



Beekeeping according to Geert Steelant

Operating method

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About the author

From his early years, Geert was passionate about nature. His professional career also saw him working in nature, doing a great variety of jobs. For ten years, Geert worked and lived as a gardener on a castle estate in France, a true bee country. In France he met Antoine, from a family with a tradition of beekeeping going back to 1851. Antoine took care of over 200 honey bee colonies on the estate. One day Geert asked: "Antoine, I would like to get to know the profession of beekeeping". Antoine answered in a simple but clear way: "Being a beekeeper is not a profession, it is a passion." Antoine lived and thought as a bee. He was a genuine "Warré beekeeper" with an enormous respect for the bee and her proper ways of being. Through Antoine, Geert also came to know bees and beekeeping in an uncomplicated and natural way.

After living in France for a decade, Geert returned home to Belgium cherishing beautiful memories, full of knowledge of bees and Warré beekeeping. Due to lack of time and space, Geert was forced to put aside beekeeping. Five years ago, he had a stroke. After a long period of rehabilitation, he took up beekeeping following the methods Antoine had taught him.

Because bees are suffering in this world, Geert wants to pass on his knowledge to future generations. Please have a look at Geert's personal website (www.delachendebijenkast.be) and get to know about Geert's beekeeping method. Geert is also one of the core-members of the Belgian Natural Beekeeping Collective (www.natuurlijkimkeren.org).

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Bees do not have to learn to live with man,
man has to learn to live with bees again!



Conceptual frame work

Geert's method is based on how honey bees live in the wild. Unfortunately, man made the life of the honey bee difficult: varroa, pesticides, monoculture, greed, etc. For all these reasons it is now impossible to leave the bees to fend for themselves. Sometimes we are forced to intervene. Geert prefers to label his method as 'bee-friendly beekeeping' rather than 'natural beekeeping', though they have a lot in common.

The main requirement is that you have to make sure there is a **sufficient supply of food** sources in the bee's surroundings: nectar, pollen, propolis. When there is a lack of supplies, the bees will have a hard time in winter. Keeping bees is quite simple in itself. Man has made beekeeping a highly technical matter and in Geert's opinion this is solely inspired by the need for profit.

Allow swarming as much as possible. Inform your neighbourhood about your beekeeping activities and explain elaborately about the swarming process.

Nature knows a natural enemy of the varroa mite: the **predatory mite** *Stratiolaelaps scimitus* that can be found in the company of honey bee colonies living in the wild.

Every disruption of a bee colony provokes a spillage of energy and results in a large consumption of honey to get the colony going again in the best condition.

Culling drones is something Geert does not do for it weakens the bees of the next generation. When it comes to artificial insemination of queens, Geert does not even want to think of its consequences for the future.

To start beekeeping, you preferably begin with a swarm. When a swarm is unavailable choose any of the bee races. The next year you will automatically have **mongrel bees** as you cannot possibly deduct what drones fertilized the new born queen but this ensures the genetic diversity of the bees.

Keep an **interest in other beekeeper's** ideas for we need each other. If you find a solution for a problem then share it with your colleagues.

The basic idea

- Accept the honey bee for what she is: a creature that is wild by nature knowing what is best for her.
- Realise that the bee always has the last word, no matter how much one tries to force her into certain ways.
- Do not let the honey bee survive on her own. In some cases, we need to give her a helping hand. This is due to man's manipulation. Whenever you try to help; you should do this respectfully.
- Remember Antoine's saying: "give the bees a beautiful house to live in but don't interfere with what they do on the inside of that house".
- Fight varroa with predatory mites naturally.
- Leave the bees their own food to get through winter.
- Refrain from practises that cause stress to the bees.





Advantages

of Geert's method

- The bees live a natural life but they are not left to fend for themselves.
- Varroa is fought in a natural way throughout the year.
- Bees live through winter on their own food supplies.
- Colonies are split by allowing them to swarm.
- Strained honey has a completely different taste to honey extracted by centrifuge and you do not find any residues of miticides (used against varroa) in the honey.
- By using windows in the boxes, you can observe the bees without having to open the hive. Your inspections are disruption free.
- Because you do not have to wire honey frames or make and install wax foundations you save a lot of time.
- By nading boxes (adding boxes at the bottom), the old wax combs gradually disappear from the hive at the moment of harvesting honey.
- The removal of old comb prevents accumulation of pesticide residues.

