

Recently reading Tom Seeley's "Honey Bee Democracy" and "The Lives of Bees" got me thinking whether bees would choose the types of hives we stuff them into if they had a choice? Tom's research has shown that bees prefer a cavity of around 40 litres in volume with an entrance of around 6" x ½ "somewhere towards the bottom of the cavity, the whole thing being sited ~ 12ft above the ground. The natural shape of the cluster being something like a rugby ball stood on end, which fits nicely into the shape of a hollow tree cavity. When that cavity gets too small they build cells and swarm. That cavity is approximately the volume of a 10 frame WBC brood chamber plus one WBC super.

Like many people I started beekeeping as a 14 year old teenager around 1965 with a swarm. It helped that I already knew something about them having been used as forced labour by my father since about the age of around nine. My father gifted me a clapped out WBC hive and left me to it. The floor was falling apart and it had a wonky leg, so I spent my pocket money on timber, and using my newly acquired school woodwork lesson knowledge made a new floor, complete with geometrically marked out and accurately cut sloping legs. I proudly showed my father who commented that I should have stood the old floor on bricks and made a new roof instead. He said the bees wouldn't care about the floor but would much prefer a leak proof roof. A valuable lesson.

At the time many of our rural Cardiganshire villager neighbours worked on the land and quite a few kept a couple of colonies of local dark, docile local bees in WBCs or the occasional National hive in the back garden. High intensity, high input high output farming hadn't reached Cardiganshire so most soil Nitrogen capture was still dependent on the wild white clover. Although a dairy area, most farms were less than 100 acres and twenty cows or fewer. The main honey crop was the clover flow from the middle of June to the end of July.

Roll on 50+ years and the 20 cow herds have become 300++ cow herds, most of the wild white clover has gone, its work replaced by chemical Nitrogen fertilizer courtesy of Mr Haber, the German WW1 chemist. Many hedgerows have also been grubbed up, and most of the smaller farm lands have been swallowed up by neighbours and their dwelling house and outbuildings plus a tiny parcel of land sold off as "small holdings". Italian and other foreign bees were imported from the early 1970s onwards along with Varroa in the 1990s. The village shops have disappeared and fewer people work on the land. The villages have mostly become dormitories for commuters.

My WBC hive having been recycled as kindling 50 years ago, by the 1980s, and like my father, I had all my bees in the ubiquitous National hive by the 1970s. Swarm control management was a system of bleeding off resource in the shape of a frame of two of brood and replacing these with foundation during the swarming season. The bled off resource was used for raising queens and making nuclei.

Sometime during the early 1980s I was summoned to "attend to" a swarm at a very nice property, formerly a sea Captain's Victorian house set in 13 acres with a lovely view over the headland out to sea. I found two MD beehives in an orchard and a large swarm hanging in an apple tree. I "attended to" the swarm and found out that the property belonged to Professor Tecwyn Jones, a government entomologist and friend of Eva Crane. I received a phone call from his London home that evening; it turned out that he'd been given the bees and hives and that these had been delivered and left whilst he was on overseas development in Africa. Could I sort everything out and look after the bees for him? Yes, OK.

I never did find out exactly where the hives came from, but they were MD and there were six supers, plus feeders etc. in the garden shed. Originally I believe they were Manley's as there were "Chiltern Honey Farm" record cards pinned to the crown boards. Eventually over the next couple of years those MD hives ended up with the Jenkins strain of bees in them, under my care. That arrangement went on for some years, with me looking after the bees and getting the honey, giving the Professor his share each year. Eventually he moved and gave me the hives; I still have and use them.

Over the years I have bought second hand a number of Langstroths hives that are identical to the MD except 2" shallower. I bought them because they were cheap because nobody else wanted them.

My father passed away in 2009 and I inherited his bees and beehives. As a result I now have a mixture of BS National and Modified Commercial (16x10") hives from his estate plus a mixture of MD and Langstroth hives of my own. Both my Langstroth and MD hives are 20" x 18 ½ " footprint, i.e. my Langstroths are identical to the MD except 2" shallower. All take 11 frames in the brood chamber, MD or BS narrow spacing (38mm) not the narrower Langstroth (35mm). I know one should only have one set of standard kit, but I am too old and sentimental to change now. I believe my Langstroths are similar to some of the hives used in New Zealand, but can't confirm this. They are certainly listed on Dave Cushman's web site.

I am not a fan of giving the queen access to more than one brood box, like frame metal end spacers and lifts on a WBC it just makes extra work for no purpose. Therefore upshot of the above is that I have seen over the past 35 years how our local Cardiganshire bees behave in single brood box hives of various dimensions.

Around twenty years ago I went through a phase of using open mesh floors as a means of Varroa control, but in recent times as they wear out they get replaced by solid once more. They seemed to make little difference to the Varroa numbers, but did make monitoring easier using "sticky boards", and do provide ventilation for migratory beekeeping. However, I don't believe bees would choose a mesh floor given a choice as I have never seen a swarm choose a mesh floored hive to set up home, but have often seen them choose, *inter alia*, a pillar box, a chimney, a hollow cast iron pillar and cavity walls. The scouts probably feel they couldn't defend a mesh floored hive.

Looking holistically at the writings of brother Adam, particularly what he wrote during the early years makes interesting reading. Over his lifetime he blew hot and cold on the characteristics of the "Old British Black Bee", the AMM. He wrote once that a good AMM queen would lay out 8 BS frames of brood under the right conditions. I agree. Those 8 frames of brood become 24 frames of bees in three weeks' time if none die off, a huge colony.

To sum up, what is the best set-up for the most efficient system of beekeeping that is most in tune with the bees needs and produces the most honey per pound of money spent and man hour of work input? My bees are the result of 50+ years of development of local stock and, according to Dylan Elen's DNA testing are 80%+ AMM. They are restricted in a single National Brood Chamber whilst a full sized MD is too big to hump around to different crops, although the MD does allow the bees to have a natural "rugby ball on end" nest shape. After wrestling with my bees in all these different types of hives over many years I have found that:-

- The biggest crops I have ever harvested have been from MD hives, which never needed winter feeding afterwards.
- Modified Commercial 16 x 10" and my version of Langstroth are about BS National +30% brood space and are about right for my bees.
- My Langstroths take MD 6.625" deep supers which hold approximately double the honey of a National super. – Same number of frames to uncap and spin for twice the honey. No metal ends to jam and have to be fiddled with.

In conclusion, my most efficient hives are the 11 frame Langstroths using MD supers. Whilst the Modified Commercial 16 x 10" brood chambers are approximately the same size, the National supers they take are too small and fiddly when it comes to extracting. As a result most of my bees are in 11 frame Langstroths, I use solid floors, some of which are adapted French Nicot floors. I prefer framed wire queen excluders, but adapted Nicot plastic excluders are cheap and effective, my preferred supers are MD, twice the honey for the same amount of extracting.

If I was setting out to be a beekeeper starting from scratch, the best hive is probably the ten frame French version of Dadant. It allows the correct brood natural space and shape for the bees and the whole thing is very practical in use. Cost effective plastic components such as floors and queen excluders are available from Nicot. Unfortunately, although Monsieur Dadant was a Frenchman who had moved to America and come up with a hive based on Langstroths but 2" deeper, when the idea got re-imported to France some continental genius decided that an inch was 25mm, not the 25.4mm it actually is. This means that the 20" long Imperial Dadant dimension becomes 500mm and not 508mm. This means that the frames are 8mm shorter and nothing fits, or is interchangeable with any of our imperial kit.

National, Langstroth and MD Brood Boxes side by side National & MD Brood frames below

