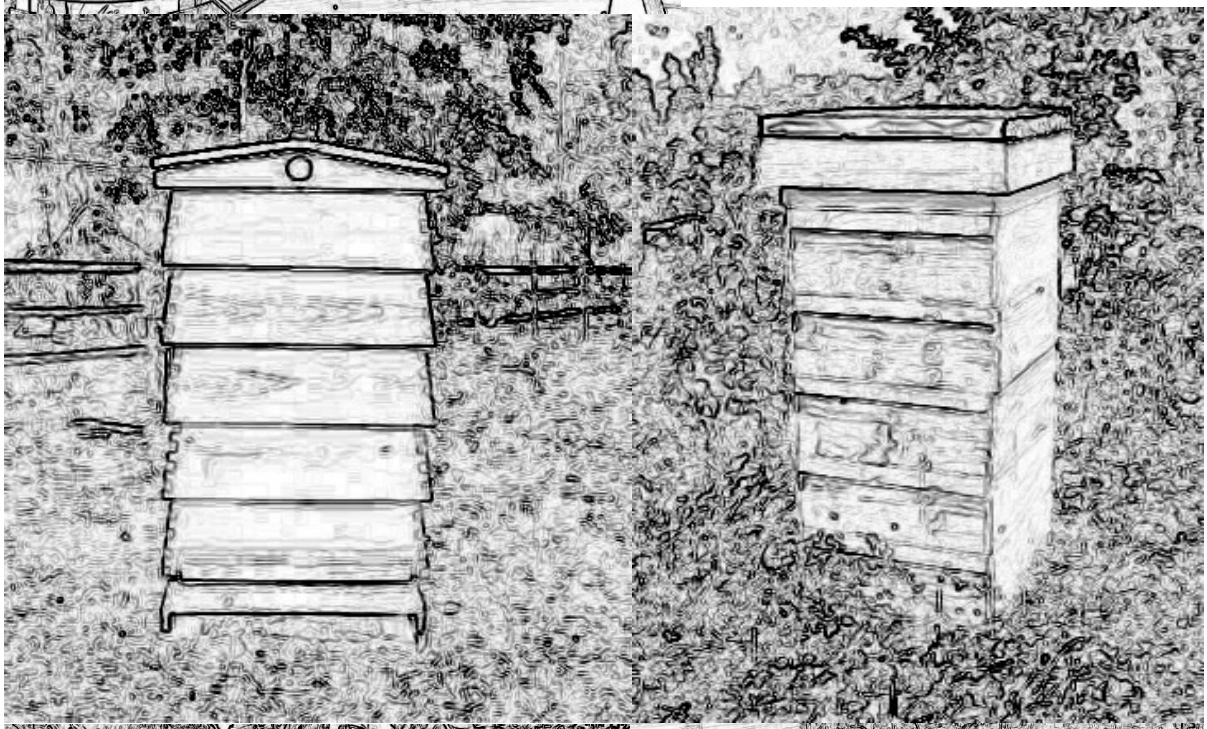
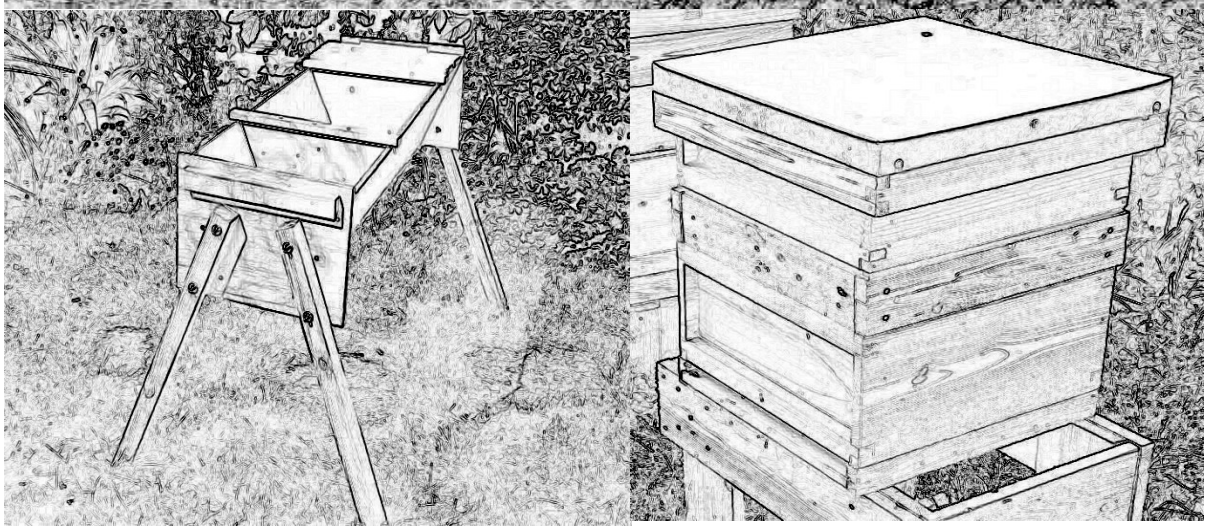
Hive Guide

By

Mike Alsop





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Intro

Modern Beehives

I have listed a lot of information here about the most common types of hives in the UK, the information is taken from several sources (see last page) but from a bee's perspective it really doesn't matter.