Target group

Most people who start with beekeeping attend 'traditional beekeeper training' that is very technical and quite expensive. Beekeeping is basically very simple at least when you allow nature to take the lead. The Warré-hive is ideal for this and this method can give a newbie a lot of satisfaction. Please keep in mind the following words of advice: start with a maximum of two hives, make sure you consult an experienced beekeeper near you, observe and get to know the bees' behaviour on the landing board and, most importantly, always think about the well-being of your bees first. Honey yields come later.



Disadvantages

of Geert's method

- You allow things to evolve as in nature and you extend your hives by adding boxes. Because the boxes are relatively small, the beekeeper has to add – and make – quite a lot of boxes when foraging conditions are abundant.
- Harvesting honey is more work than in traditional beekeeping. You have to cut out the combs from the boxes and strain the honey.
- Predatory mites demand some extra attention.
- When making your own hive boxes, the inclusion of windows causes extra work. You can make boxes without windows but having them is very useful for monitoring the bees justifying the extra effort.
- As you do not give wax foundation to the bees, you have to add wax starters to the top bars.
- It is difficult to execute certain selection and monitoring tests: counting varroa mites, hygienic behaviour, varroa reproduction in drone brood.

Necessary materials

When you plan to work with the Warré hive and you want to build them yourself, you have to have some basic wood working skills and you'll need some basic tools. You can buy ready-made hives but these are more expensive.

Geert's method seems to be meant for the Warré hive but it is possible to apply it to other types of hive. You can also integrate Simplex (or National or Dadant) boxes to ensure a successful transfer to the Warré hive.

You will need a honey press, some muslin, sieves, a ripener, a solar wax extractor, protective garment (although Geert seldomly wears his) and a maybe a smoker. Remember to keep it simple. There is a lot you can make yourself: a solar wax extractor and a press to name but two. Although it is interesting to start with a colony of native black bees, Carnica or Buckfast bees will do just as well. Because your bees are allowed to swarm you will not be able to predict what kind of drones the new queen is going to mate with.



Throughout the bee season

February

In what follows we assume that you start with a new colony that you bought or were given. When starting with a swarm you will only do so in May or June during the swarming season. In both cases you will have to make sure that everything is ready and installed before you get your colony.



- It is essential to consider how you will get your colony into the type of hive you will be using.
- Inspect your locality (within a radius of 5km of your apiary) to make sure there is sufficient food supply for your bees and know what the main crops are. Ideally, good foraging conditions are accessible within the immediate range of the hive(s).
- Make sure there is water in the neighbourhood. If there is none build a drinking station.
- If other beekeepers live near you, pay them a visit. Let your neighbours know that you are beekeeper.
- Do not forget to become a member of a beekeeper's association. This automatically regulates insurance matters.
- Declare the number of hives you have.



Beekeeping with the Warré hive

Geert is beekeeping in a natural way and he has chosen to do this using the Warré hive that he modified according to his own needs and insights. Although the beekeeping method of his mentor Antoine was influential on his choice of hive, Geert is convinced of the many advantages and the ease of use of the Warré hive:

- Bees can perfectly regulate both heat and moisture in the hive by managing airflow through a quilt in the hive roof filled with natural materials. They do this by creating a propolis envelope between the top box and the roof. When the air in the hive becomes too hot part of the propolis envelope is removed to increase the flow of air into the quilt. When condensation starts to form inside the hive, the bees get a 'propolis shower', which is beneficial for their health.
- Bees build the combs how they want, choosing the cell size. All hive boxes are of the same dimensions. At the top of each box there are eight wooden top bars oriented 'cold way'. These triangular battens can be coated with a wax layer as a starter strip. Mostly the bees follow the direction of the battens but every now and then, they build as they prefer.
- Because no frames are used, the internal communication of the bees is unhindered so promoting the unity of the colony.
- The wax is of the purest quality possible and no external wax is introduced.
- While still in France Geert discovered that the bees prefer a round hive entrance to a narrow and elongated one. A round hole is believed to be easier to close off with propolis. Emile Warré – the inventor of this kind of this hive – also described the phenomenon.



Geert uses Douglas pine wood to make his own Warré hives. As the wood comes from dead trees it is completely dried out. The exterior of the hives is treated with linseed oil protecting the wood against weather conditions but still enabling it to breathe. In the original manual for the hive, Warré recommended waxing the inside of the boxes. Geert stopped doing this because the wood can't breathe anymore when you do this. Moreover, the bees only eat the wax layer and they prefer applying a propolis coating themselves.

