ALTERNATIVE BEEKEEPING

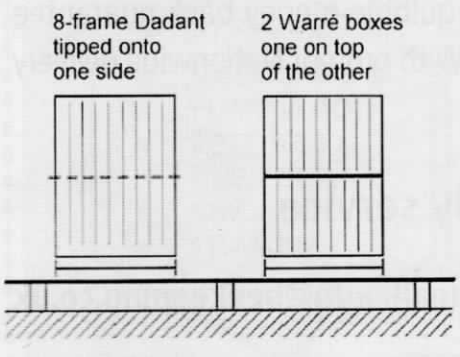
The Warré Hive: Some questions and answers

Jérôme Alphonse translated by David Heaf

WHAT should we make of the Warré hive? One has to admit that in recent years it has been introduced or reintroduced to lots of apiaries. Although it is hard to give an idea of the scale of this development one can reasonably estimate that the number of beekeepers who prefer this hive has risen to several hundred, perhaps a few thousand in France. Amongst professional beekeepers there are already a number of enterprises based on the Warré. Whilst the percentage of users is small in relation to the total number of beekeepers, it is greater amongst beginners or those extending their existing stocks. So, is it a serious alternative or just a passing fad? This is the question that we try to answer in this article.

FIRST OF ALL, WHAT'S A WARRÉ HIVE?

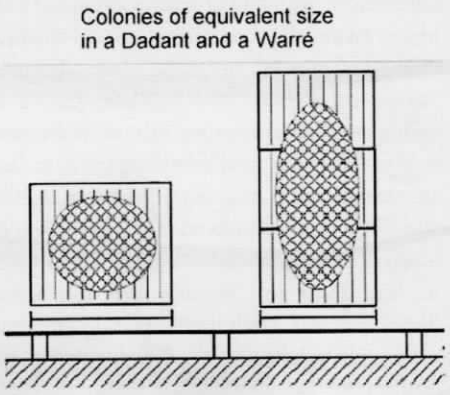
The Warré hive can be defined as a group of identical boxes of interior dimensions 30 x 30 x 21 cm that are stacked one above the other. Each box has 8 frames. This definition, which does not tell us much, could usefully be expressed by the following: take a Dadant brood box, reduce it to 8 frames, tip it on one side so it is vertical, cut it in two horizontally and you end up with two Warré boxes, one above the other.



Put another way: one can say that two Warré frames one above the other corresponds to one Dadant frame.

This means that a strong colony occupying in high season a whole 10-frame Dadant brood will occupy two and a half Warré boxes.

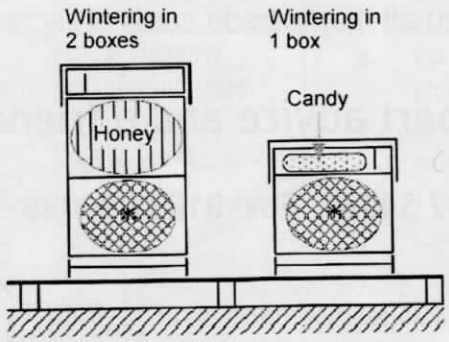
The Warré hive is the smallest hive in the category 'divisible hive' (i.e. hives all of whose boxes, broods and supers, have the same size).



WHAT DO THE BEES THINK OF IT?

It is generally observed that bees winter very well in this hive, have a rapid spring build-up and have a tendency to early swarming. However, this needs some clarification.

With Dadants it is usually held that one needs five or six well stocked frames of bees for wintering. In a Warré the rule is simple: one full box of bees suffices. This is equivalent to four Dadant frames. The 'bee farmer' would immediately deduce that for every two colonies wintered in Dadants he could winter three in Warrés. In spring the size difference quickly disappears and one ends up with three productive hives instead of two. The 'eco' beekeeper is delighted to be able to winter different sized colonies in good conditions. Who knows whether the smallest of their colonies in winter will not overtake the others in the following season?



WE CAN FEED THEM DIRECTLY ON HONEY!

As regards stores, a full box of honey is generally more than sufficient until the spring build up. Aficionados of the divisible hive are well aware that unlike hives with a body like the Dadant, where syrup feeding is essential for completing the stores, it is sufficient with Warrés to use full honey boxes to put on top of colonies with insufficient stores. Of course, sometimes one may be short of honey, in which case we can put four or five kilograms of candy directly on the top box. This is sufficient for winter.

