

**BEEKEEPING STARTER KIT**

# **BEEKEEPING MANUAL**



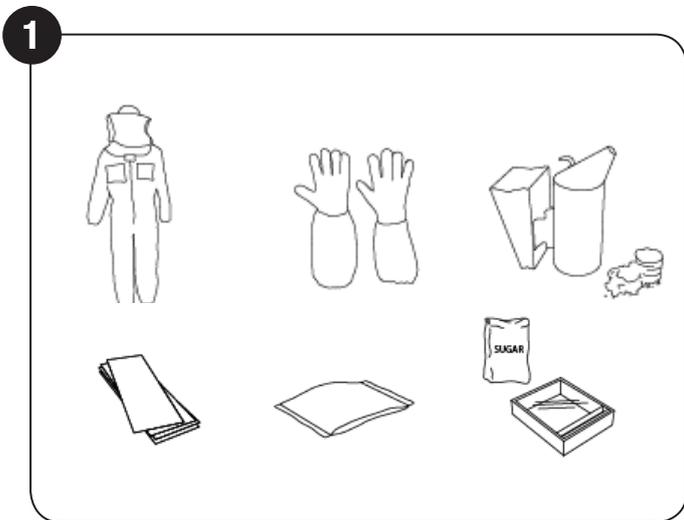
# INDEX

- 3 CHAPTER ONE  
**PREPARATION**
  
- 6 CHAPTER TWO  
**DAY ONE, HIVING NEW BEES**
  
- 8 CHAPTER THREE  
**WEEK ONE, CHECKING NEW BEES**
  
- 10 CHAPTER FOUR  
**SUBSEQUENT WEEKS,  
INSPECTION**
  
- 12 CHAPTER FIVE  
**QUEEN**
  
- 15 CHAPTER SIX  
**BROOD PATTERN**
  
- 17 CHAPTER SEVEN  
**STRENGTH OF COLONY**
  
- 22 CHAPTER EIGHT  
**HARVEST OF HONEY**
  
- 26 CHAPTER NINE  
**REMOVE AND STORE SUPERS AND FRAMES**
  
- 27 CHAPTER TEN  
**PREPARING FOR WINTER**
  
- 30 CHAPTER ELEVEN  
**NEXT SPRING**
  
- 33 CHAPTER TWELVE  
**DO'S AND DON'TS**
  
- 34 APPENDIX #1  
**CHECKLIST**
  
- 35 APPENDIX #2  
**SMOKER**
  
- 37 APPENDIX #3  
**FEEDING**
  
- 39 APPENDIX #4  
**PICTURES**

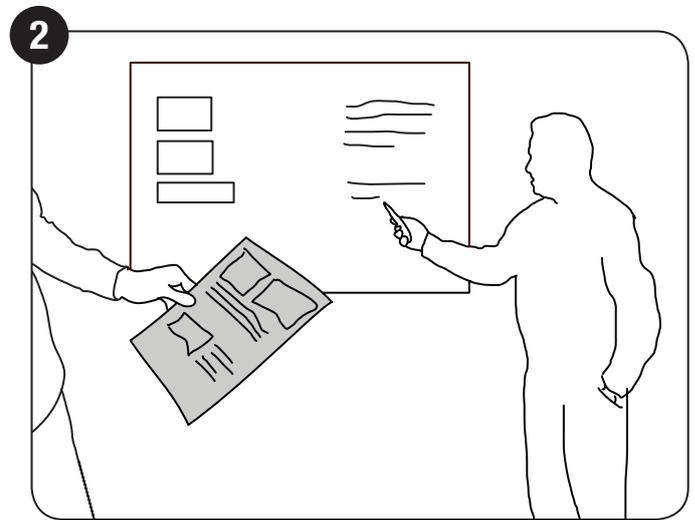
# CHAPTER ONE

# PREPARATION

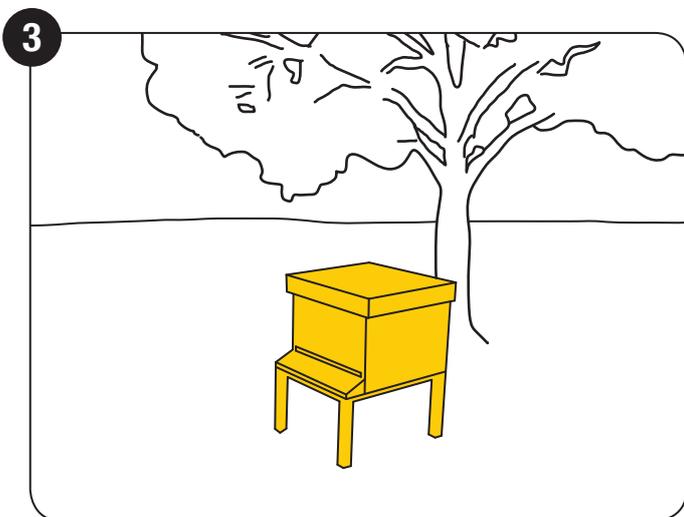
This manual helps you with keeping bees step by step. Before you can really keep bees you have to be prepared.



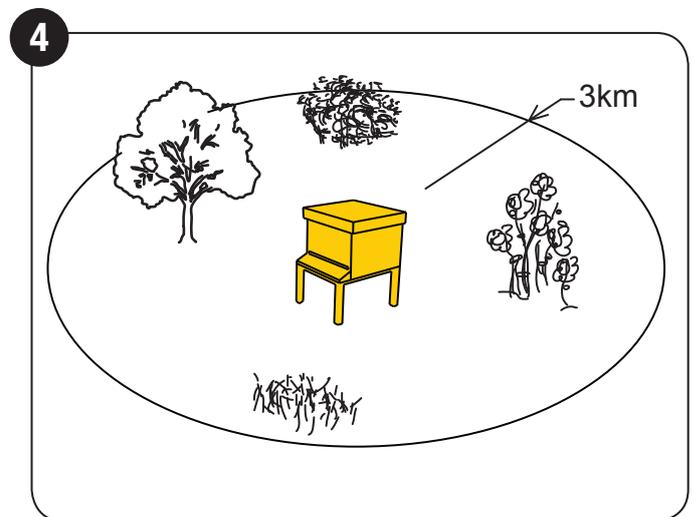
Buy the equipment shown in the equipment manual. For new beekeepers we recommend a maximum of five hives



Contact your local beekeepers association to follow a practical beekeepers training



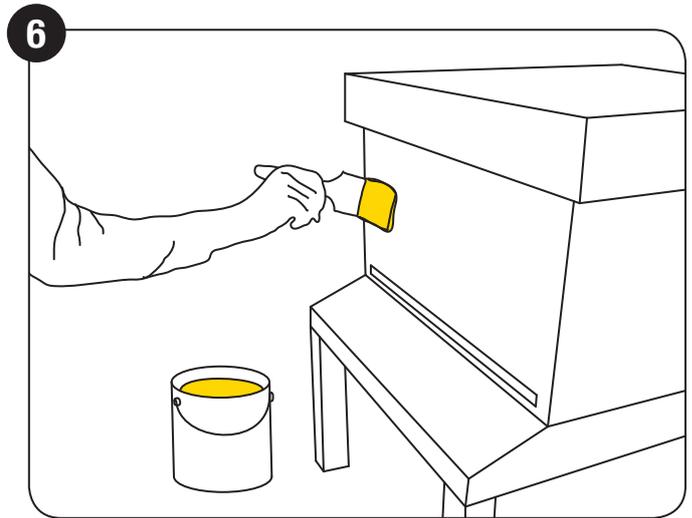
Choose a good beekeeping site: water nearby, dry location, semi shaded and sheltered from the wind



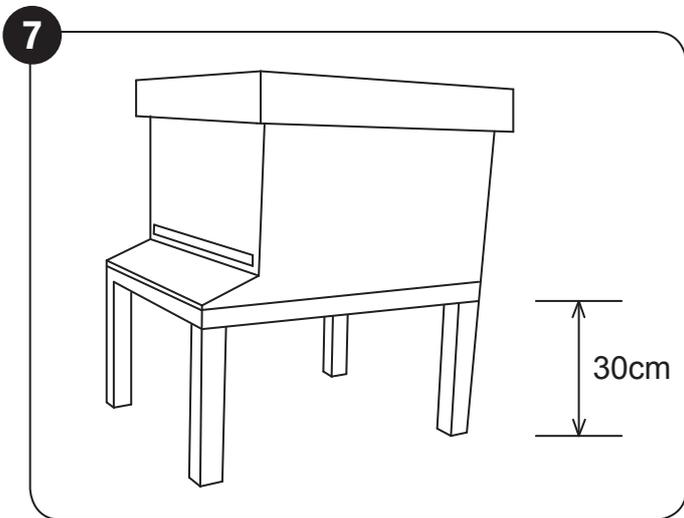
Consider there are nectar and pollen sources within a radius of 3 km from your site



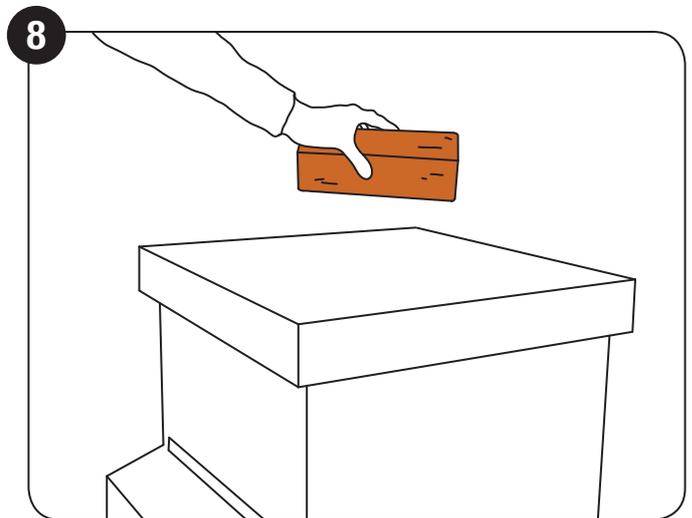
**5** Clear vegetation that could obstruct hive entrances



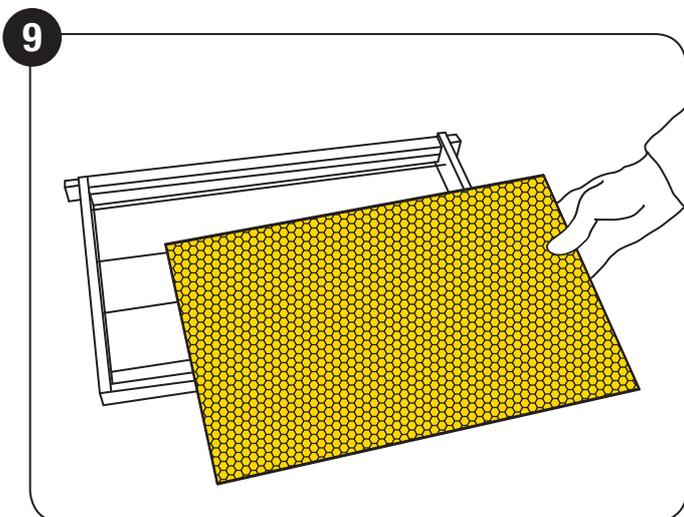
**6** Paint new hives in different colours with a water based paint to help the bees to find their way home. Don't paint the interior surfaces