The inner dimensions of Geert's Warré box is 30 x 30cm with a height of 21cm. On the outside the boxes measure 35 x 35cm. Every box has an observation window made out of plexiglass. Geert made some other improvements to the original Warré hive. We will discuss them further in this brochure.

“Antoine (Geert’s mentor) put his colonies directly on the soil in the forest without a bottom when they struggled with varroa mites. He did not know he had made contact between his bees and predatory mites but in doing so he conducted a natural varroa treatment.”

- Geert Steelant





March

When a hive needs to be moved, it is best closed off in the evening, when all bees are inside. However, do this only if you know that the following day's weather will be good. Make sure you have seen or inspected the bees before, confirming everything is fine. The new location for the hive must be an open space, ideally southeast oriented and more or less protected against northerly winds. If you have neighbours or live in a residential area, take account of distances from boundaries as regulated by law.

Geert does not use chemical varroa treatment. However, his bees are not bothered by the parasite, because he introduces a natural enemy of the varroa mite into his hives: the predatory mite, *Stratiolaelaps scimitus* (see p.14-15).

To keep these predatory mites alive for a long time, it is also necessary to create a good habitat for them. If necessary, mix compost through the soil to obtain a richer soil. Then bring the hive in direct contact with the earth. To do this, put a wooden basic box on the bare ground. This serves as a platform on which you can install the bottomless hive (i.e. without mesh and varroa floor). The base includes the flight opening, which in Geert's Warré hives consists of a row of small round flying holes (see arrow on image). The landing board connects to these flight holes below. Inside the open base several battens are attached to ensure a passage for the bees without them having direct contact with the ground, avoiding earth being brought into the brood nest or the honey super.



If you cannot put the hive directly on the soil:

e.g. on a roof or a concrete surface, you can make a larger base in which you add enough compost. If too few varroa mites can be found in the colony, the predatory mites feed on other living organisms in the soil, such as nematodes and other mites. You therefore have to provide a sufficiently large habitat for the predatory mites. It is of crucial importance that the amount of moisture in the soil is around 30% as predatory mites absorb moisture through the skin hairs on their back. When there is no direct contact to the soil, Geert puts up an automatic rain meter next to the hives connected to a rain barrel, to assure enough moisture. Whenever the amount of moisture is too low, water is released through perforated tubes. Of course, the rain meter is unnecessary if you can put the hives on the bare ground.

Predatory mites become inactive at a temperature above 28-30°C. When it gets too warm they crawl deeper into the ground to cool off.



Before placing the hive on the open soil, add approximately 5,000 predatory mites to the ground. Directly on top of the compost, Geert scatters half a bag of 10,000 mites with a food substrate into the base. This way the predatory mites will immediately clean varroa from the new bee colony.

Geert puts an empty Warré box on top of the open bottom. Above he puts the new bee colony, so the bees can build downwards quickly. The lower box becomes the brood nest and they store honey in the upper box.

Once the new colony is put on top of the empty box placed on the open bottom you keep it closed until the next day. The bees can then reorient themselves after the stress of their relocation.

Hint

You put a strong mesh on top of the compost – under the hive and in the open space between the hives – to prevent unwanted guests from finding their way to the honey. Geert once lost 6 colonies in his apiary in the Ardennes because a badger was crazy for honey.





At sunrise the next morning you can release the bees. Stay close to the hive and observe what happens. The bees will rush out and begin to orientate by making ever larger loops around the hive to explore the area. After a while, within the first two hours of the hive being opened, the bees must bring in food. The guard bees will already be in position. Bees will be on the landing board with their Nassanov gland wide open (see below). Keep observing the colony throughout the day and make sure no bees are hanging outside at dusk.

The colony will normally start building quickly in the lower box. To stimulate them, you can either hang a frame of old comb or put up a container with a solution of 50% honey and 50% water in the bottom box. At best you will use honey from the new bees, when available. Go and inspect the bees daily without opening the hive. The observation window is extremely useful for this.

The Nassanov gland

Older bees are standing on the landing board, beating their wings while uncovering their Nassanov gland. This gland is located between the sixth and seventh segment of the abdomen. The scent canal is visible when lifting the abdomen. The beating of the wings spreads the fragrances or Nassanov pheromones quickly and this way younger bees are guided back to the hive.