Which then leaves you with a few choices of which hive would suit you best. All the hives listed apart from the Warré and Top Bar use frames and foundation. They are managed roughly the same over the course of a season. However I would recommend you use the same types as other bee keepers within your association and if possible start with two colonies in case one colony has a problem. Then once you understand more about the colony and its needs you may want to try an alternative hive.

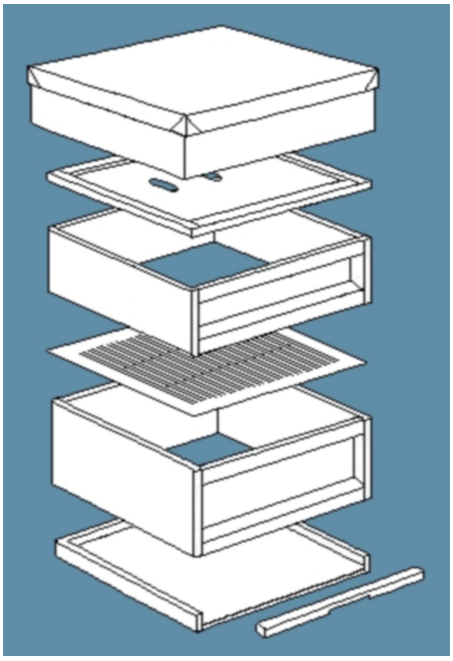
To some bee keepers its not the amount of honey or the size of the colony that matters, they believe there are many problems with the framed hives and conventional methods and it would be better to allow the bees to act as if they were in the wild, creating their own brood nests instead of being given a sheet of embossed wax held in a frame.

You may well hear this said a few times.
Ask a few bee keepers one question and will get back several different answers.

If it was possible to ask a honey bee the question "What would she want?" I like to think her answer would be this simple.

Some where dry and draft proof, free from disease and all other types of pests. Plenty of pollen and nectar to gather and of course lots of warm weather, so they can do what they are best at which is making honey.

All modern 'framed' hives contain the same basic parts



---- Roof

---- Crown board

---- Super

---- Queen Excluder

---- Brood box

---- Floor

---- Entrance block

The Floor or hive base is a vital piece of the hive, most floors are made from a solid sheet of wood to help contain the internal temperatures and help keep the frost out, more recently with the problems of condensation and the Varroa mite an optional open wire mesh floor can be used to help remove the unwanted mite from the hive. In addition the mesh provides additional ventilation which some say allows you to keep a narrower entrance fitted all year around which is easier for the bees to defend. A good size of mesh has holes of approx 4 mm large enough to allow the Varroa to fall through but small enough to keep the hive secure from unwanted pests.

Entrance Block is fitted to reduce access to the hive during the winter time to help keep the warmth in and unwanted visitors out, during the spring and summer it can be removed when the colony is of a suitable size to defend a larger opening and thus gives the flying bee's easier access directly into the hive. The entrance block how ever should be refitted if the hive is being attacked by another colony or if the weather is poor for that time of season.

The Brood Box is the largest box of the hive, this is where the queen lives all year round and lays her eggs, the colony will also store pollen, nectar and honey for themselves in this box so its within easy reach. The maximum colony size is determined by the size of this box which is different depending on the type of hive. During the spring through to summer when the colony size has suitably built up, bee keepers will commonly split the colony by removing some of the frames from the brood box which contain plenty of sealed brood, pollen and honey to start a new colony in another hive nearby, then replace the missing frames. This is one method to stop the colony from swarming.

The Queen Excluder is either a thin sheet of either steel or plastic with slots or holes cut in it. The holes are big enough to allow a female bee through but too small to allow the slightly larger queen or drone through. This then allows additional boxes or supers to be placed above which will only be filled with honey as the queen is kept from laying in this area.

The Super is the upper shallow box of frames for the bees to store excess honey, which the bee keeper will remove when its capped over and is ready to be extracted. When the weather has been favourable bee keepers will often stack 2,3 or even 4 supers on top of the brood box and queen excluder. The supers are removed at the end of the season to reduce the total space of the hive to just the brood box or boxes to help the bees keep warm.

Crown Boards is a flat sheet of wood with a hole in the centre and are used primarily as a cover on top of the brood box. The board creates a barrier to separate the different boxes of the hive and can be fitted with a bee escape or used to support a feeder.

The Roof some hives have either a plain felt or a metal sheet covered roof, they are a good weight to stop them being blown off in strong winds and also help to trap the warmth in the brood box for winter time.