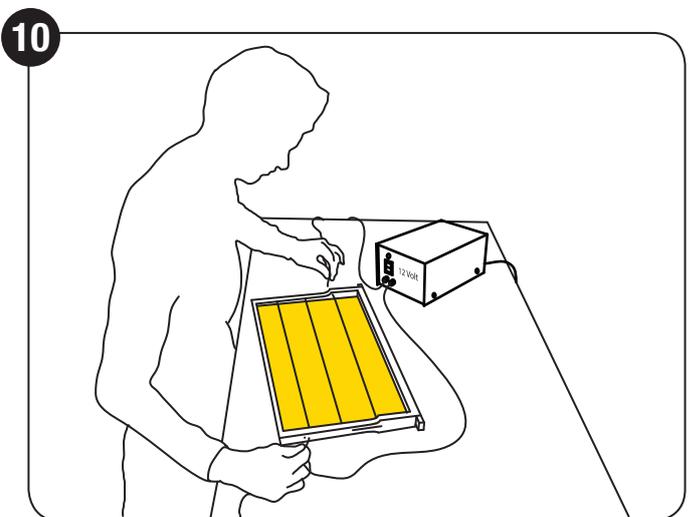
**7** Place the hives 30 cm (12") from the ground



**8** Put a heavy stone on top of the outer cover, so the top of hive won't be blown off by the wind

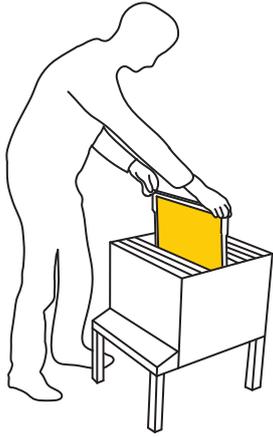


**9** Prepare ten deep frames by putting wax foundation on wire. If you don't have enough wax foundation you can also use half or only a small strip of the foundation



**10** Warm the wire with a transformer or a car battery. Stop warming when the wire is melted half deep in the wax foundation

11

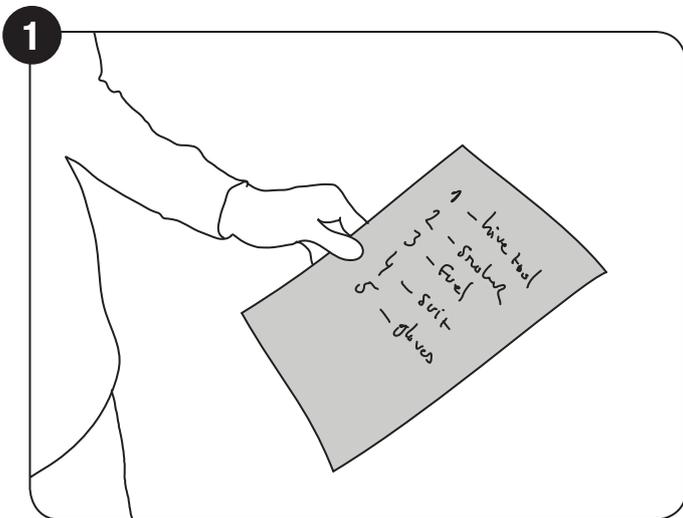


Put the prepared frames back in the hive. Your hives are now ready for use

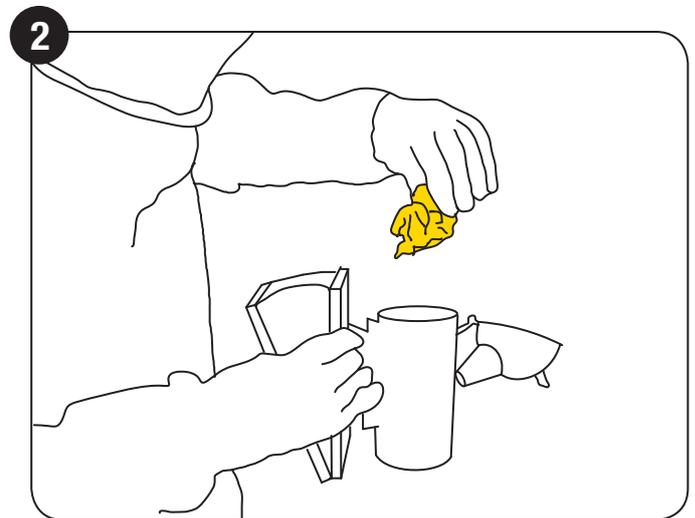
## CHAPTER TWO

# DAY ONE, HIVING NEW BEES

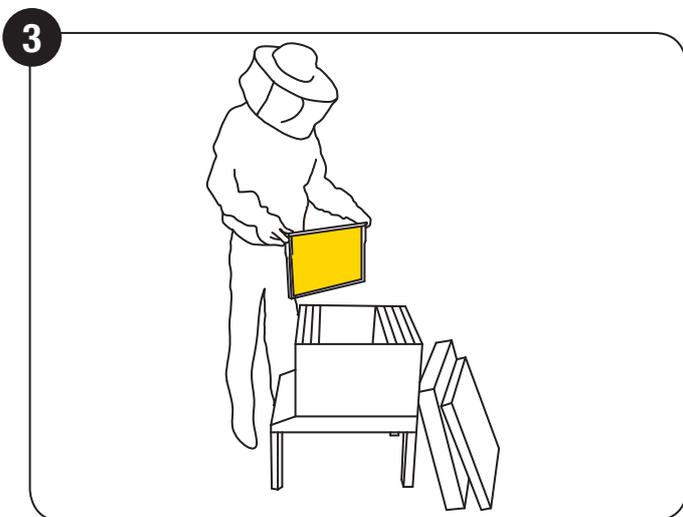
You bought your first equipment and bee colonies. Now it's time to put the bees in your hives and take care of them, so they will make sweet honey for you.



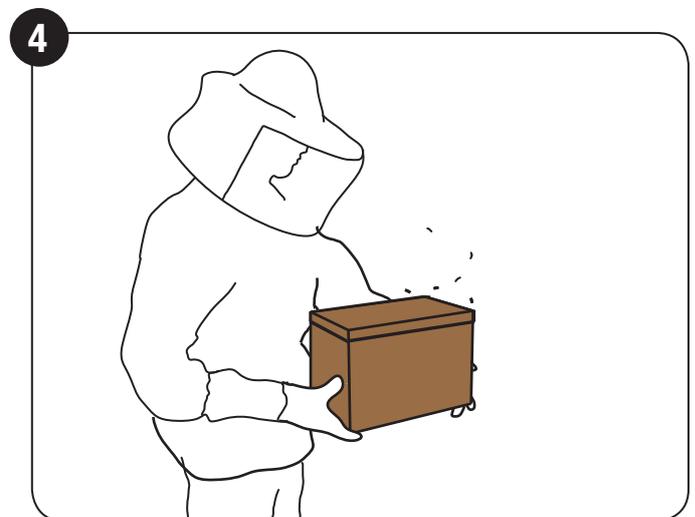
Take the prepared hives, bee colonies and your tools from the checklist [34](#) and go to your bee site



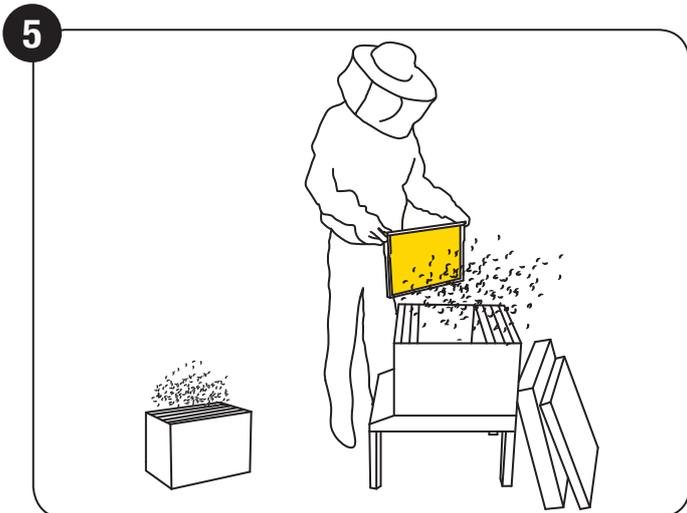
When you arrive at the site, put on your veil and if you like your gloves. Light your smoker [35](#)



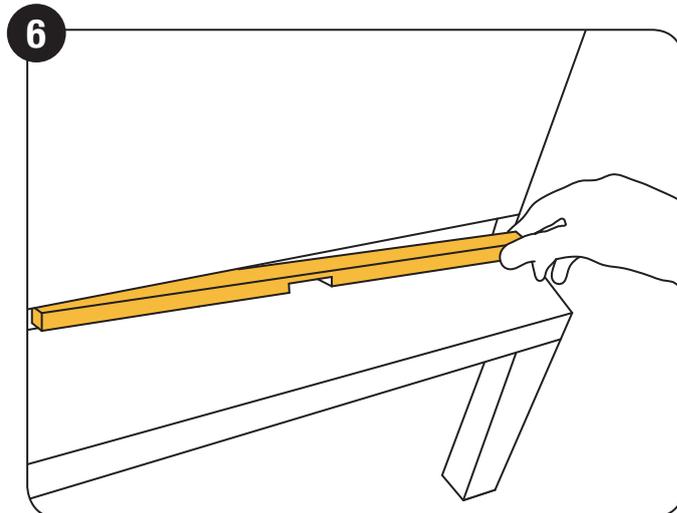
Remove the outer lid, inner lid, and the five centre frames



Take your swarm with the five frames inside



**5**  
Gently insert the five frames into the hive. Do it easy and slow, don't smash the bees and put back your hive covers