The pheromone is spread in many different circumstances: when moving into a new nesting place, marking a water source or leading the queen.



focus Predatory mites

The *Stratiolaelaps scimitus* is a predatory mite living in the soil also known as *Hypoaspis miles*. This predatory mite focuses on a wide range of insects and is often used in horticulture to fight springtails and the pupal stage of thrips. *S. scimitus* is used against harmful soil organisms in the growing of vegetables such as tomatoes, peppers and cucumbers, but also in tree nurseries. The predatory mite has been used as a biological control against varroa mites for several years. Scientific research in Canada has shown that the direct scattering of predatory mites on the top bars or frames greatly reduces the varroa mite population¹. They have no negative influence on the bees, honey or wax in the hive. They can be used throughout the season, though an ambient temperature of 15°C is ideal. The predatory mites feed on the existing varroa mites in the hive. If they don't have a bottom in the hive to hide in, the predatory mites starve and new predatory mites have to be brought in to fight varroa. The unique thing about Geert's method, however, is that he creates a natural habitat for the predatory mites inside the hive, which means that he only must put *S. scimitus* into the soil once.

¹Rondeau S, Giovenazzo P, Fournier V (2018) Risk assessment and predation potential of *Stratiolaelaps scimitus* (Acari: Laelapidae) to control *Varroa destructor* (Acari: Varroidae) in honey bees. PLoS ONE 13(12): e0208812



Biological varroa control

The predatory mites actively search for varroa mites and stab them with their snouts. They mainly aim at the joints of the legs, ripping them apart and thus releasing haemolymph on which they feed. When the varroa mites are stung and fall, predatory mites crawl directly on top. They suck the body juices from the varroa mite (see punctured varroa mites on the image below), after which they start looking for the next prey. The predatory mites can be found everywhere in the hive, but they only attack the varroa mites if not attached to bees and not in the closed brood cells. However, Geert's experience shows that the bees sometimes actively look for the predatory mites by sitting on the bottom. According to him, this might result in an even more thorough cleaning from varroa mites. The bees seem to know that they are not troubled by the varroa mites near the predatory mites. As soon as varroa mites can no longer be found in the hive, the predatory mites withdraw into the earth and survive on other organisms.

S. scimitus is often sold in packs of 10,000 mites in a mixture of vermiculite and peat fed with flour mites. Such packaging is sufficient for two bee colonies. You will have to control if the predatory mites are still active after a few weeks. A weekly inspection of the predatory mites could be advised. To do this, take some soil from under the hive and sprinkle it on a white sheet of paper. Examine the sample with a loupe or magnifying glass to see if there are still living predatory mites. If you see one predatory mite crawling, there will certainly still be thousands in the soil. It is possible that the predatory mites die because there is not enough food or because the weather conditions were not ideal. In that case, put new predatory mites into the compost under the hive.

Biology

S. scimitus is a pale brown-beige predatory mite of about 0.8-1 mm in size. The mite occurs naturally in large parts of Europe, lives in the upper soil layer up to 4 cm below the surface and can move quickly through and over the soil. This predatory mite feels at home in moist (potting) soil. Humidity is therefore crucial for the proper development of the mite population and for effective control. Since they do not drink but absorb moisture through the skin hairs on their backs, they thrive best at a humidity of around 70%. However, the soil may not be too wet either, because the predatory mites drown when the soil is too humid.

Adult *S. scimitus* predatory mite is alive an average of 6 weeks and active at temperatures varying from 10 to 30°C. A population of this predatory mite consists of both males and females. If there is enough to eat, the females often lay oval eggs. The eggs hatch within 2-3 days. The nymphs develop into adult predatory mites in about 5 to 6 days. Both the young nymphs and the adult predatory mites are fierce predators that consume eggs and small larvae from various insects. An adult predatory mite can consume 5 to 15 prey per day.