Hive Summary

Hive Type	Dimensions	Brood box cells (Approx)	Bee Space Brood Comb area of both sides	Full Super Weight (Approx)	No of Brood Frames (Brood Frame size)
National	18 1/8″ x 18 1/8″ 460 mm x 460 mm	50000	Bottom 199 sq. in	25 lbs 11.36 Kgs	11 (14″ x 8 1/2″) 356 mm x 216 mm
Deep National	18 1/8″ x 18 1/8″ 460 mm x 460 mm	72000	Bottom 292 sq. in	25 lbs 11.36 Kgs	11 (14″ x 12″) 356 mm x 305 mm
Dartington	36 1/4″ x 18 1/8″ 920 mm x 460 mm	72000	Bottom 292 sq. in	If top supers then same as National	11 (14″ x 12″) 356 mm x 305 mm
WBC	19 7/8″ x 19 7/8″ 505 mm x 505 mm	45000	Bottom 199 sq. in	25 lbs 11.36 Kgs	10 (14″ x 8 1/2″) 356 mm x 216 mm
Commercial	18 5/16″ x 18 5/16″ 465 mm x 465 mm	70500	Bottom 275 sq. in	25 lbs 11.36 Kgs	11 (16″ x 10″) 407 mm x 254 mm
Langstroth	20″ x 16 1/4″ 508 mm x 413 mm	61400	Top 272 sq. in	30 lbs 13.64 Kgs	10 (17 5/8″ x 9 1/2″) 448 mm x 241 mm
Smith	16 3/8″ x 18 1/4″ 416 mm x 463 mm	50000	Top 199 sq. in	25 lbs 11.36 Kgs	11 (14″ x 8 1/2″) 356 mm x 216 mm
Top Bar *	36 to 48″ x 16 to 19″ 914mm to 1219 mm x 407 mm to 482 mm	Varies	Bottom Varies *	NA *	NA * (varies per hive)
Rose	18 1/8″ x 18 1/8″ 460mm x 460mm	35000	Bottom 175 sq. in	30 lbs 13.64 Kgs	11 (14″ x 8 1/2″) 356 mm x 216 mm 190mm deep
Dadant & Langstroth Jumbo	20″ x 16 1/4″ 508 mm x 413 mm	85000	Top 340 sq. in	40 lbs 18.18 Kgs	11 (17 5/8″ x 11 1/4″) 448 mm x 286 mm

***** - The Top Bar and Warré hives are not made to pre-set sizes or managed in the same way using supers.

Hives

The National Hive

1920's

The National Hive is the most popular hive in the UK. This then makes life easier for bee keepers to buy packages of bees on frames and exchange equipment with other bee keepers. Although some bee keepers think the national brood box is too small for a prolific queen.

The supers are the smallest of all hives and so the weight of a full super is the lightest of all hives

Frames

The standard brood box is 8 7/8” deep and takes 11 frames. The most popular brood frames are the DN4 and the DN5. Both of which have the Hoffman side bars, which means the side bar is wider at the top and narrows towards the bottom. The DN5 has a wider and stronger top bar than the DN4.

These frames are favoured because they are self-spacing and do not require any extra equipment to keep them the correct distances apart. The bevelled edges at the top of the side bar allow the bee keeper to see clearly when pushing the frames together to help avoid any bee's getting trapped and killed between the frames. Additionally there is a smaller contact surface area between the frames for the bees to glue together with propolis.

A complete hive comprises: standard floor, brood box, a queen excluder, a super, a crown board and a metal sheet metal covered 4" roof.

Most National hives are made from Cedar, which does not require any preservatives as cedar has its own natural "camphor" type preserving oils. This natural wood oil protects it from the weather and discourages insects from eating the wood. Cedar wood is an ideal timber for hives in the British climate and will last over 15 years so there is no need to paint the hive as this would seal up the grain which will cause mould and condensation problems on the inside.

Frames

11 Hoffman (self-spacing) frames in both the brood box and super and a dummy board.
11 frames on narrow ends in the brood box
10 Manley frames in the super
9 or 10 frames on castellated spacers in the super
8 frames on wide ends in the super

Summary

This is good hive for all bee keepers as it is a reasonable size, easy to manage and transport. Although the colony size needs to be carefully monitored during the early spring as a strong colony build up or if the queen has no-where to lay (honey bound) will lead to swarming problems early in the season.

The Deep National Hive

1946 revised in 1960

The Deep National Hive is becoming a very popular hive in the UK. Some Bee Keepers have either modified their National hives into a Deep National or they have bought a replacement Deep National brood box to allow for the prolific queens. The supers are the smallest of all hives and so the weight of a full super is the lightest of all hives. The Deep National hive is the same size as the National hive apart from the depth of the brood box which allows for deeper frames to be used. The 14"x12" frame greatly increases the total number of cells per frame for the queen to lay in and also for the colony to store greater amounts of pollen, honey and nectar in.

Frames for the deep national hive are called 14" x 12" frames.

The frames for super are the same as in the National hive.

(Left) I modified the above National hive with a home made 90mm eke to allow the use of 14" x 12" frames in the brood box.

(Right) As the colony prepare for winter they will store a large volume of honey on each 14x12 frame. Around where the bees are clustering you will see the darker coloured comb from where bees have emerged from their cells as this frame is being used as part of the brood nest where the queen has been laying. This frame was almost 45% - 50% filled with capped honey by the end of November '09.

Summary

This is an excellent hive for all bee keepers as it is a good size, easy to manage and transport. Once modified to fit the 14" x 12" frames the colony during the spring build up has more space to expand into which will delay a colony from swarming very early into the season and it is very unlikely the queen will become honey bound.

National & Deep National

Since these National hives are now the most common in the UK for their ease of transferring equipment between bee keepers and the fact commercial sellers of nuc's, packages and queens now also use this hive as it has simplified many of the problems bee keepers faced when wanting to exchange colonies or equipment.