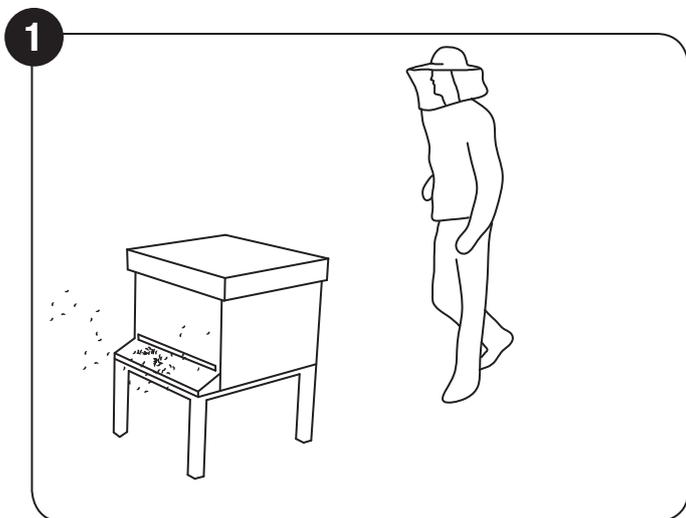


**6**  
Insert the entrance reducer to protect your new colony from robber bees

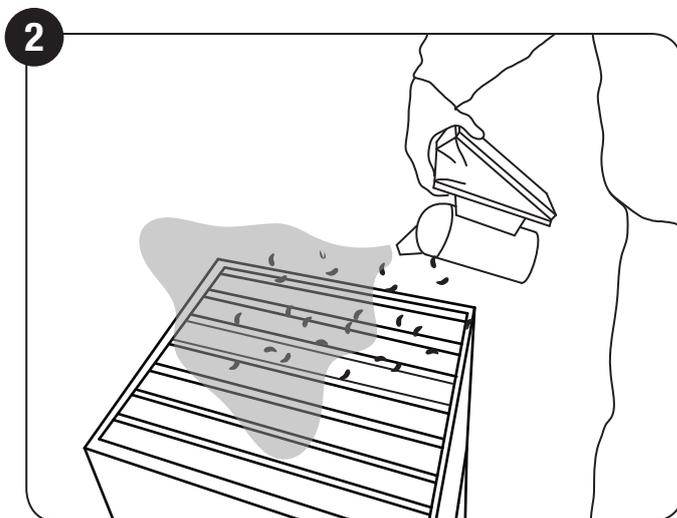
## CHAPTER THREE

# WEEK ONE, CHECKING NEW BEES

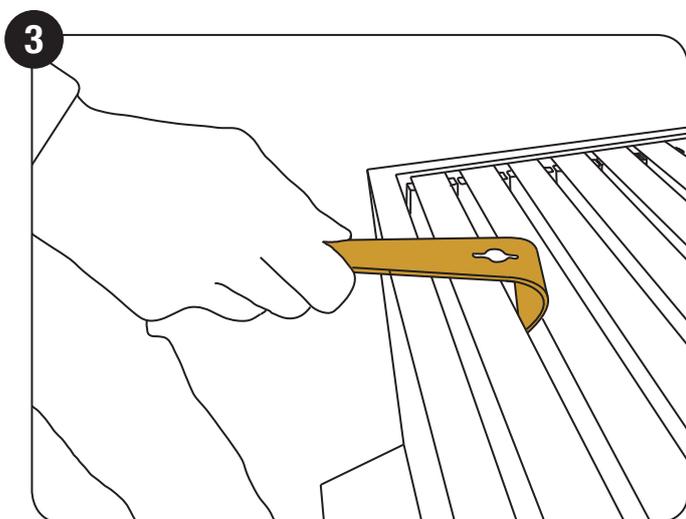
After one week you should check how your new bees are doing. Most important is whether the queen is laying eggs.



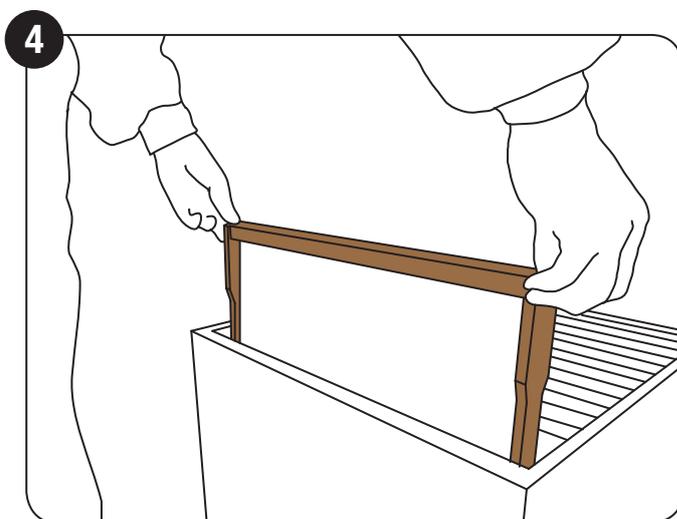
1 Approach the hive from side or back, not provoking flying bees,



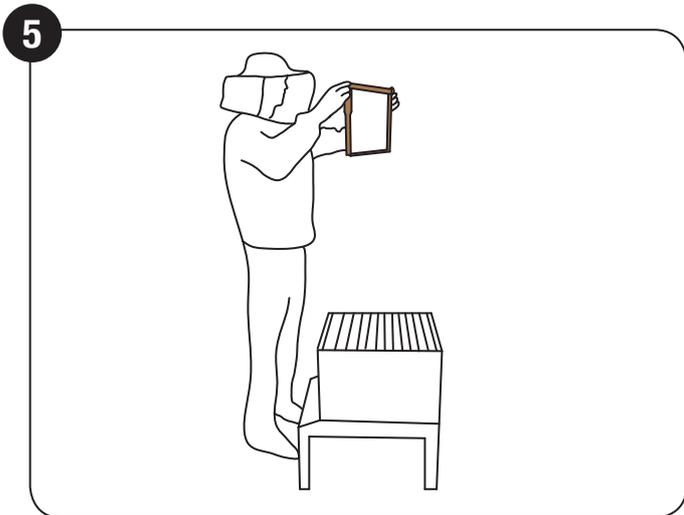
2 Smoke the hive  35



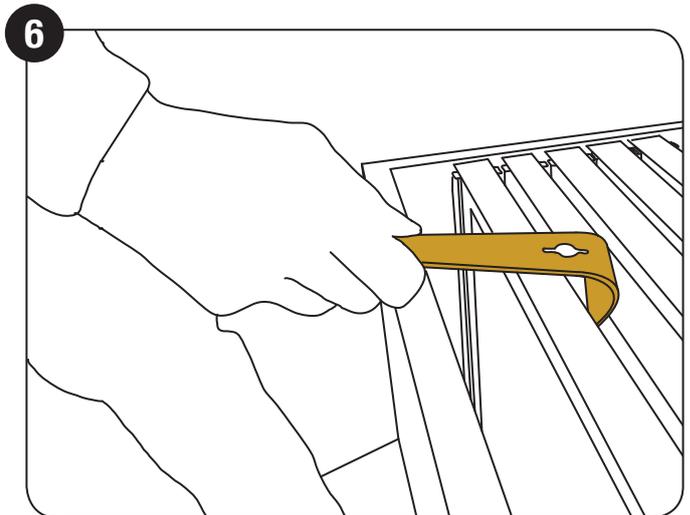
3 Pry the outside frame loose with a hive tool



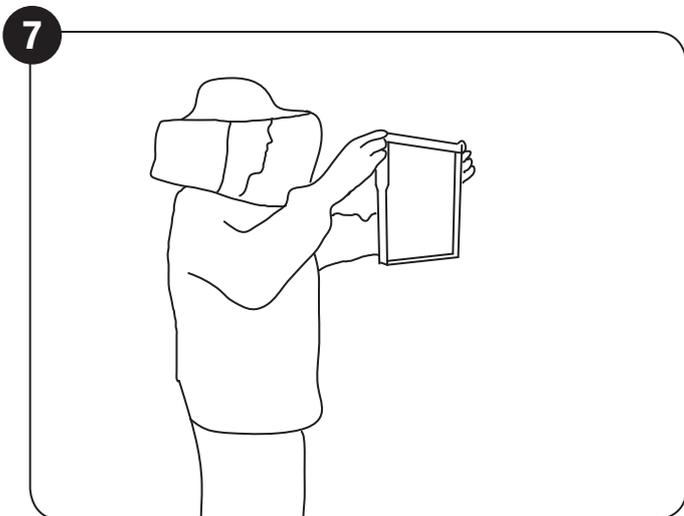
4 Pick up the frame



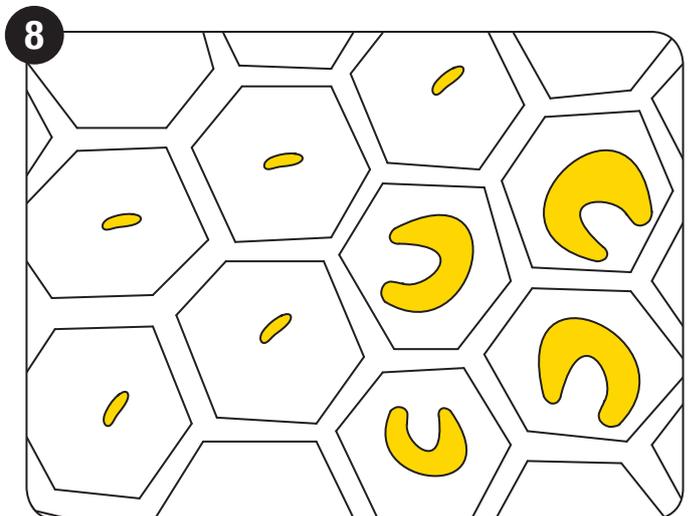
**5** Inspect the frame on eggs and larvae ☑ 1 on both sides (do this above the hive in case the queen falls off). Set the frame aside the hive



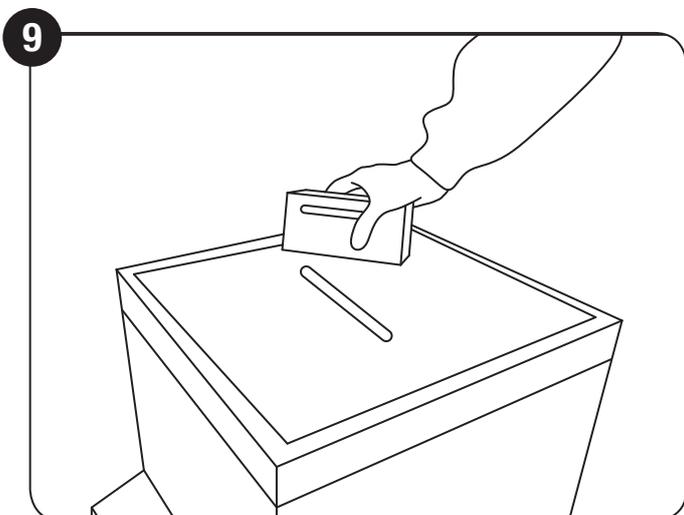
**6** Pry the second frame. After inspection put the frame back in the same position (don't turn it around)



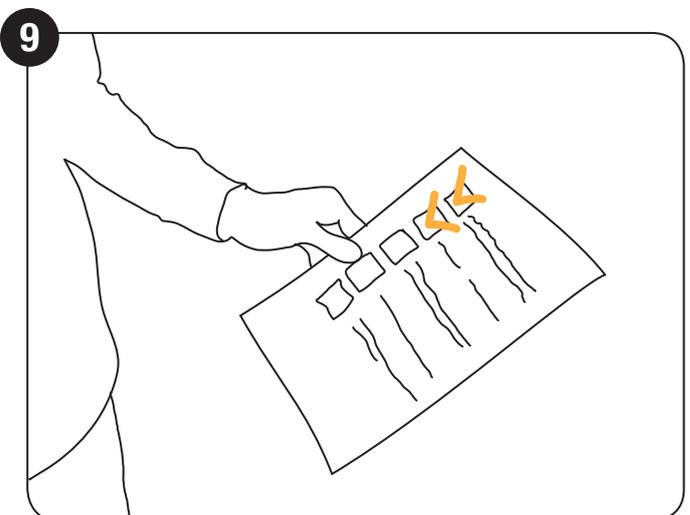
**7** Repeat inspecting each frame until you found eggs and larvae; this means the queen is alive. Fill in your inspection sheet.