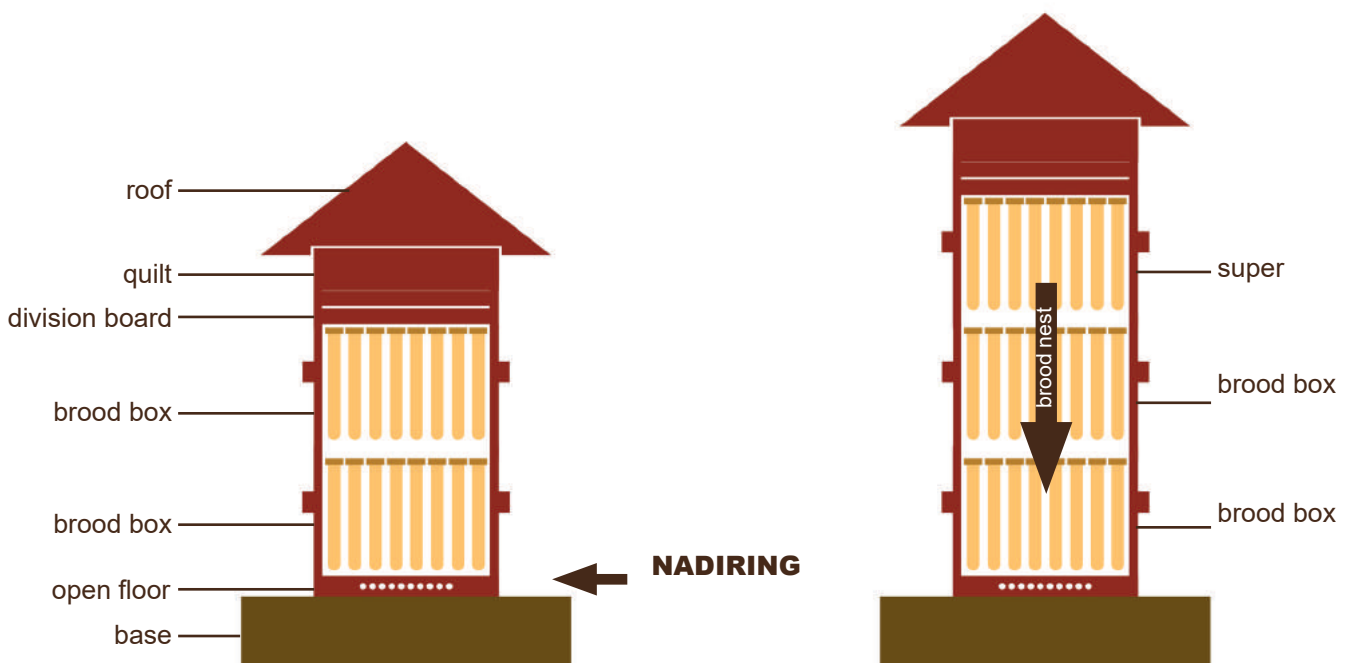


Nadiring boxes

As soon as the lower box is filled with new honeycomb (which can happen very quickly) and the bees stay mainly in this box, it is time to give extra space by adding a box. Geert uses the traditional Warré method for this: boxes are added at the bottom (in a Warré context commonly referred to as nadiring) avoiding heat loss.

The upper box(es) must be lifted to nadir. To do so Geert uses a homemade lift that lifts the boxes with a pulley system. Once lifted, you place a new box on the free bottom and afterwards you lower the upper box(es) on top of the new box.

It may happen that the bees do not realize that extra space is provided at the bottom. They may continue to show swarm tendency due to the (false) feeling of lack of space. Then guide the bees to the lower box by hanging a frame with well-drawn comb or by offering a 1/1 honey solution at the bottom.





Heat management in the hive

To avoid unnecessary heat loss the hives are never ever opened from above. Geert has a 5cm high section on top of the upper box into which he can slide a transparent plexiglass plate. If he wants to look at his bees from above, he slides the plexiglass plate into the section before taking off the roof. This allows a nice view on the bees. However, do not forget to take out the plexiglass plate after closing off the hive again.



A quilt (an insulation box of 10 cm high) is installed under the roof. An insulation cloth – Geert most of the time uses burlap – is fixed on top of this box. At the bottom there is a mosquito net allowing the bees to regulate the heat in the hive. If it is too cold, the bees completely close the mesh. When it gets warmer, they take away some propolis. The box itself contains no other insulation material.



Nadiring Warré boxes in a different way

You can add Warré boxes in different ways. You may choose to add boxes above the brood nest instead of nadiring them at the bottom as prescribed by Warré. To do this, close the brood nest by sliding the plexiglass plate into the partition part (see image on the left), so no heat is lost. Do not forget to remove the plexiglass plate after installing the super. You can put a queen excluder above the second brood box if you prefer a more traditional approach. But beware that a queen excluder unnecessarily stresses the bees. It is possible that the bees do not start to build at the top

of the added box but start building comb at the bottom of the box. This complicates the removal of supers in a later stage. You can solve this by hanging two top bars with foundation as “ladders”. The bees normally build their comb on this foundation nicely from top to bottom. If you want you can remove this comb built on wax foundation during your next hive inspection. Later, new honey boxes can be added above the brood nest. This means between the lower two boxes and the super(s) above (see image on the right).



