

Why Warré?

David Heaf

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This is a very abbreviated reply to Glyn Davies' *Why I worry about the Warré hive* in the last issue. He presented several features of the hive but omitted some advantages which may not be immediately apparent to a beekeeper committed to frame beekeeping.

Émile Warré's (1867-1951) People's Hive is a vertical top-bar hive with eight bars in each box, supporting near-natural combs. Foundation and queen excluders are not used. It is extended below by nading additional brood boxes. Boxes are harvested at the top. Its deep quilt containing plant fibres, replacing the top cover blanket mentioned by Davies, insulates and buffers humidity. Supering is done only in localities with artificially high nectar abundance.

Exactly how popular is the hive worldwide? There are over 580 members in the English e-group. France and Germany have several Warré e-forums. Many more 'Warréors' are not online. The hive did not become popular in Warré's time because of aggressive marketing by frame hive manufacturers. Beekeepers became entranced by the possibility of removing, shuffling and transferring framed comb. Gilles Denis, near St. Etienne, runs 500 Warrés. Roger Delon ran 600 Warrés in the Vosges-Jura. There are other professionals and sideliners in France and Belgium, not to mention the countless hobbyists.

A Warré, even with windows in each box, is much cheaper to buy than a National. It is also cheaper to run as there are no foundation overheads and the necessary honey extraction equipment can be found in an ordinary kitchen. Frères' and Guillaume's cost-benefit comparison of their Warré and frame hives shows that honey from frame hives costs 50% more to produce. Furthermore, far less labour is needed to produce Warré honey and the number of apiary visits is reduced, which brings an additional saving in fuel.

Not only Warré, but also the famous Berlepsch in Germany, noticed foulbrood increased when frames arrived. Some assume the correlation was because frames made foulbrood more noticeable. This seems unlikely as skeppists such as Pettigrew (1875) had no difficulty recognising foulbrood. It had already long been studied and reported. Warré's observations are reinforced by those of Goodwin et al. and two other independent researchers: foulbrood is commoner in frame colonies than in feral/wild colonies. Properties of natural nests and combs together with feral behaviour probably explain this. It is a research question. Skeps, which frame hives replaced, are, like Warrés, closer to ferals than to frame colonies. Given the observed difference in foulbrood incidence, which hive should you be more worried about having near yours: a Warré or a National?

Warré, Davies and myself agree on the need to understand hygienic bee husbandry. We differ in how we do it. Prevention is better than cure, so Warré emphasised promoting healthy colonies through the design of his hive and its management. Its healthy features are:

- enhanced thermological and hygrolological properties;
- near natural comb;
- no foundation (nowadays contains pesticides);
- minimal disruption of nest integrity;
- narrow hive format, so no starvation with stores present;
- wintering on its own honey and
- no routine sugar feeding.

Apiologists point to features of modern beekeeping which favour not only the spread of disease but also an increase in disease virulence. Vertical pathogen transmission, e.g. through swarming, selects *avirulence*. But beekeepers suppress swarming and move frames, brood, comb etc. between colonies. This favours horizontal pathogen transmission. Horizontal transmission selects disease *virulence*.

Bees do indeed rapidly move honey placed below the nest to the top. They are driven by a powerful instinct to fill empty space there. Analogous to techniques of intensive animal husbandry, this instinct is exploited by *supering*. Depending on nectar supply, it forces bees to store more than their needs for one or even two winters. But *nadiring* causes less physiological stress. Less stress means less disease. Organic farmers see this in lower vet fees. Warré beeks accept the reduced honey surplus that goes with nadiring.

As Warré boxes are broods, honeycomb may contain foulbrood spores. However, both foulbroods are commonly also found in honey from frame hives. How can this be? Bees store nectar for a while in frame hive brood comb. They also move ripened capped honey from brood to super comb. They vector pathogens. Frame beeks use the same super comb for decades.

To recap the cornerstone of hygienic beekeeping with the Warré: new empty boxes are nadired and honey boxes are taken off at the top, honey extracted and wax rendered. This effects a Bailey comb change, sometimes two or more in good years. Comb renewal is built into Warré management, so there's no need for special provision for it. It costs not a penny in foundation. Queens like to lay in new comb. Bees like to put honey in ex-brood cells. Comb replacement is long associated with pathogen reduction. It happens in wild colonies.

We nadir either all at once in spring when the hive is light, or as required, with the help of an assistant or a lift. It neither perturbs the bees nor wastes the hive heat in forcing bees to burn more honey and make needless effort, predisposing to disease. As Warré boxes are half the volume of a National brood, they are far lighter and thus suit those with limited strength.

Most beekeepers, including frame beekeepers, do not know what the Varroa population is in their hives. I occasionally nadir mesh floors for 72-hour mite checks, but do not treat for Varroa. My first Warré colonies are completing their fourth season untreated. Some Warré beekeepers treat with thymol delivery systems. But the sustainable way with Varroa is bee-mite co-adaptation.

Warré combs are carefully removed for inspection (including by officials) with a top-bar comb cutter, and placed in a viewing frame. Those who need something more robust use either Delon frames (that permit near-natural comb), or Denis semi-frames. Even a frame version of the People's hive exists.

Queen performance is judged holistically, i.e. on the whole colony. Colony performance is judged by comb growth, a host of entrance and floor phenomena, hive sounds and smells etc. Storch's book is the bible for this. Windows help beginners, but are dispensable as one gains confidence.

Globally, most Warré hives are populated with packages of known provenance. Aim for reputable sources. Swarminess is only one of the buying criteria. Some 'grow' nucs and frame colonies into Warrés, but this is slow. Warré recommended using natural or artificial swarms of over 2 kg.

The environment has indeed changed since Warré's day. Vast monocultures or 'green deserts' cover our agricultural landscapes. Wild flowers are less abundant. Pesticides pollute the apisphere. The Varroa mite is here to stay. Frame and Warré beekeepers alike face new challenges.

An enjoyable feature of beekeeping is its diversity. Beekeepers have a choice of hives and methods to suit not only their pocket, but also their world outlook. Beekeepers who take a more ecocentric view that favours hives for bees rather than for beekeepers, find the People's Hive amongst those hives that are the most *bee-appropriate*, the most *bee-friendly*. More anthropocentric beekeepers will prefer hives that give them far more control of the minutiae of colony processes. I am in favour of pluralism and experimentation.

A more detailed version of this response, with references, can be found via the page www.bee-friendly.co.uk through which David Heaf can be contacted.