**8** If you don't find any eggs and larvae ☑ 1 check it again after a few days. Still no eggs and larva, this means the queen is not alive ☑ 15



**9** Close the hive and if necessary feed the bees with sugar syrup. If they have pollen and made honey you don't have to add food ☑ 37



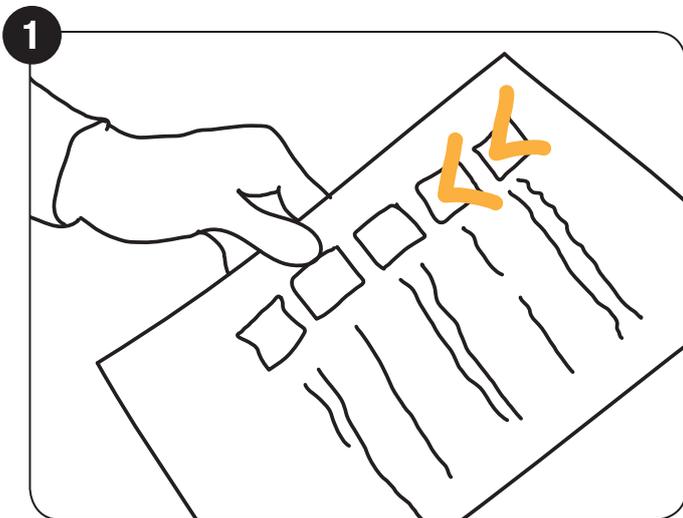
**9** Fill in your inspection sheet with your findings

## CHAPTER FOUR

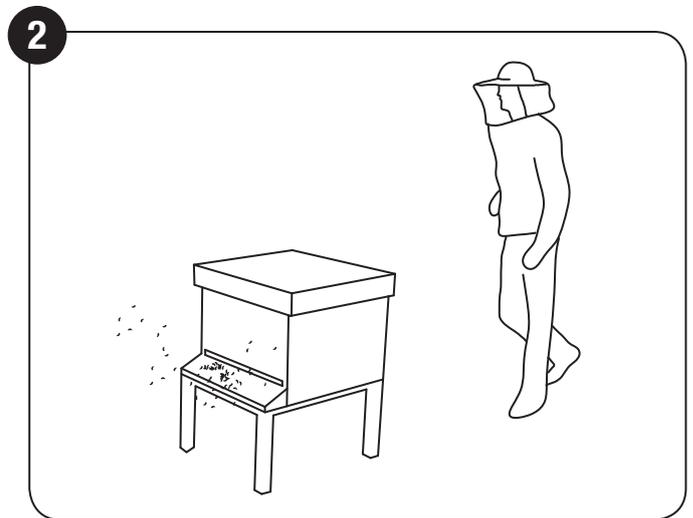
# SUBSEQUENT WEEKS, INSPECTION



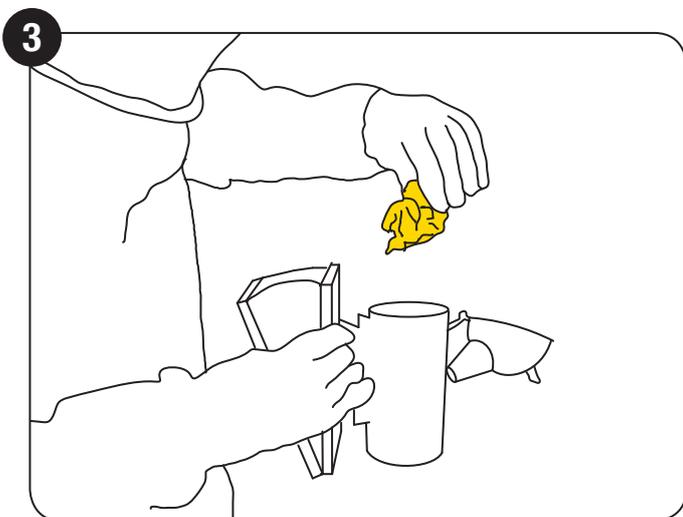
A new bee colony should be checked a few times in the first month. Thereafter you can check monthly unless you expect a big honey flow or problems.



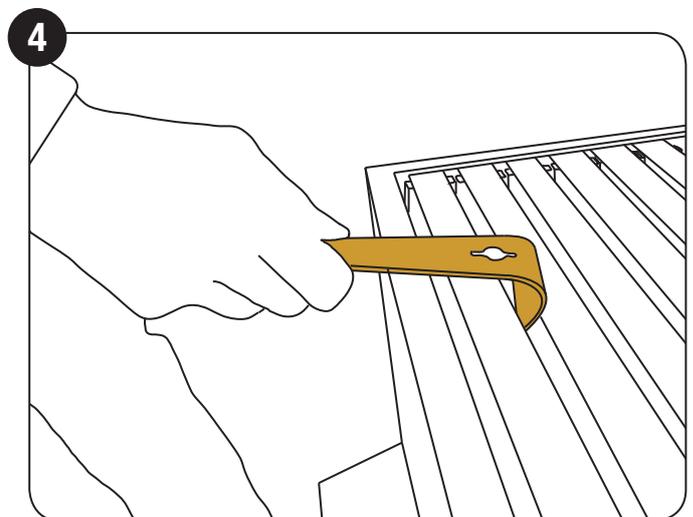
1 Take your tools and the inspection sheet



2 Approach the hive from side or back, not provoking flying bees



3 Smoke the hive  35

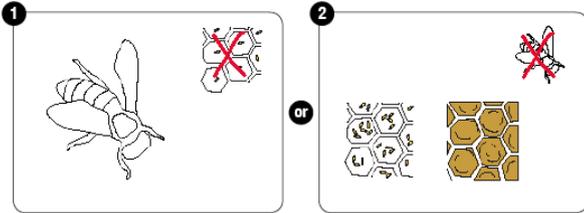


4 Pry the frames one by one loose with a hive tool and check each frame on the following topics;

4a

### CHAPTER FIVE QUEEN

Inspect the frames to find out the queen is alive. If you can't find the queen but you see eggs, you can assume the queen is alive. Skip this chapter and continue with chapter six.



If there is a queen but no eggs, you have to feed your colony, continue with 1a

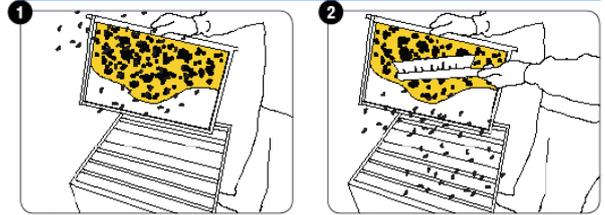
If there are many eggs in one cell and drone brood, but no queen (see pictures 6, 7) you have to join the hives, continue with 2a

Inspect the queen, see 10

4b

### CHAPTER SIX BROOD PATTERN

If your brood pattern looks healthy (see annex 4, picture 4), skip this chapter and continue with chapter seven.



If the brood pattern has many holes (see annex 4, picture 5), it means there is a weak queen. Kill the queen.

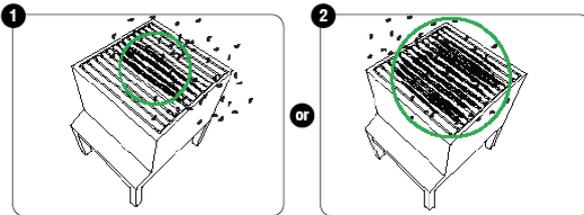
Take a frame with 1 to 3 days old eggs (see annex 4, picture 1) from another hive and brush the bees off.

Inspect the brood pattern, see 15

4c

### CHAPTER SEVEN STRENGTH OF COLONY

The strength of a colony depends on the season and the age of the colony. If you expect a honey flow, you have to make sure your bees have enough space to expand



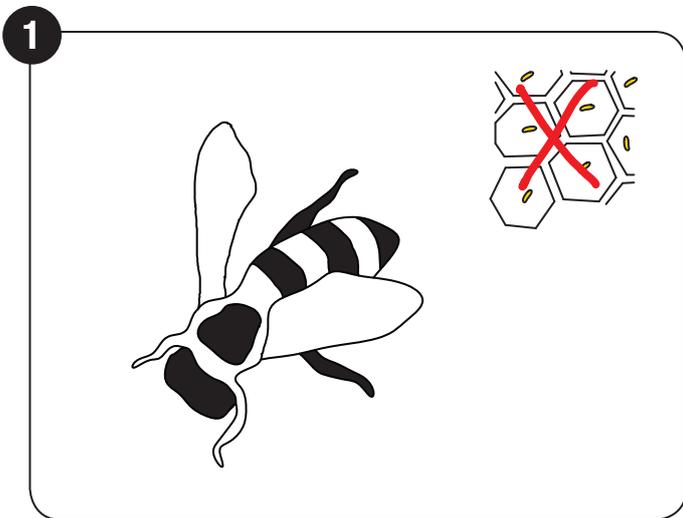
If only 2 to 4 frames are occupied; feed the bees (see annex 3, Feeding). If the colony stays small after a few months, join it with another colony (See chapter 5, 2a)

If over six frames are occupied, continue with 3 or 4, see below)

