



L'APICULTURE ÉCOLOGIQUE de A à Z

Chronique n° 1

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- Introduction to ecological apiculture -

At this beginning of 2013, I would like to touch on this relatively recent, already much discussed method which has an increasing number of enthusiasts. To be sure it has a number of detractors, but like everything new which shakes up old habits, one needs to know the details to understand its firm basis and ultimately take an interest in the method.

As traditional beekeeping has great problems for which to date we don't have any real solution, and as this ecological beekeeping produces good results in different regions of the world, it is perhaps time to seriously study the question and try something else before the bee takes its leave and abandons us to our sad fate, as is already the case in certain regions. Canada, the USA and certain parts of China already have a shortage of bees, but much nearer to home our countryside is already more or less similarly depleted and no longer has the bee populations that we used to know.

I therefore propose to introduce you, step by step, to this completely new idea of beekeeping, in which everything is radically new and which differs from what we've been doing for a good hundred years since the arrival of framed hives, which promised marvellous things.

The equipment is very much simpler, and the outgoings are reduced to a minimum. This method is therefore much less expensive than the modern version familiar to us. The hive too is different from frame hives, this being intended for the bees comfort and not for their exploitation. Its distinguishing feature being that it has no frames, the bees themselves making their own wax foundation, as they have done for millennia in wild nests. And ultimately we will see that this method which may seem to be a step backwards, has only advantages.

As for the method, in comparison with modern methods, it is like day and night. Not only are they totally different, but also they are completely incompatible. And as to the state of mind which governs the practice of this new conception of beekeeping and our rela-

With ecological beekeeping, we are no longer using an exploitative approach of production and profitability, but instead one of protecting and safeguarding the bee. The essential concern being not to produce honey in order to then steal it from the bees as soon as it is available but, above all, to help the bees to take up their essential tasks, which are pollination and the continuation of the species and its colonies. Honey comes last, with a basic and imperative rule according to which we share with the bee the products of her hive. Any possible harvests must never be prejudicial to the colony, which must take priority. It's a sort of collaborative work with the bee in which we must absolutely respect the insect which is of central importance in our environment and equally to respect her natural way of life which is its main strength.

We will see that the principles of respect and sharing are the key words of the method and that this respect changes everything.

The Origins of this Ecological Beekeeping

To begin with, some words about the originator of this ecological method perfected by a Belgian: Jean-Marie Frères. An amateur beekeeper, certainly, but a passionate researcher who struggled for more than twenty years with the combined problems of the Dadant hive, diseases and varroa, and who took it into his head to find a solution to this problem other than that proposed at the time in the apicultural publications, that is to say having recourse to chemical treatments in the hives in an attempt to restore the bees health and eliminate the parasite.

Not being able to resign himself to introducing into the hive toxic chemical products which are totally foreign to the world of the bee, is in a way a big gamble that risks a lot. Perhaps he would find a satisfying solution from every point of view, or he would give up the hobby he had since he was a very young man and about which he was passionate.

The basis of his reasoning was that since the bee had

we were confronted must have inevitably come from the way in which man had taken his destiny in hand to take advantage of the situation. And it was useless to introduce into hives products no doubt poisonous to bees in an attempt to treat diseases and eliminate parasites, but rather to look for the cause of these scourges and eliminate them.

And it was thus that he undertook to analyse in detail the materials used at that time, the methods and the different procedures applied, and in the same way to analyse the natural way of life of the bee that seemed to him to be just as essential and important. And having made some very basic hives out of tree trunks in order to analyse the natural life of the bee, and then compared it with the way of life that we impose in our modern hives, he very quickly saw that the bee seemed to live much better in the tree trunks and that the way of life that we imposed on her, was a long way from her natural life. Indeed, much too far away and he was quickly convinced that this must be the crux of the problem.

Then, by chance he came across Abbé Warré's little book *Apiculture pour Tous* (Beekeeping for All), a small, unpretentious book, but his assiduous reading of it was a revelation and gave him the missing link from the conclusions he had reached himself.

Abbé Warré had invented a hive in which the volume was very much smaller than that of a Dadant and in which there were no frames. The bees constructed the combs themselves as in a skep (or hollow log) and, as in their natural way of doing things, enlarged their comb downwards. And apart from insufficient ventilation and the impossibility of easily following the development of the colonies without opening the hives, he had virtually thought up the ideal hive. Its operation was very close to the tree trunk hives of Jean-Marie, so he experimented with this hive to get to know it better.

His first attempts were not conclusive, the progress of the bees in their building work was not easy to inspect. The only way was to more or less regularly weigh the hive to get some idea of the progress of building and filling or even to open it.

The first solution wasn't very practical, as for the second that would seriously disturb the colony such as is still done today with frame hives. That was what Jean-Marie wanted to avoid at all costs, because he was already thinking that it would be prejudicial for the colonies. And we will see that in the end he was right.

His tree-trunk hives being already equipped with little windows which had allowed him to observe his colonies, he then modified the hive boxes of his Warrés in this way which made easier a more methodical way of

© « L'APICULTURE POUR TOUS » de l'Abbé Warré



The Warré Hive in beside its inventor

It is this simple hive which allowed J-M Frères to conceive the ecological hive. Abbé Warré had found the almost ideal hive, the few drawbacks which prevented it from having the success it deserved are now corrected.