Hive Type	Dimensions	Brood box cells	Bee Space Brood Comb area of both sides	Full Super Weight (Approx)	No of Brood Frames (Brood Frame size)
National	18 1/8" x 18 1/8" 460 mm x 460 mm	50000	Bottom 199 sq. in	25 lbs 11.36 Kgs	11 (14" x 8 1/2") 356 mm x 216 mm
Deep National	18 1/8" x 18 1/8" 460 mm x 460 mm	70000	Bottom 292 sq. in	25 lbs 11.36 Kgs	11 (14" x 12") 356 mm x 305 mm

With a prolific queen who can lay between 2000 and 3000 eggs a day the number of free cells in the National brood box is considered to be too small, careful attention is required during the spring time to avoid the colony swarming. The Deep National is considered an almost perfect sized hive and the 70000 cells should be more than enough space to prevent early swarms.

When a standard national sized frame is placed between two deep national frames (14x12) the bees will make good use of the space and will build fresh comb downwards from the bottom bar. Commonly the cells are made slightly larger for drone brood as the bees are not forced to follow the embossed pattern on a sheet of foundation. The drone comb can then be removed as part of a pest management program when sealed drones are present.

Circled in red are normal worker cells the other cells around these are larger and will be used for the drone brood.

This then saves the colony from having to modify their existing worker sized cells for this propose, this is also an advantage for the bee keeper to assist in dealing with the Varroa mite as the fresh drone comb is likely to attract and contain the highest levels of the Varroa due to the drone bee taking on average 24 days from egg to male bee. Tens to hundreds of Varroa can be removed in one go without the need for toxic chemicals, Its a win win for bee and bee keeper.

Another feature many bee keepers like about the National hive is the entrance block which can be turned or removed to give a different entrance size depending on the time of the season. Although you may well read some conflicting advice it is generally recommended a small entrance size is kept in place if a mesh floor is used throughout the season and only removed for a few weeks a year during the honey flow.

During the winter time when we tend to suffer higher wind speeds and driving rain and the treat of woodpeckers it is worth securing the hive with a cargo strap and cover the hive with a wire mesh like chicken wire or pin plastic bags on all four sides making sure the entrance is kept clear.

Top Bar Hives

I have made a few over the last year of different designs.

This was the first of the top bar hives I made. It was far to big and the combs would have been difficult to inspect as there would have been a high risk of them breaking. This hive has now been recycled and used to make the base of the Dartington long hive I made. Although I now wish I had kept it as it would of made for an interesting hive to study the yearly expansion of combs.

This next hive design was a copy of a hive I saw when our association went to visit Tony Herbert near Salisbury. I have since modified the folding doors by adding another layer of wood but this has caused the doors to warp, so I will need to rethink and redesign the doors. I made a super to fit this hive which can also be used to house a small feeder under the roof.

This excellent TBH was designed by Phil Chandler of www.biobees.com and although it looks very small it is in fact four feet long and has a greater volume than a National hive. This design will make an ideal hive and it is also adaptable to raise queens and make splits from a colony with ease. The design is very simple and uses follower boards to divide the hive into different sizes depending on what is required. Several different entrance holes are made and then plugged with corks when not required. The plans of this hive are free to download.
http://www.lulu.com/content/815182

This hive is based on a design by www.backyardhive.com the internal space in this hive is much bigger than the hive above and also has an viewing window with a removable cover to allow the bee keeper to quickly peer inside with out needing to open the hive. This design also can use a follower board to keep the internal space slightly bigger than the colony needs at the time to help conserve the heat. Once a colony has had time to build up this hive could hold a colony of over 90,000 bees and still have plenty of space.

Total cost of all the above hives I would say is about £120 for all the wood, glue and screws.

Top bar hives can be made from any thing from a large plant pot to an old barrel and are by far the cheapest form of hives, if you make your own. It doesn't need to look pretty to make a great hive.

The top bar hive pro's and con's compared to conventional 'framed' hives

Pro's

- The colony has no barriers to contend with like queen excluder's
- During inspections there is less heat loss, so less stress to the colony
- Most designs can be simply divided in two using a follower board making artificial swarm splits and queen raising very simple
- No heavy lifting of supers
- All combs are natural, so no man-made foundation required
- Cheaper, very simple to build to your own requirements
- No expensive additional equipment required
- Closer approximation of a hollowed out tree which a feral colony would use

Con's

- The combs are only held from above so are considered fragile
- Reduced amounts of excess honey as the bees build their own fresh comb
- Fewer bee keepers use these hive so expert advice maybe limited
- Some designs are considered to be cumbersome and non-migratory
- Different designs means equipment tends to be bespoke

Top Bar bee keeping pre-dates all the other types of hives, well before Victorian times when the 'frame' hives were first introduced to maximise yields of honey for commercial reasons without killing the colony in the process. As a result the top bar hive numbers declined rapidly to the point that even today many bee keepers frown on their use quoting some of the con's listed above. However with all the problems faced by bee keepers the top bar method of bee keeping is considered to only be one step away from a feral colony in the wild.

The bees are able to manage their own nest without the clutter of the frames and man-made foundation which could well be contaminated with also sorts of unknown chemicals. The bees know what they need and are perfectly capable of building the comb the way they want it and to the correct cell sizes to cater for drones, as a result there is no need for them to tear down worker cells to convert to drone cells as they do with foundation in frames.