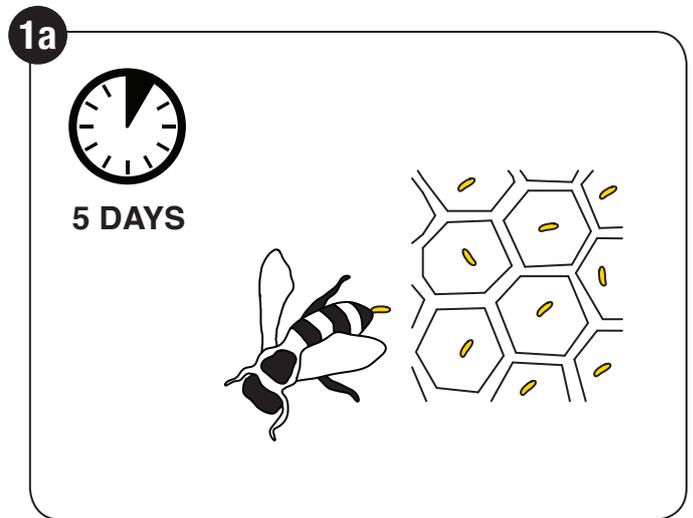
Inspect the colony strength, see 17

# CHAPTER FIVE QUEEN

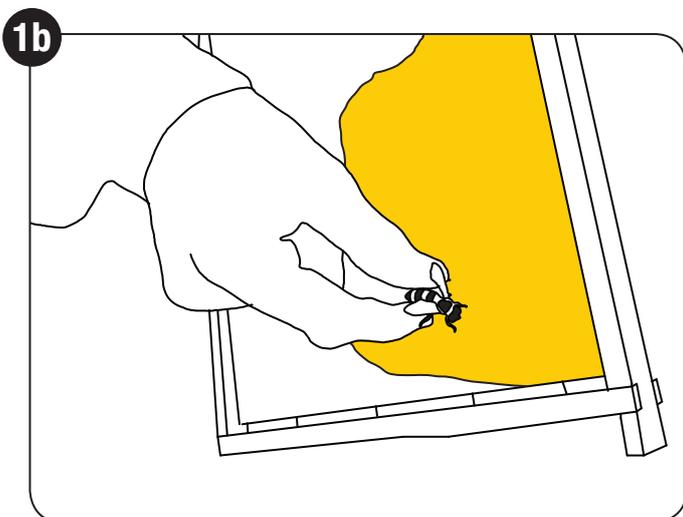
Inspect the frames to find out if the queen is alive. If you can't find the queen but you see eggs, you can assume the queen is alive. Skip this chapter and continue with chapter six 📖 15



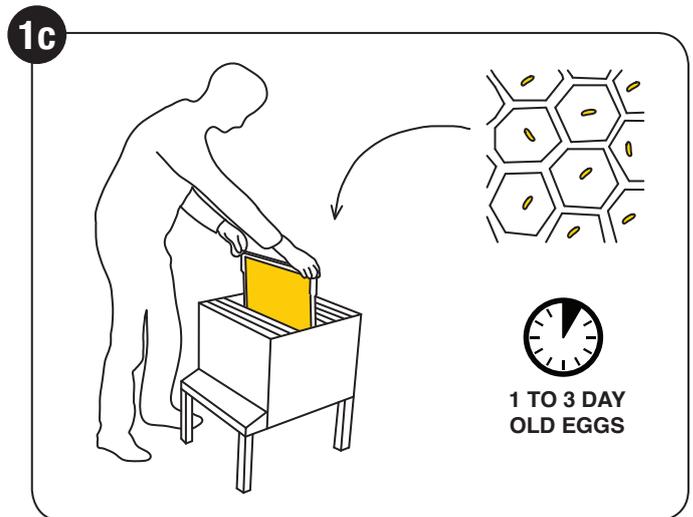
If there is a queen but no eggs, you have to feed your colony 📖 37



After 5 days, check to see if the queen has started laying eggs



If she isn't laying, take her out

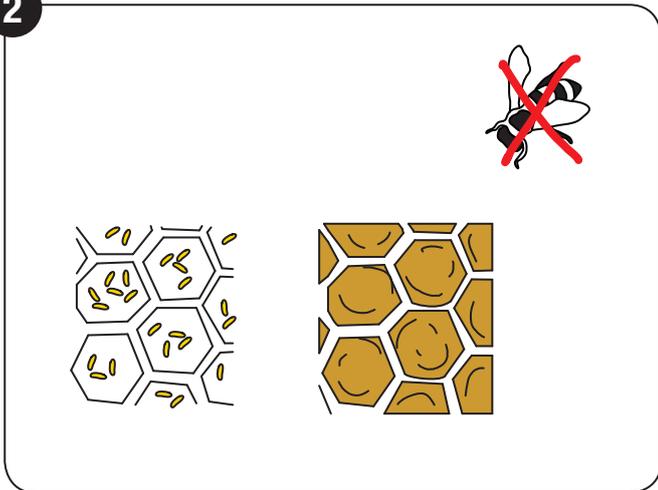


Put in a frame with 1 to 3 days old eggs, without bees from another hive, to produce a new queen

📖 15

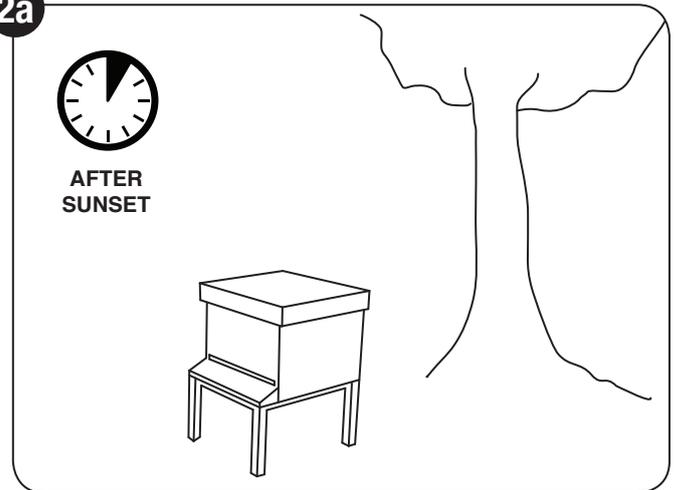
## JOINING THE HIVE

2



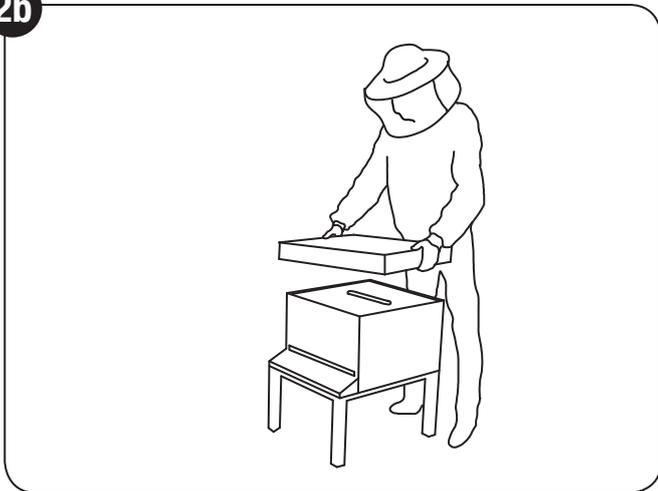
If there are many eggs and drone brood in one cell, but no queen ☑ 6,7 you have to join the hives

2a



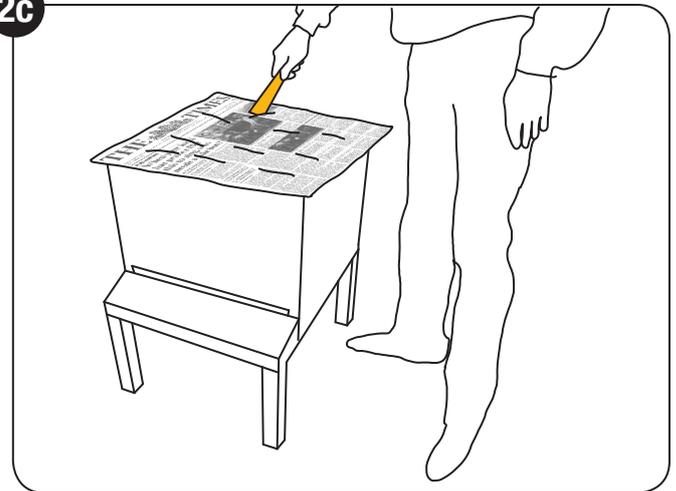
Joining hives should be done in the evening after bee flight

2b



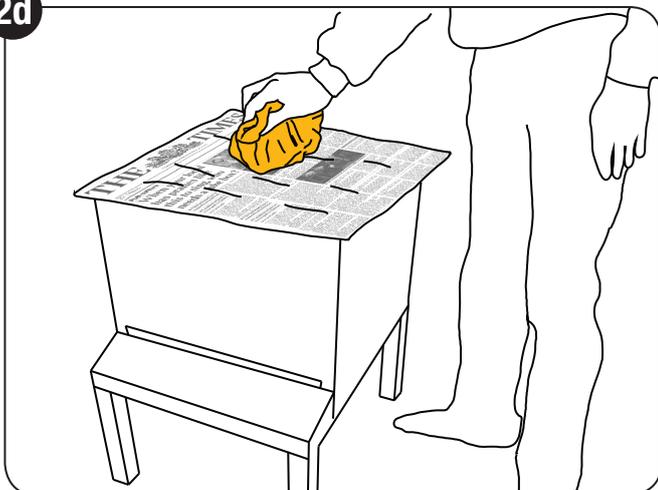
Remove the outer and inner lid of the deep

2c



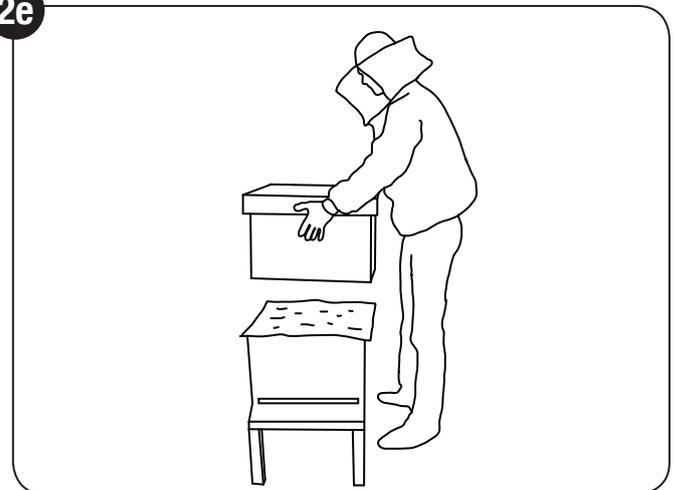
Cover the deep with a newspaper and make some small holes in it with the hive tool

2d



With a cloth, damp the newspaper a bit

2e



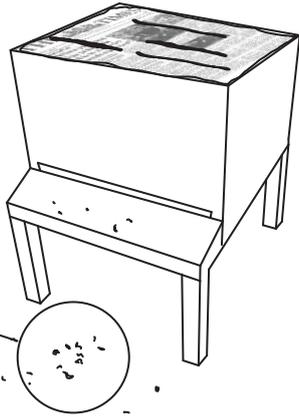
Put the deep of the weak hive on the newspaper