April

Now the bees are in full swing and the colony is growing fast. Observe the bees at regular intervals. Geert does this every day, sometimes several times a day. Watch out: storing honey can happen quickly now. When there is a strong nectar flow, bees can fill up a Warré box in just 10 days. You'll have to add boxes regularly in these circumstances.

It is important to note whether the bees bring in enough pollen. When a colony is in good strength an average of 100 bees per minute fly out in good flying weather conditions. Also, take a look through the observation windows at regular times. In Geert's boxes, there is a round opening of 14 mm above each viewing window. Geert calls them

"the sniffing hole". Take a piece of garden hose and put a funnel on one side. Push some mosquito net into the hose at the other side. By sticking the hose in the sniffing hole, you can smell the inside of the hive. A healthy hive has a very sweet flowerily scent. However, if your hives are close to a rapeseed field, you may experience a more acidic smell during the flowering period. Every hive smells a bit different because every queen has a different scent (caused by her pheromones).

Check if the predatory mites are still alive by taking some compost from under the hive and placing it on a white sheet examining it with a loupe or magnifying glass).



May

The biggest effort in Geert's beekeeping method is observing and adding boxes. In May, as in previous months, check whether the predatory mites are still alive.

Geert's hives are designed in such a way that you can open the box where the landing board is located. Place a white sheet on top of the battens just under the entrance. Take the sheet away after 24 hours. If everything goes well in the hive, you will see pieces of dead varroa mites, crawling predatory mites, wax flakes and pieces of pollen.

Don't be surprised if a strong colony already shows an urge to swarm in May, be vigilant! You can also listen to your hive through "the sniffing hole".

When you hear the "piping" (of the first-born new queen) and the "quacking" (of the young queens still in the queen cells), the time has come. You can also see that there are many bees hanging outside the hive as they are bearding.



focus Swarm catchers and queen lures

There are no swarm preventing measures in Geert's nature-friendly working method. This means that in the months of May and June he is often busy collecting swarms. To make this a bit easier he uses swarm catchers in the vicinity of his hives (see pictures on the right). At a few meters height he hangs a wicker skep with a volume of about 40 l, in which he puts a piece of comb and a queen lure: a wooden stick that has been at a depth of 5 cm in "the sniffing hole" for a few months. The bees propolise this stick so that it bears the specific scent of the colony from which the swarm Geert wants to catch originates.

Geert has an automatic swarm catcher on his remote apiary in the Ardennes. As soon as a swarm that flies in the basket reaches the weight of 2 kg, the basket slowly sinks down, after which the swarm ends up directly in an empty box. By that method no daily control of these remote hives is needed.





June

Keep observing attentively and, if needed, keep adding boxes. A fully stored Warré box has an average of 9 kg of honey.

June is the peak swarming season. Complete awareness is required! If you have not put up any swarm catchers, regular control of the hives is essential. Also inform people around you, neighbours and others. Pass your name on to the fire department and the municipality. This gives you the opportunity to collect reported swarms.

July

It is usually warm in July. Check if there is enough water in the area allowing the bees to cool the hive properly. You will also see many bees fanning their wings on the landing board now.

Bees can still swarm. If you have been able to collect a swarm, take a close look at this new hive. Place a white sheet at the bottom of the hive (on top of the wooden slats) 20 to 25 days after hiving the swarm. Wax cappings on the sheet during the following days indicate that new bees are born.

In traditional beekeeping, people start extracting honey in July, often because they treat the varroa mite with oxalic or formic acid after removing the honey supers. Geert removes his supers later. There may be less forage this month, still the bees keep on collecting nectar and/or pollen until nothing can be found anymore. That's why Geert waits to harvest the honey until October (see below).

If your hive was in a place with a stronger nectar flow (such as rapeseed fields), you will have moved it home by now. This is the ideal time to remove varroa mites in the hives. To do this you put a hive on the compost-base in which you have introduced predatory mites. They will immediately get to work and destroy the varroa mites. After a few days, carry out a check with a white sheet at the bottom of the hive just to be sure.

August

Life goes on in the colonies at a slightly slower pace now. Continue to observe making sure they have enough water. If you are in a neighbourhood where green manure crops have been sown such as phacelia, rapeseed or borage, there is still plenty of activity.