During an inspection the bee keeper starts from the back of the hive, firstly removing a couple of unused bars to gain access before moving forwards. When bars of honey comb are taken out they are simply replaced with new bars and the heat in the brood nest area is retained as it is towards the front of the hive where the queen and most of the colony is left undisturbed in the warmth. Less stress to the colony is always a good thing, as the colony does not have to reheat the hive.

The top bars can be made from almost anything from strips of wood to bamboo canes, to best mimic the spacing of combs in a feral hive it is recommended the brood nest bars are made 33-35mm wide and honey bars anything up to 35-44mm. Starter strips can be used to help the colony build a straight comb, each keeper has his own favoured design from a thin strip of wood to a bead of wax melted along the centre line.

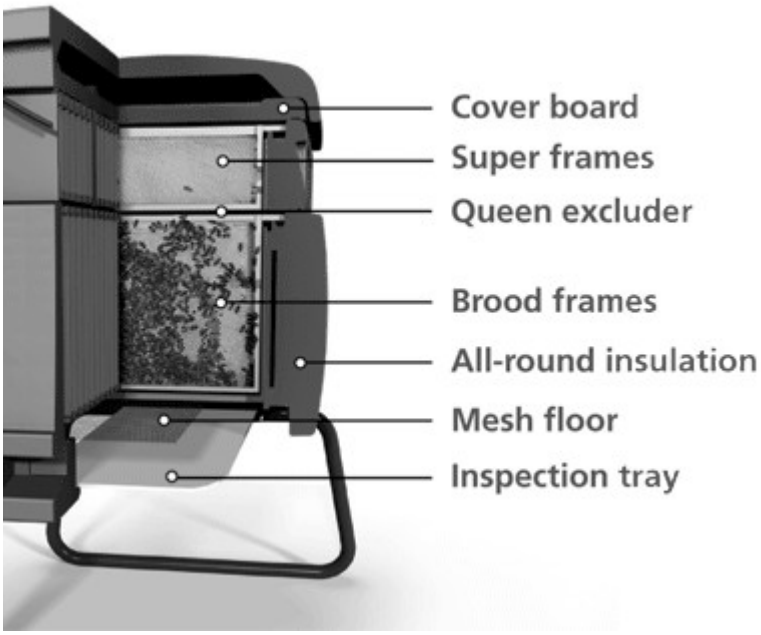
Dartington

Long deep hive 1975

This is my home made version of the Dartington Long Hive, accentually this hive is a double length Deep National hive, although the brood box can be divided in half if two colonies need to share.

The Dartington Hive is not a common type of hive in the UK as once it is in place it is far to cumbersome to move with a colony in it. Robin Dartington describes this hive as a break-away from the conventional approach to bee keeping. Focusing instead on understanding the life urges in the colony, centred on the queen, rather than the mechanical colony behaviour. His book New Bee keeping in a long deep hive (pub. 1985) Is an excellent guide to the management of this type of hive although the principles for each season are the same as a standard hive, until the colony is preparing to swarm when the owner just needs to make a few simple adjustments to satisfy the colonies needs without needing to have on-hand a whole new hive and a complete set of hive equipment ready.

In recent years the Dartington concept has taken a twist and they are now being aimed more at the urban bee keeper by www.omlet.co.uk and without doubt this hive will last many years longer then wooden hives as its made from plastic.



As you can see from the picture this hive contains all the same parts of most other hives.

A complete hive will cost £465 so it may not be suitable for those on a tight budget. Reading through some of the reviews of this hive is interesting as it clearly has the Marmite factor.

Love it or loath it.

WBC
1890

WBC Hive

Named after the inventor, William Broughton Carr, the WBC has become an iconic and highly recognisable beehive design. It is based on the same principles as the Cheshire and Cowan but with an extra outer wall. This provides the bees with additional insulation and quickly became popular for its looks. However, it was rarely used commercially because it was complex and costly to make and also inconvenient to use as the outer covers had to be removed each time for inspection.

William Broughton Carr was a man of many talents and during his time he introduced the metal ends used for spacing frames and also the shallow frame size, which is by far the most used frame in supers still today.

The WBC hive is still the iconic symbol of British bee keeping and is widely used throughout the UK and makes a lovely feature in any ones garden who wishes to keep a small number of these hives.

Hive Type	Dimensions	Brood box cells	Bee Space Brood Comb area of both sides	Full Super Weight (Approx)	No of Frames in the Brood box (Brood Frame size)
WBC	19 7/8" x 19 7/8" 505 mm x 505 mm	45000	Bottom 199 sq. in	25 lbs 11.36 Kgs	10 (14" x 8 1/2") 356 mm x 216 mm

With a prolific queen who can lay between 2000 and 3000 eggs a day the number of free cells in the brood box is considered to be too small, careful attention is required during the spring time to avoid the colony swarming.

Smith

This hive was named after Mr W Smith of Innerleithen, Peebles, Scotland who designed it with Scottish weather conditions in mind, it is based on the American Langstroth design but kept to the basic concept of 11 or 12 British standard frames. Its box shape construction was kept simple compared to the National. The frames used have short lugs which rest on a rebate cut into the top of each box. National frames can be used in this hive although the end lugs will need to be cut down to fit.