2f



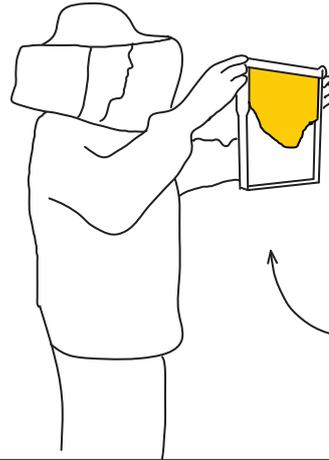
2 - 4 DAYS

PAPER



Remove the pieces of newspaper after a few days. An indication for a good joining is finding pieces of newspaper as a fluff in front of the hive

2g

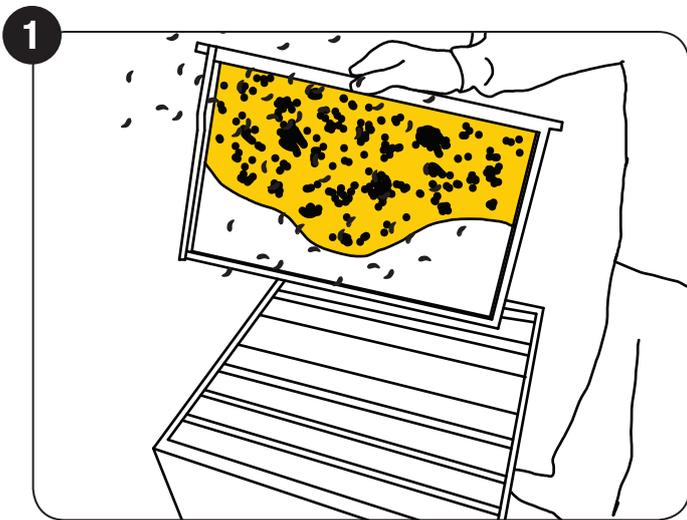


Check if the queen is alive by looking for eggs

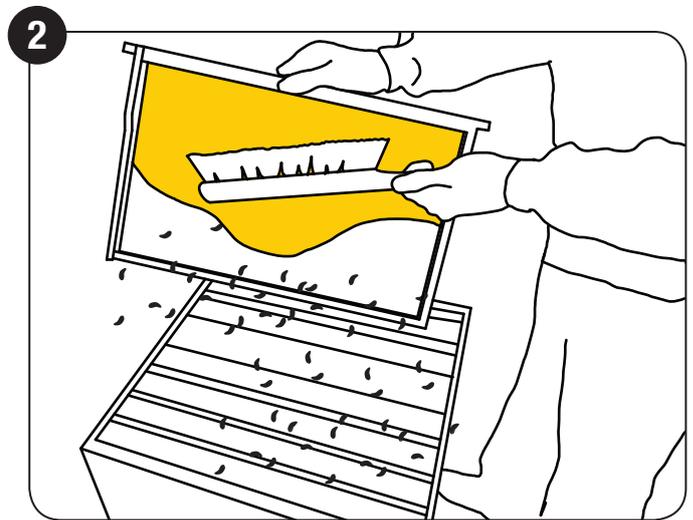
# CHAPTER SIX

# BROOD PATTERN

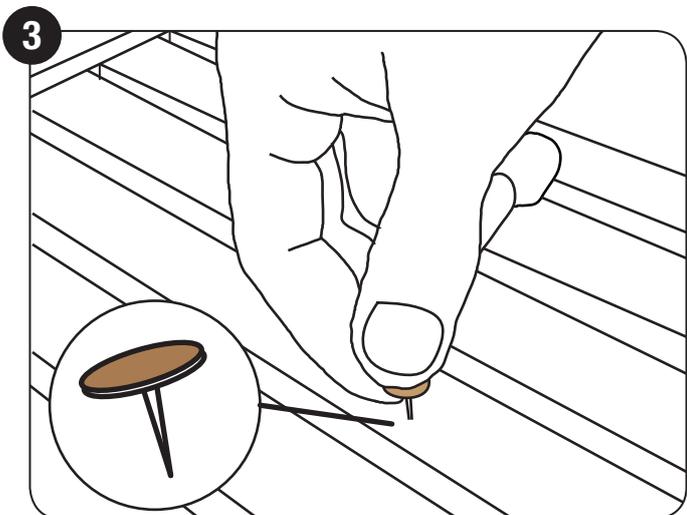
If your brood pattern looks healthy  3 skip this chapter and continue with chapter seven  17



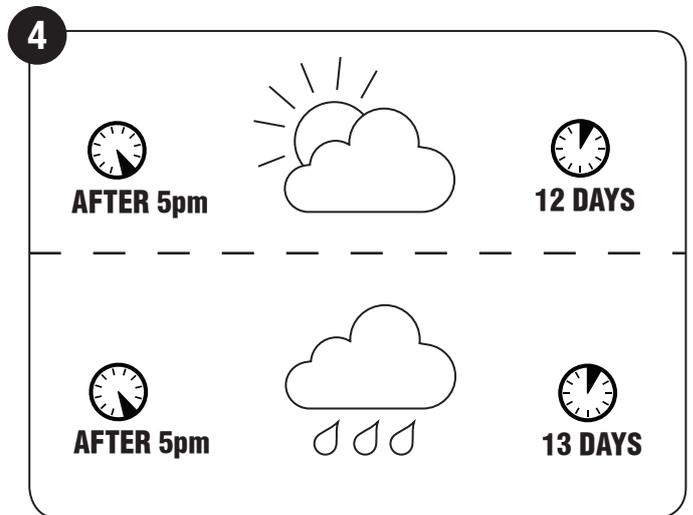
1 If the brood pattern has many holes  2 it means there is a weak queen. Kill the queen.



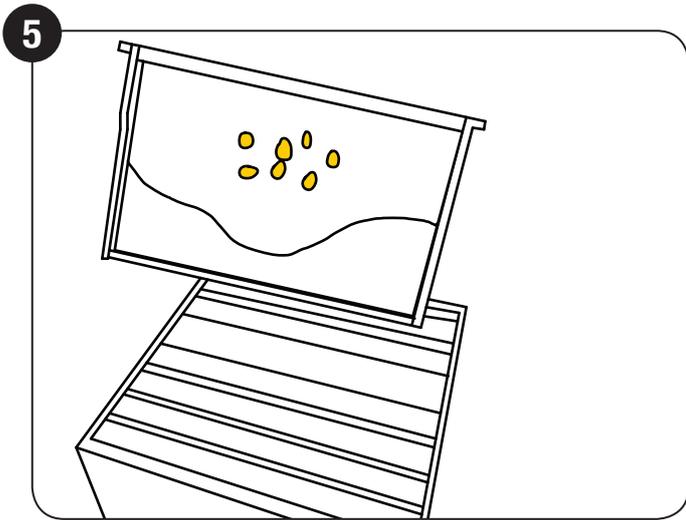
2 To create a new queen, take a frame with 1 to 3 days old eggs  1 from another hive and brush the bees off.



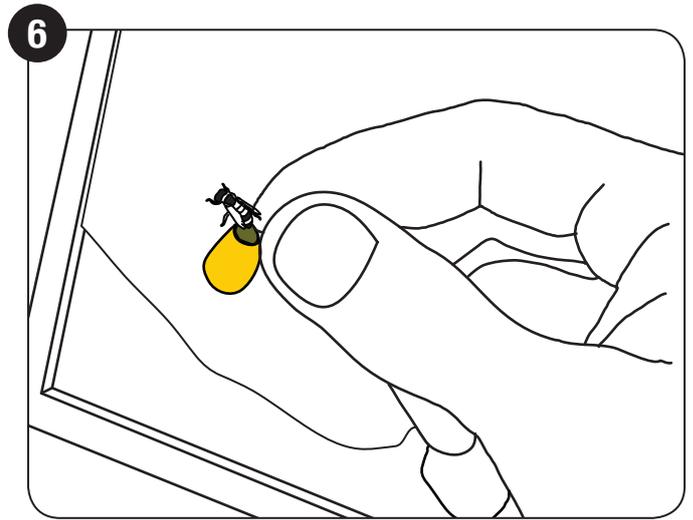
3 Put the frame in the middle of the hive and mark the frame



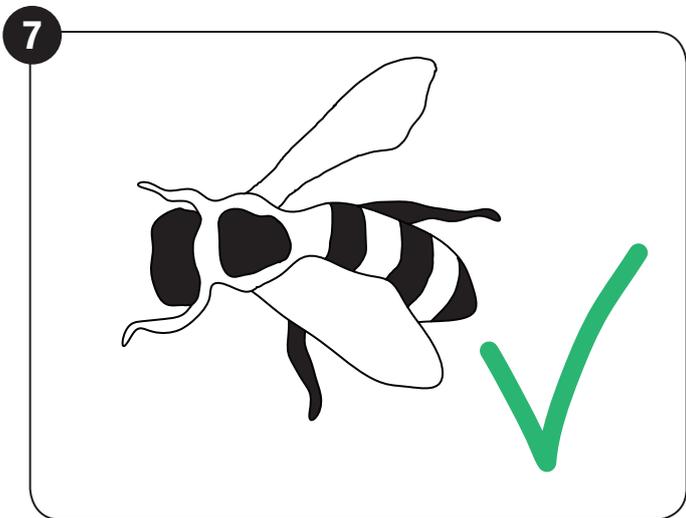
4 Wait for exactly twelve or thirteen days. Sunny weather: 12 days. Rainy/cold weather: 13 days.



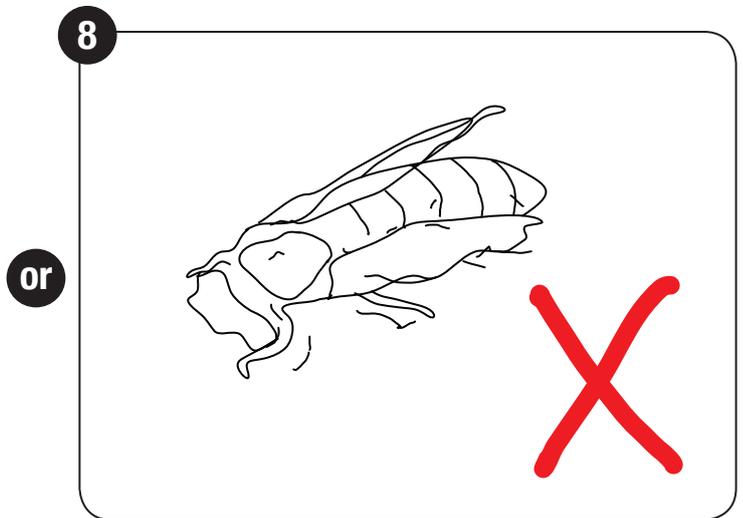
Inspect on queen cells 5 in the middle of the comb. In these cells queens grow up, probably there will be around 10 to 15 of them



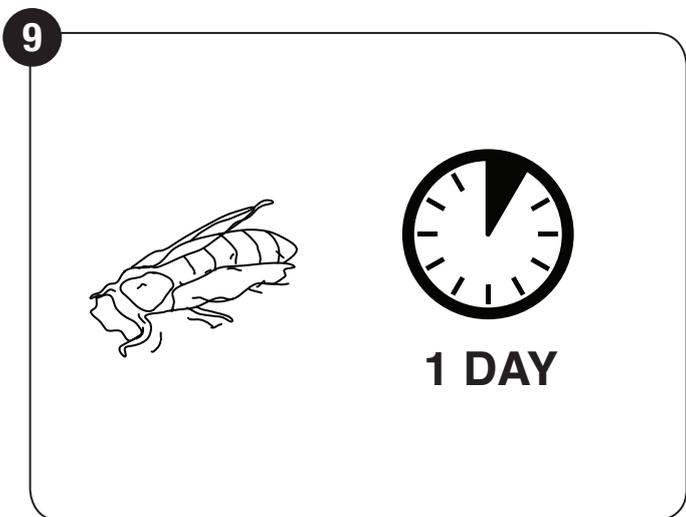
Open the top of a queen cell so the queen will walk out



If the queen has a colour and is well developed you can open all the cells. The queens will fight in the night and the strongest will survive.