Below shows the rear window of a box and what you are able to see – A considerable improvement in comparison with the initial hive.

Another issue of concern is the ventilation of these Warré hives. Warré's idea for a roof does not allow the hive to be well ventilated. We will return to the details of this.



This window which is usually covered over with separate shutter, allows one to observe the life of the colony in detail and to detect any potential problems in time.

As the Abbé saw it, the insulating quilt resting on the top box was intended to absorb surplus humidity from the hive. But given that the ventilation is insufficient, the efficacy of this system leaves much to be desired.

Therefore this part should be modified in such a way that the humidity is purely and simply eliminated.

So this must be changed by adding a ventilation chamber to the roof which, working like an extractor, allows the moist air in the hive to pass through this ventilation chamber and be exhausted to the outside. It makes no difference if the top of the roof is flat, monopitch or gabled. We will see later the details of how this hive evolved to reach its current form, and how the ventilation process and temperature/humidity regulation function as a whole.

The ecological hive was born. It remained to improve it, test it, discover the numerous advantages it has compared with other hives, and work out a management method that allows everyone to use it at minimal expense. This we have done over the last ten years, despite the loss, all too soon, of Jean-Marie, before he was able to see what became of his hive.

I am referring to the way in which its use has spread in all directions to many countries, and with excellent results, as well as the final design of the roof which further improved the ventilation system, together with the production of a systematic manual which has just been officially published, replacing the first edition of *'L'Apiculture Écologique de A à Z'* which was produced and distributed as a desktop publication from 1997 onwards.

Finally we will take a detailed look at the design of the different versions of the Warré hive, including the latest, the ecological hive. These different hives, have their advantages and disadvantages, but we must understand that the first version was as inspiring on account of its good internal volume which was more reduced than that of traditional hives, the construction of a modern Warré hive. It is a Warré only in name, but its 'functionality' as well as its management belong much more to a small version of a modern hive.

It is generally fitted with frames but will 'function' just as well without them. However, we will see that with this hive, which differs from Warré's, we are very far from the important principles which govern the management of the ecological hive.

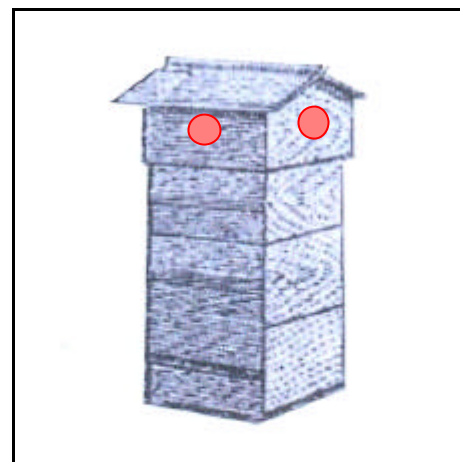
Why is this hive ecological ?

Because this completely new method takes account of the natural life of the wild bee and in this type of bee-keeping, it is the human being who bends to the requirements of the bee and not the reverse.



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Original Warré hive



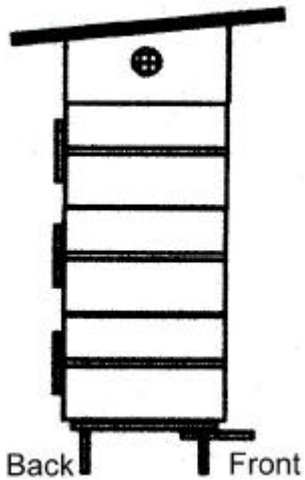
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Original Warré hive whose roof was modified by Jean-Marie Frères to improve ventilation



© Daniel Guedon

Ecological hive in its original design with a twin-pitch chalet roof



First design of the ecological hive with a monopitch roof sloping towards the back. All-in-one roof unit containing the insulating quilt incorporated into the ventilation chamber. Windows on the back.



Modern Warré hive with a flat roof in steel sheeting. This hive does not have the ventilation system of the original Warré or the ecological hive, and is normally not equipped with windows at the backs of the boxes.



Most recent design of the ecological hive with a flat modular roof. The top module is the ventilation chamber. The intermediate module is the insulating quilt. The bottom module resting on the top box contains the feeder when the need arises. The observation windows are normally on the back. This version is easier to use than the all-in-one roof unit.

Definition of the ecological hive

According to the very precise dimensions established from observing a wild swarm, the ecological hive respects the internal space and volume required by a colony, the natural way the combs are constructed as well as the natural process of wintering. Moreover, it gives the bees what they lack as a result of settling in a hive. This includes the systematic renewal of natural combs, the honey always being stored in relatively new cells, and the existence of healthy, hygienic conditions in their home in all seasons. They maintain these hygienic conditions with an ingenious system for regulating ventilation, temperature and humidity in the interior environment.

Because of its design and because of close observation of the bees and flowers, it allows the beekeeper to know at all times the conditions of the colony inside his hive, and to be able to intervene always at the right time. By this I mean the appropriate time for the bees.