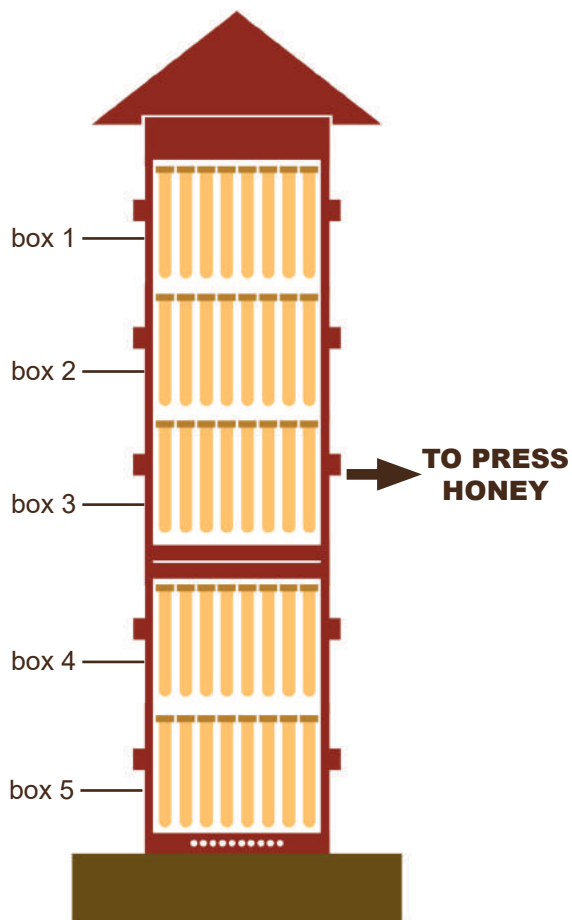
Your hives can already be quite high due to the number of supers. Make sure that the hive remains stable.

September

Winter bees are born during this month. When the season was not that good (due to limited availability of forage for instance), pay attention and take a good look through the observation windows. If you see enough food (not only honey but also pollen), then everything is fine.

Although the method is very close to natural beekeeping, Geert will not hesitate to feed his bees if there is not enough food. He feeds the bees pure honey and fondant with pollen (e.g. Candipolline Gold). Place both in a bowl at the bottom of the hive. You can also make a feeding station outside the hive. Geert uses a drinking tub for that, filled with a solution of 70% pure honey and 30% water. There are also small drinking fountains on the market, especially for bees. Doing this you don't have to be afraid of robbery, because there is enough for everyone.





October

October being harvesting month, it is Geert's busiest time. A good sign for deciding on the moment when to start the pressing of the honey is the amount of nectar in the white deadnettle (*Lamium album*). Pick a few flowers that are still closed. Suck at the bottom of the flower. If you taste little or no nectar, then the bee season is over. Also taste a flower in the other seasons, to know the difference.

To harvest, lift the honey boxes with a lift. Leave the 2 lower boxes with the brood. Cover the second brood box immediately when removing the boxes above to prevent heat loss.

Remove the boxes that are filled with honey. Leave the two upper honey boxes with spring honey (the boxes that were filled first) on top of the brood nest as winter food. Check whether these boxes are properly full. The bees will have about 18 kg of food for the winter if this is the case. It should be more than enough.

Remove the boxes early in the morning when almost all bees are in the brood nest. Ideally you do this after a colder night. Never mix up boxes or other parts of hives to prevent transmission of any diseases.

Cut the honeycombs from the boxes and strain the honey. Geert does this with his home-made honey press. Once finished you can place the empty boxes back on the hive one by one, preferably one box a day. This is better for heat management. The bees will clean the boxes for you. The next day you take the cleaned box away which can then be stored in a dry, well-ventilated place, ready for use in the following season. You don't have to worry about damage from the wax moth, because there is no comb in the boxes. You can melt and purify the wax, or you can return the strained comb to the bees. Geert presses the wax hive by hive and he returns the surplus wax to the respective hive. He does this at the bottom of the hive so that the bees can process the "wax pie".