If the queen doesn't have a colour and is not well developed, kill this queen and open another queen cell

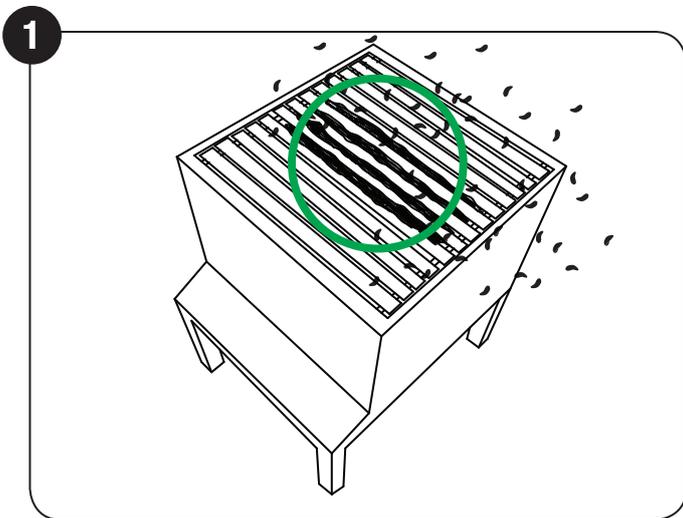


If this queen is also less developed, kill this queen too, leave the other cells untouched and wait for exactly one day and run the check again.

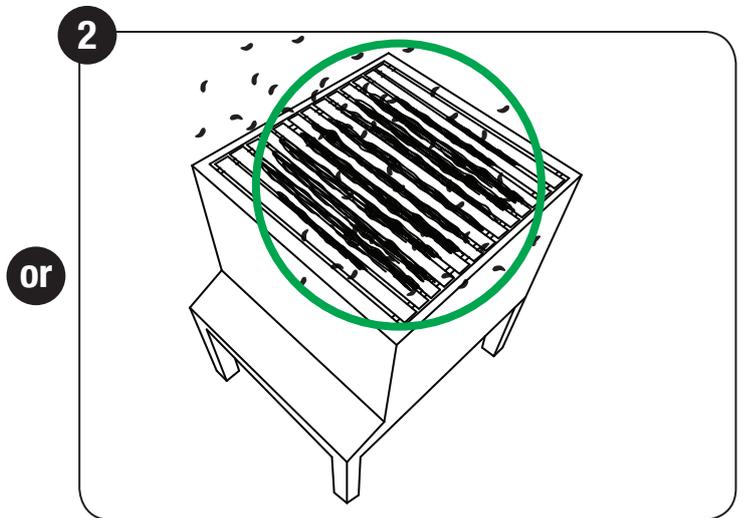
## CHAPTER SEVEN

# STRENGTH OF COLONY

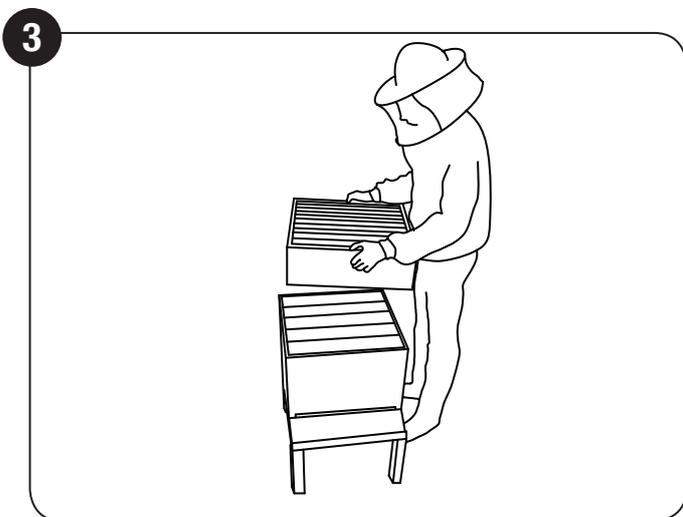
The strength of a colony depends on the season and the age of the colony. If you expect a honey flow, you have to make sure your bees have enough space to expand.



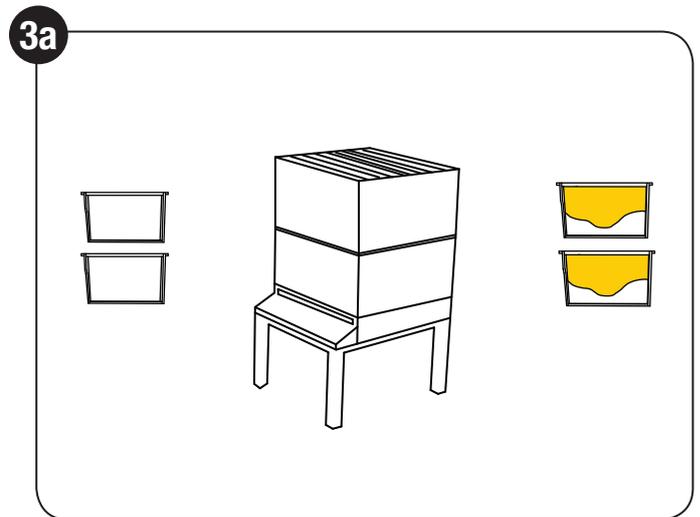
If only 2 to 4 frames are occupied; feed the bees  37, if the colony stays small after a few months, join it with another colony  13



If over six frames are occupied, continue with **3**, **4** or **5**

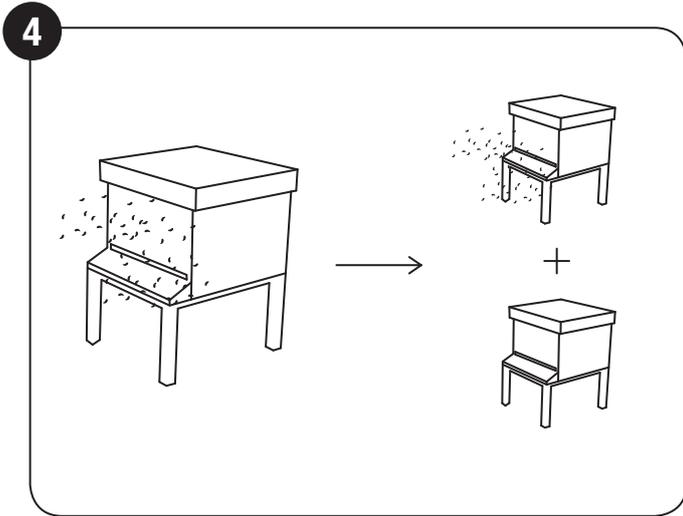


When more than 6 frames are in use with honey, pollen or brood, you can add a second deep box or a super to give the bees some space

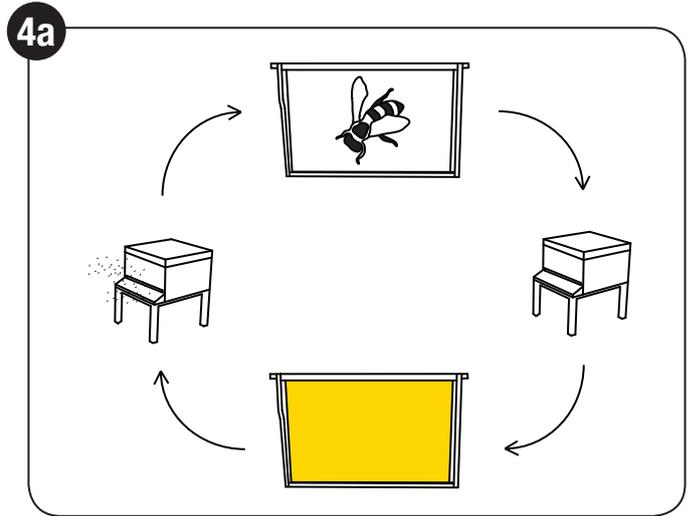


Exchange two full frames from the occupied box with two empty frames from the new deep box or super box

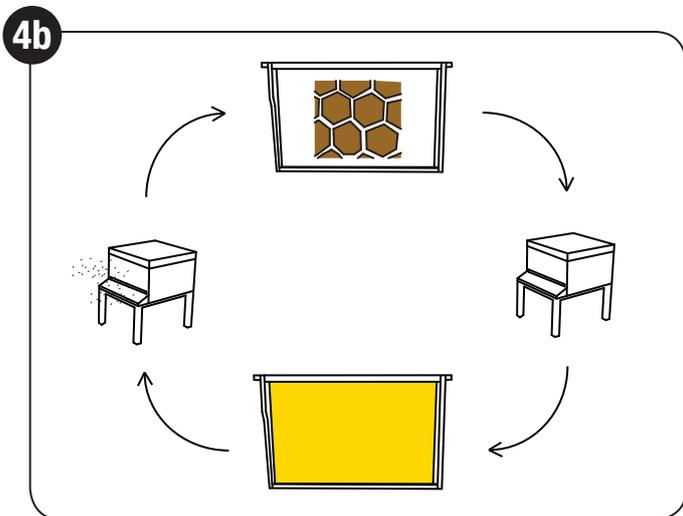
**SPLITTING THE HIVE OPTION 1**



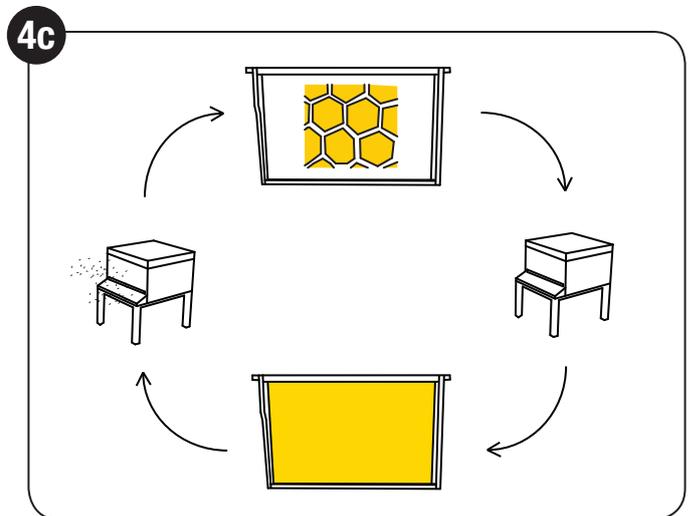
When more than 6 frames are in use with honey, pollen or brood, you can also decide to not expand the hive, but to split the hive to create an extra colony