Hive Type	Dimensions	Brood box cells	Bee Space Brood Comb area of both sides	Full Super Weight (Approx)	No of Frames in the Brood box (Brood Frame size)
Smith	16 3/8" x 18 1/4" 416 mm x 463 mm	50000	Top 199 sq. in	25 lbs 11.36 Kgs	11 (14" x 8 1/2") 356 mm x 216 mm

With a prolific queen who can lay between 2000 and 3000 eggs a day the number of free cells in the brood box is considered to be too small, careful attention is required during the spring time to avoid the colony swarming, although many Smith hive owners turned to using a brood and half box to get round this issue although this practice solves some problems it does take longer to manage then from this many Smith Hive owners then progressed on to Deep 14" x 12" frames.

Commercial

Commercial hives are exactly the same external dimensions as a National hive, but instead of having a rebate the hive is a simple cuboid. Because of this the frames are larger and have shorter handles or lugs. The brood box is picked up using small hand holds cut into the external wall of the hive. Supers have this same feature, which can make them difficult to hold when full of honey. Some bee keepers therefore use National supers on top of a Commercial brood box.

Hive Type	Dimensions	Brood box cells	Bee Space Brood Comb area of both sides	Full Super Weight (Approx)	No of Frames in the Brood box (Brood Frame size)
Commercial	18 5/16" x 18 5/16" 465 mm x 465 mm	70500	Bottom 275 sq. in	25 lbs 11.36 Kgs	11 (16" x 10") 407 mm x 254 mm

The Commercial is considered a good sized hive and the number of free cells should be more than enough space to prevent early swarms.

Modified Dadant

1917

Similar in construction and design to the Langstroth the Dadant hive was introduced in 1917 by Dadant & Sons, the American manufactures of bee keeping equipment. Charles Dadant favoured the large brood box, deeper frames with a slightly wider spacing. The modified Dadant hive is one of the biggest hives in use today with a brood area of almost 4000 sq ins which makes it very popular with commercial bee keepers.

Hive Type	Dimensions	Brood box cells	Bee Space Brood Comb area of both sides	Full Super Weight (Approx)	No of Frames in the Brood box (Brood Frame size)
Dadant	20″ x 16 1/4″ 508 mm x 413 mm	85000	Top 340 sq. in	40 lbs 18.18 Kgs	11 (17 5/8″ x 11 1/4″) 448 mm x 286 mm

Frames sizes.
Top Bars – 19″ long
Bottom bars – 17 9/16″ long
Deep side bars – 11 ¼″ long
Shallow side bars – 6 ¼″ long

Brother Adam used this type of hive and noted in his book Bee keeping at Buckfast Abbey (1974) that the three hives Modified Dadant, British Commercial and the Langstroth Jumbo had starling results compared to British Standard sized hives and others with double brood boxes. The larger hives produced approximately double the surplus honey than standard sized hives, and thus he changed all the hives over to Dadant's.

A MD brood box can store over 70 lbs and a super approx 43 lb which is perfect for those who wish to encourage a large colony and in return be rewarded in a good season with plenty of honey, but they are not suitable unless you are comfortable with lifting these sorts of weights.

Langstroth

1850

Lorenzo Langstroth

Named for their inventor, Rev. Lorenzo Langstroth, these hives are not the only hives of this style, but they are the most common. Langstroth patented his design in 1860 and it has become the standard style hive for 75% of the world's bee keepers. This class of hives includes other styles, which differ mainly in the size and number of frames used. These include Smith, Segeberger Beute (German), Frankenbeute (German), Normalmass (German), Langstroth hive, Modified Commercial and Modified Dadant, plus regional variations such as the British Modified National Hive.

Langstroth hives make use of *bee space*, a characteristic of Western honey bees which causes them to propolis small spaces (less than ¼ inch), gluing wooden parts together, and to fill larger spaces (more than about 3/8 inch) with wax comb, but to hold an intermediate space open for bees to pass through. His cleverly designed hive makes use of bee space so that frames are neither glued together nor filled with burr comb - comb joining adjacent frames.

Langstroth hives use standardized sizes of hive bodies (rectangular boxes without tops or bottoms placed one on top of another) and frames to ensure that parts are interchangeable and that the frames will remain relatively easy to remove, inspect, and replace without killing the bees. Langstroth hive bodies are rectangular wooden or styrofoam boxes that can be stacked to expand the usable space for the bees. Inside the boxes, frames are hung in parallel. The minimum size of the hive is dependent on outside air temperature and potential food sources in the winter months. The colder the winter, the larger the winter cluster and food stores need to be. In the regions with severe winter weather, a basketball-shaped cluster typically survives in a "double-deep" box.

Ten frames side-to-side will fill the hive body and leave the right amount of bee space between each frame and between the end frames and the hive body. Langstroth frames are often reinforced with wire, making it possible to extract honey in centrifuges to spin the honey out of the comb. As a result, the empty frames and comb can be returned to the beehive for use in the next season.

Quoted from http://www.wikipedia.org

Langstroth Jumbo

1905

This modified Langstroth hive was introduced in 1905 by A. N. Draper in the USA. It uses a brood box deeper by 2 3/16" than a standard Langstroth. In 1968 E. J. Tredwell at Sparsholt College Winchester began to advise students to adopt this hive and this practice was continued by Mr John Cossburn who taught Mike Holloway of our association.