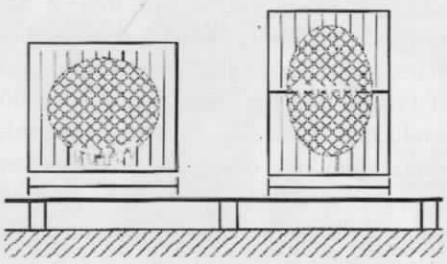
Whether you harvest all the honey or leave it all for winter, whether you are a bee farmer or an ecobeekeeper, the hive accommodates both extremes. Although copious use of sugar syrup allows its economic benefit to be enhanced, this practice is frequently frowned on as a potential risk to the health of colonies. Furthermore, supplying syrup, if it is done properly, takes up a lot of time. Usually the Warré beekeeper shares out the stores at the same time as he takes the last harvest of the summer, so he does not have to come back again. Thus, the Warré offers a choice: feed sugar syrup or feed honey, bee farming and ecobeekeeping are equally feasible. You are free to do it your own way!

As for myself, I simplify it to the extreme: I harvest all boxes from the top on 15 July until I encounter brood. This brood turns into honey in the course of the summer and I get a box well filled with honey before wintering. Therefore I do not supplement the stores with sugar syrup.

The hives build up very quickly in the spring!

The chimney-like shape of the Warré brings two major advantages to the colony inside. Firstly, maintenance of the temperature of the cluster is greatly facilitated. Secondly – and this is the most important advantage – the bees are more sensitive to changes in the temperature outside the hive. The warm spells in the spring are more readily perceived and colony development is much quicker than in a hive with a big volume. It is so pronounced that one can say that the orientation of the entrance only has a relative effect on the life of the colony. Of course, this rapid build up is not without consequences! In this little hive the bees catch swarming fever very quickly. Large patches of brood in one and a half boxes starting to be capped gives the warning signal. At the first hot spell at the end of April, the bees build queen cells between the two brood boxes and swarming fever starts a few days later.

Location of swarm cells



Swarming can of course be quite moderate (black bees making small colonies in the mountains) or very pronounced (bred bees in a favourable lowland region). But it will always be a lot more common than in large-volume hives like the Dadant.

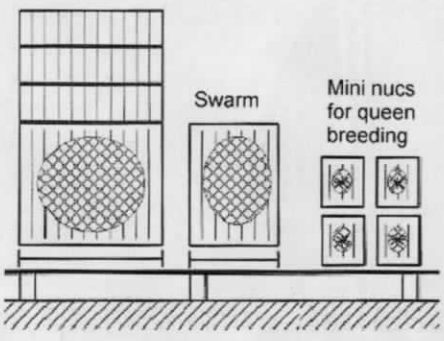
In view of this, a good number of beekeepers unhesitatingly regard the Warré hive as a Formula 1 hive that deserves a big following. But what is it in reality?

RUNNING A WARRÉ WELL

The productive management method in Dadants

To properly manage a good colony in a Dadant swarming has to be prevented to retain its potential for a maximal harvest. This generally means removing one or two frames of capped brood early in spring and putting them to use by making an artificial swarm. Some queens stemming from queen lines are raised in nuclei to replace, after selection, those of production colonies at the end of the season.

Dadant management method



Well managed, and with prolific queens, this method does wonders. It allows for not only having many big colonies which give large harvests, but also for adopting an industrial way of working by uncoupling queen raising from honey production. Plenty of beekeepers have understood this over the past fifty years and have therefore abandoned their black local bees and their 'simplistic" methods of making increase in favour of structured breeding based on pure lines and running large production colonies. In good years, the best bee farmers are therefore able to generate 20 to 30 tons of honey with two workers. Of course, to obtain yields like that, heavy machinery is essential both at the time of transporting hives and during honey processing.

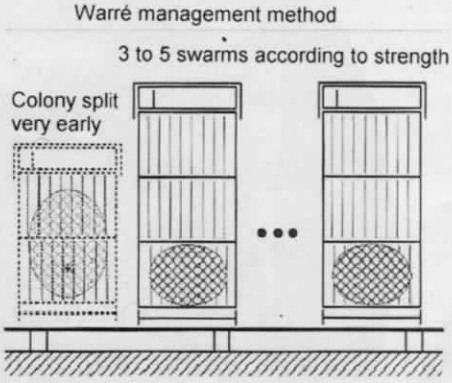
The eco-beekeeper generally does not fit into this method. Firstly, using pure bred lines invariably leads to pollution of the diversity of local ecotypes. Secondly, swarming, a process essential to the bees, is suppressed.

We need a few more years before Warré beekeeping finally arrives at a definitive method for managing Warré hives. However, such a method is already clearly taking shape.

It is a waste of time trying to stop swarming in a really strong Warré colony by simply removing combs. This constraint, far from being inhibitory, is on the contrary a real opportunity for the Warré beekeeper.