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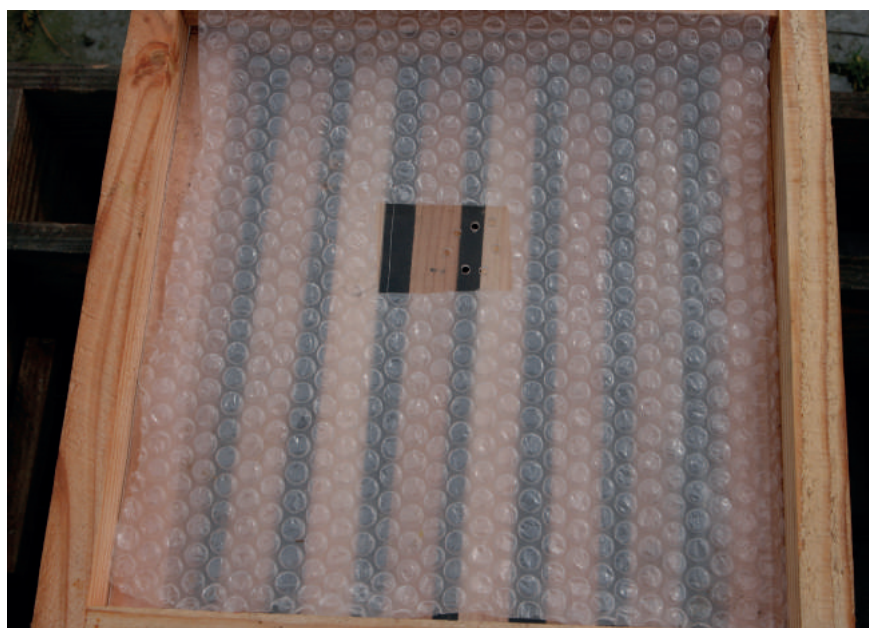
November

On sunny days with a minimum of 8°C on, the bees will still fly and look for pollen. So, go on keeping an eye on your bees.

If your hives are really in a draft, you had better protect them against the wind. Do not apply direct insulation around the hives as this may limit their breathability. Instead, install a windshield. However, should temperatures drop to -20°C, do not hesitate to insulate your hives directly until the biggest cold is over.

The only thing Geert does to protect the bees against the cold is to close the partition under the upper insulation layer with a plexiglass plate with some holes in the middle. On top of this plexiglass plate, he places a thin bubble wrap keeping the holes in the plexiglass plate free and open. This helps to keep the bees warmer and you can still do a quick inspection from above.

You also have time now to do some maintenance on the boxes you removed. An extra layer of linseed oil always helps. This is also the time to produce more hives if needed.



December

Everything is quiet and peaceful now, and so are the bees. The queen stopped laying. You can notice this because the smell in the hive is much less strong. It is good to listen to the hive now and then to hear a quiet buzz. You can do so with a stethoscope or by pulling the stick out of the “sniffing hole” and listening. Also smell if the scent is still honey-sweet. Remove possible snow in front of the flight hole. From above you can check if the bees are nicely clustered.



January

On a warmer day you sometimes see bees flying outside for their cleaning flight. Possibly bee poop can be seen around the hive and on the landing board. This is a good sign. Check whether the bees still have enough food until the start of the blooming season.

At the end of January, the queen can start laying again. So, pay attention because if the temperature suddenly becomes too cold, the colony can collapse. You can check whether the queen is laying by placing a white sheet at the bottom of the hive.

Also check whether the predatory mites are still alive.



Conclusion



Geert Steelant: “Beekeeping has to be based on respect for the bees and for nature.”



According to Geert, beekeeping must be kept simple and it is important to follow the nature of the bees. Too much human intervention and complicated working methods make it more difficult for the bees. Bees are extremely sensitive to stress factors and these are often strongly present in traditional beekeeping. To name just a few: the use of a varroa grid, queen excluders, smoke, replacing the honey stores with sugar for winter, opening and checking the hive too often, etc. Geert is convinced that being able to think like a bee and feel what they may or may not like is very important and a required quality of a beekeeper.

Using Warré hives you get as close to the natural habitat of the bees as possible. Using medicines or different acids to fight the varroa mite is something Geert can't understand knowing that it is also possible to use a natural enemy of the varroa mite instead. On the internet, Geert bumped into a video made by British researchers who filmed a bee population living in the wild. To his big surprise, Geert saw predatory mites running on the comb. Something that the makers of the film had not noticed. This was the best proof for Geert that these predatory mites also have a function within a hive in the wild.

While many beekeepers try to prevent the swarming of their colonies, Geert loves it when his number of colonies multiply in this natural way. When it comes to the honey harvest, Geert first examines how much honey his hives need to survive themselves. He will only harvest the honey if they have too much. Processing the honey happens with full dedication using the home-made honey press. Whatever Geert does to his bees, his first thoughts always go to what is best for them. To Geert beekeeping is no longer a leisure activity, it has become a way of life.



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