Hive Type	Dimensions	Brood box cells	Bee Space Brood Comb area of both sides	Full Super Weight (Approx)	No of Frames in the Brood box (Brood Frame size)
Langstroth	20" x 16 1/4" 508 mm x 413 mm	61400	Top 272 sq. in	30 lbs 13.64 Kgs	10 (17 5/8" x 9 1/2") 448 mm x 241 mm
Langstroth Jumbo	20" x 16 1/4" 508 mm x 413 mm	85000	Top 340 sq. in	40 lbs 18.18 Kgs	11 (17 5/8" x 11 1/4") 448 mm x 286 mm

Due to its large brood frames the queen always has plenty of space to lay even during the spring build up when the colony is rapidly expanding. The Hive is treated the same as a regular hive throughout the season, although one or two frames can be replaced with dummy boards to reduce the box size for winter time or if the queen is not a prolific egg layer.

Some would argue this hive is to large and would say its not suitable for all bee keepers as its weight makes it to cumbersome to move, but for those keepers who want to move their bees once or twice a season to maximise honey production the colony needs to be strong with a good ratio of foraging bees to young bees.

Langstroth

Langstroth Jumbo

Warré Hive

(?-1951)

Responding to the obvious decline in bee keeping in France since his youth, Warré experimented with some 350 hives of various designs with the aim of producing a hive that was simple, economical, bee-friendly and assured a surplus for the bee keeper. The result was his People's Hive (*Ruche Populaire*) whose construction and operation he described in his book Beekeeping For All (*L' Apiculture Pour Tous*, 12th edition).

Warré's hive comprises tiers of identical boxes fitted with top-bars, but no frames. Its essential design and usage features can be summarised as follows:

- hive-body box internal dimensions 300 x 300 x 210 mm, with projecting handles,
- eight 36mm centred 24mm wide top-bars resting in rebates in each box (NO FRAMES),
- wax starter strips under each top bar (NO FOUNDATION),
- flat floor, notched with a 120mm wide entrance, alighting board,
- coarse weave cloth covering the top-bars of the top box,
- 100 mm high 'quilt' boxed with wood and filled with straw, sawdust, wood shavings etc., retained with a cloth,
- gabled roof containing a ventilated 'loft' and separated from the quilt by a mouse-proof board,
- the bees build natural comb in the first (top) box and extend downwards into further boxes,
- new boxes are added at the bottom,
- one or more boxes of honey are harvested from the top after the main flow,
- the bees winter on two boxes of comb containing a minimum of 12 kg stores (France),
- honey is harvested by draining, or by centrifuging combs in baskets,
- at the spring visit, the hive is expanded by one or more boxes, containing with starter strips or comb.

A very important feature of Warré's method is that the hive is opened in the strict sense only **once a year**, namely at harvest. In spring the addition of boxes underneath does not necessitate a hive opening in the sense that the heat is let out. The importance of the retention of nest scent and heat for bee health and productivity was discussed by Johann Thür in his book Bee keeping: natural, simple and ecological (1946) which also discusses Abbé Christ's (1739-1813) hive that is almost identical in concept to Warré's.

No frames

Even in early editions of *Bee keeping For All*, Warré advised against using frames as shown in the 5th edition:

'Nowadays, I recommend without hesitation the People's Hive with fixed combs, even for very large enterprises. [...] However, out of respect for the freedom of my readers, I will describe the People's Hive in its three forms: fixed comb, ordinary frames, open frames with closed ends.

This web site is premised on the 12th edition of Bee keeping For All which describes the top-bar version of his hive only. But, for the sake of completeness, we provide a translation of the pages of the 5th edition describing the two versions of his hive with frames, the latter having no bottom-bars.

Present day bee keeping with the Warré hive

The geographical focus of Warré bee keeping is France and the hive was also initially used in Belgium and Switzerland. The first in use in Germany and Russia were populated in 2006. An experiment was started with six modified www.mygarden.ws/ModifiedAbbeWarreHive.htm In 2008, bee keepers in Canada, USA (including Alaska) and Spain made Warré hives in readiness for spring 2008. By late 2009, Warré bee keepers were also known in Australia, Austria, Brazil, Croatia, Estonia, Italy, Japan, Latvia, New Zealand, Poland, Romania, Serbia, Slovakia, Sweden and Uruguay.

There is Warré bee keeping thread in the forum at *Top Bar Bee keeping with the Barefoot Bee keeper* www.biobees.com/forum

Technical drawings for constructing an authentic Warré hive - http://www.selbstversorgerforum.de/bienen/bilder/Emile_Warre_Technische_Zeichnungen_engl.pdf

Complete newcomer to bee keeping? Please read the page of advice on - http://warre.biobees.com/beginner.htm

Summary

If you want to manage your colony and preform inspections and create splits and prevent swarming this type of hive is not for you. Although its principles and design are some thing to be admired.

I would recommend reading the English translation of his book although at times it can become a little confusing but never the less it is aimed more at the purist type of bee keeper who wants to be hands off and allow the colony to look after themselves from year to year, even if the colony builds up and divides by swarming. The principle behind this is to catch the swarm and re-home them in another hive or use a bait hive to attract the swarm.