Running a Warré well means working with swarming instead of stopping it, letting the bees complete their cycle instead of preventing it. In practice, we bring forward by a week to ten days the swarming period and we divide the hives according to their strength into three, four or five swarms. It is not unusual at the end of the season to find these colonies in three or four boxes and thus to harvest one or two boxes of honey per colony. For this method to succeed well it helps to put a queen cell in each split whether the cell is produced by grafting, emergency queen rearing or by the swarming process. At the end of the season, the colonies are inspected and reunited if necessary.

Warré management method



This very simple method is especially good for harvesting a honey from all the flowers in the *terroir*. (1) It is the basic method which can be adjusted to give a number of variations according to one's production objectives.

This method may be very satisfying for eco-beekeepers, but it can equally suit beekeepers who aim for high productivity, as it offers the possibility to use pure lines, takes up less time raising queens and gives the right balance between making increase and producing honey.

HOW DOES IT ADD UP FINANCIALLY?

This method, applied in the operations of several colleagues as well as my own, gives good financial returns. We essentially work with static apiaries. Even though the honey yields are small compared with those of the intensive transhumance operations, the terroir aspect and the small turnovers allow a high price to be asked. No heavy mechanisation for transport and honey processing means reduced outlays thus securing the margins. Selling swarms is in fact an important part of the revenues. There again, the idea of the *terroir* of local bees can be a profitable advantage.

THE WARRÉ – A MODERN ALTERNATIVE?

We have seen that the Warré can be a credible alternative even for the professional approach. It responds equally to a number of problems that are all too current.

Far from decreasing, the pressure of pesticides has become more widespread in recent years. Lavender, oilseed rape and sunflowers are some of the crops that have led to the death of entire populations of bees when such crops should have kept beekeeping operations alive. The Warré hive, more attractive for terroir beekeeping than for that for a specific floral honey allows more choice and control over where apiaries are sited.

The pressure of disease

Adopting a management that includes an inbuilt cessation of laying allows a considerable diminution of infestation, especially that of Varroa which needs brood to reproduce. If you include the very clear emergence in recent years in certain apiaries of tolerance to Varroa, then stopping treatments can sometimes be seriously considered.

Offsetting losses and worthless colonies

In these troubled times it is not unusual for colonies to behave abnormally in high season or die in abnormally large numbers in the winter. Largely as a result of producing young colonies without forfeiting a harvest, Warré management copes well with these problems.

Restoration of ecotypes

In Warrés, diversity of size and yield of colonies is not incompatible with normal productivity. Thus, choosing Warrés is very helpful in restoring local ecotypes.

WARRÉ MYTHS

Warrés don't use foundation

Using foundation is a matter of beekeeper preference. It is perfectly possible not to use foundation, as that is the method for this hive. It is a lot easier to get small combs correctly built than big ones. But I put foundation in one frame in every two, and one frame in every two has just a starter-strip. That enables 50% comb building while ensuring that combs are built straight.

Warrés don't use frames

Warrés can be used with or without frames. So as not to get into a polemic which is often as dogmatic as it is unproductive, I would like simply to emphasise that not having frames greatly reduces manipulability. In fact, the great majority of Warré beekeepers use frames.

Warrés don't have Varroa

Even if the Warré hive enchants a good number of beekeepers, it is sadly not magical. As with all other hive types it is absolutely essential to keep healthy colonies with vigorous queens. There are several theories without any scientific basis circulating in apicultural discussions. But we need to realise that a Warré managed like a Dadant will harbour more Varroa at the end of the season. But the real 'magic' of the Warré is alive and well in that it favours swarming and therefore the interruption of laying. So we have apiaries that are less infested at the end of the season. Its propensity to function well, even with indigenous bees, also allows it to facilitate the emergence of resistance.

The Warré hive comprises more boxes than a conventional hive and has smaller production runs. But if frames are not used, approximate dimensions are acceptable, in which case do-it-yourself construction of these hives is possible for everyone.

Warrés don't need feeding

Like all divisible hives (Langstroth, Claerr, Voirnot divisible etc), frames of honey can be used for direct feeding of colonies. Therefore it is possible almost to do without feeding with sugar syrup.

Warrés take less time

This is probably true, as long as you adopt a management that is radically different and you do not want simply to transpose Dadant management.

Jérôme Alphonse, of Miellerie Alphonse, runs 300 Warré hives at the foot of the Vercors. He collaborates with several other Warré beekeepers in the Rhône-Alpes region of France. Between them they have 1200 production hives. He is in contact with several hundred other Warré beekeepers through the beekeeping courses he gives on his method and through the many nuclei he sells each year.

Endnote

1. *Terroir* denotes the qualities of a particular place that become embodied in a food or drink product from that place.

Address:
Mareire 26190 St-Thomas-en-Royans France
Tel: +33 (0)6 25 36 70 74
Web: www.miellerie alphonse.com

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