Left - Marc Gatineau's transparent Warré hive on to its third box. From http://www.apiculturegatineau.fr

(Left) If you saw this hive at a show I would bet it would be the main attraction in the bee and honey tent, although being made out of acrylic or perspex it would need to be kept in the shade and covered when not on display most of the time. Despite the down sides of needing either a hoist or three people to help manage the hive when a new box is added, the purist side of me would love to build this see through hive.

Rose

One-size-Box-Hives

Rose Hives simply have one box size and one frame size, each box measures 460mm x 460mm x 190mm deep which is the same as a National box but shallower. This allows the bee keeper to interchange any box or any frame in any hive. One minor draw-back is the weight of one of these boxes when full of honey will be 30-35 lbs which is difficult to manage for some keepers.

There is a pdf file on the website which explains how to manage this hive but to give you a quick summary.

The management of this type of hive is simple, over winter the bees are contained in two boxes, early into the season the first two boxes are swapped around when the brood starts to expand then the third box is added in-between the first two boxes and then another box is added again if required up to around June time.

During the season the bee keeper just adds another box on top of the bottom box as and when required until the end of the season. The bee keeper then takes all but the bottom two boxes away for extraction and the bees are left to build up for winter.

There is no need for a queen excluder as the upper boxes will be clear of brood and by the end of the season the top boxes will hopefully be filled with capped honey.

This method encourages and needs a very large colony to maximise the comb building and the numbers of flying bees to bring in large amounts of nectar and pollen throughout the whole year.

This type of hive would not be suitable for every bee keeper because of the heavy lifting required during management. However the Rose box is sold at Thorne's for only £10 a box, which is excellent value for those on a budget. Be sure to buy the correct size frames and foundation for this hive. Standard National frames are too deep for these boxes.

Rose website is www.rosebeehives.com

In the picture above one hive has nine boxes the other eight they could hold 7x30=210lbs of honey and 6x30=180lbs of honey if they hold approx 30lbs each. Not counting the bottom two winter boxes.

Which hive is the right one for me?

There is no right answer to this question, but I hope you have found this guide to be useful in some small way with a little bit about some of the popular types of hives being used today. As you can see there is a wide variety of equipment to choose from, some of which in my opinion is far better than others once you take into account modern prolific queens, your region, the local climate, weather and of course the most important of all the flowers, plants and trees where you live.

Consider the following before you buy.

Do I want a large hive and large colony
Am I capable of lifting this hive for inspections or it needs to be relocated
Are spares and replacement parts easy to obtain for the hive
Do other local bee keepers use the same equipment in case of a problem
Design or functionality, beauty or beast (WBC - Dartington)
Cheap or expensive (Top bar - others)
Storage space for additional equipment

Plus no doubt a few more that I haven't listed, but before you spend lots of money have an idea how much you are willing to spend and remember the additional cost of frames, foundation, feeders, smokers, hive tools and of course your protective gear. Bee Keeping doesn't have to be expensive or time consuming unless you want it to be. There is no one method or answer that will suit everybody.

Provided your bees are given a fair chance they will hopefully reward you with a small amount of honey every year. Sooner or later you will have a problem, thankfully every association will have members who are willing to assist you, most of which are more than happy to answer an email or chat on the phone and some will be happy to visit your hive and advise you first hand.

Don't be afraid to ask for help, as far too many bee keepers give up after one bad season.

Two golden rules for New Bee keepers

Only open your hive if you really need to inspect it, even if the weather is fine as this is one of the biggest design faults with traditional hive designs and the most likely cause of so many problems by a novice bee keeper who just wants to take a quick look inside the hive. Imagine for one minute how you would feel if on a cold day some one opened all the doors and windows in your house and let all the heat out. Its simple enough for you to close them all again and turn on the heating, but the bee's don't have this luxury they need to reheat the hive back up to about 93 degrees Fahrenheit or 34C which not only takes time but a lot of energy and on top of this there is a very good chance some of the newly laid eggs and larvae may be chilled and will die if they are not kept warm.

What to look for before opening a hive

Numbers of bee's flying in and out
Are they bring in pollen and if so what colour so it can be checked on a pollen chart
Are there guard bees at the entrance
Are there lots of bees bearding or gathering out side the entrance
Are there wasps trying to get in
Is there any fighting at the entrance
Look on the ground for dead bees, larvae or anything else other than a few bees who may of died in the hive
Check the colour banding of the dead bees to confirm if they are yours or invaders
Look for drones (males) if any
Are they aggressive / defensive when you approach the hive, loudly buzzing and bouncing off your vail
Listen for any differences in the hive hum
The smell of the hive is it pleasant or foul
Check the Varroa tray (if fitted) for signs of Varroa, norsema or other signs of problems

Each of the above should tell you some thing about the condition of the colony, so much so that some experienced keepers don't even need to open the hive to check inside.

In closing I'll simply say

Be good to your bees and if your lucky they will be good to you.

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The information given is from several different sources.
A Case of Hives by Len Heath
http://www.wikipedia.org
http://biobees.com
http://www.thorne.co.uk
http://www.rosebeehives.com
Plus a few other sites, which I am very grateful to for allowing me to use their pictures and descriptions.

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