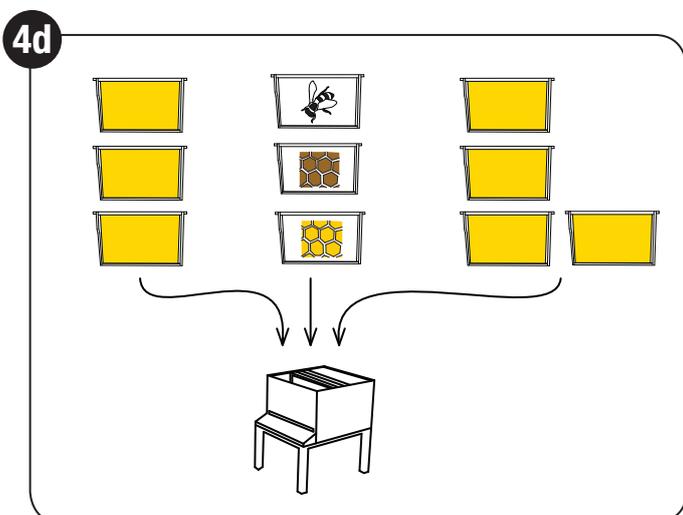
Exchange the frame with the queen and bees from the mother hive for an empty frame of a new hive



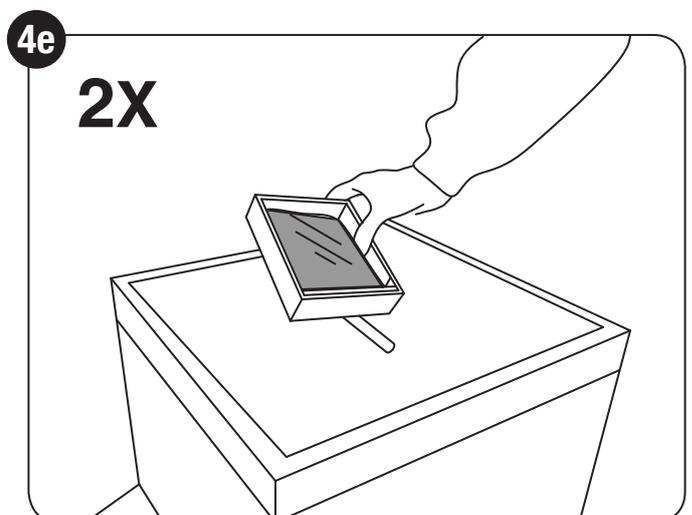
Exchange 1 frame with honeycomb and bees from the mother hive for an empty frame of the new hive



Exchange 1 frame with honey, pollen and bees from the mother hive for an empty frame of the new hive

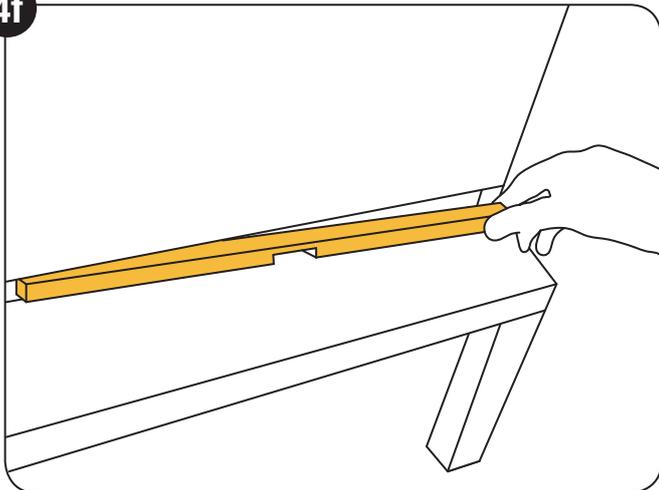


Put the occupied frames with the bees in the middle and the empty frames on the sides



Feed both hives with syrup

4f

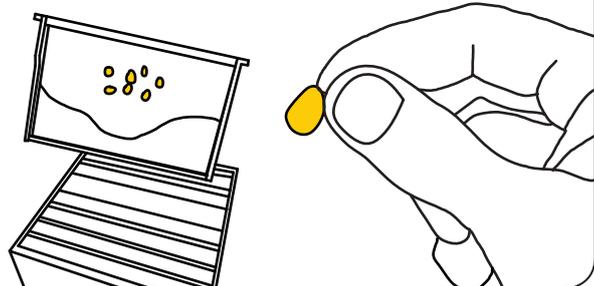


Put an entrance reducer with a small hole in the new hive

4g



12-13 DAYS

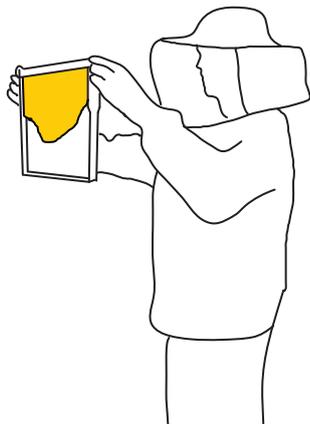


Check the mother hive after 12 to 13 days to open the queen cells  16

4h

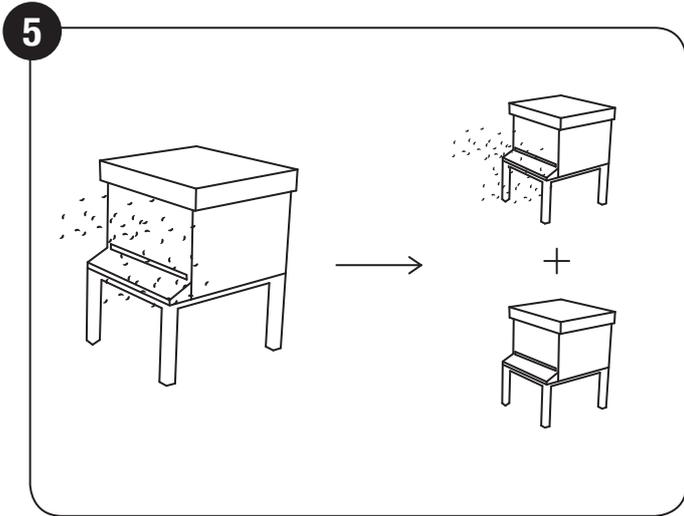


25 DAYS

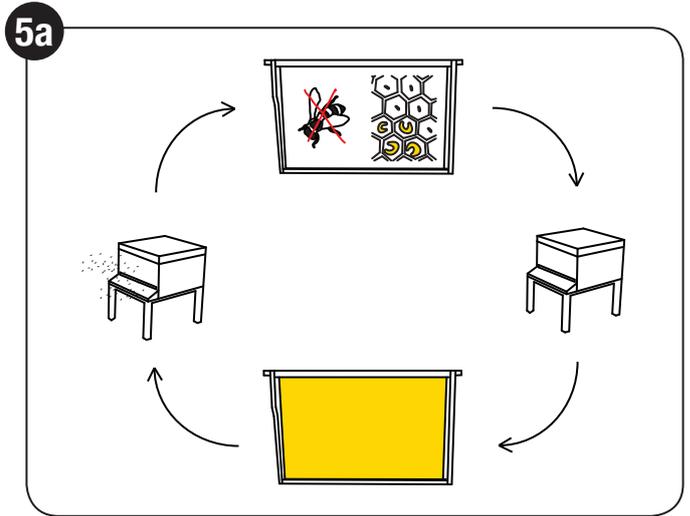


Check the new hive with queen after 25 days to see if she is still alive

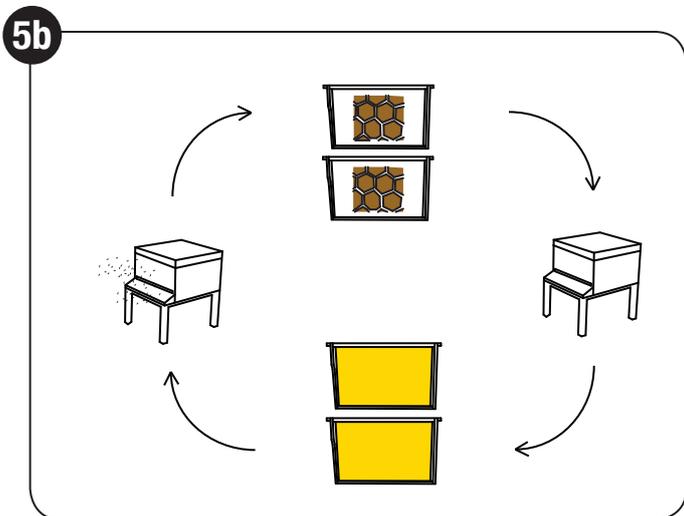
**SPLITTING THE HIVE OPTION 2**



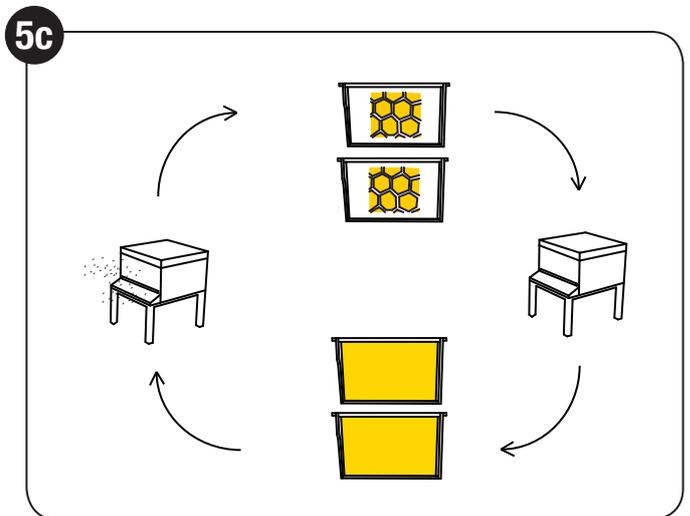
When more than 6 frames are in use with honey, pollen or brood, you can split the hive to create an extra colony.



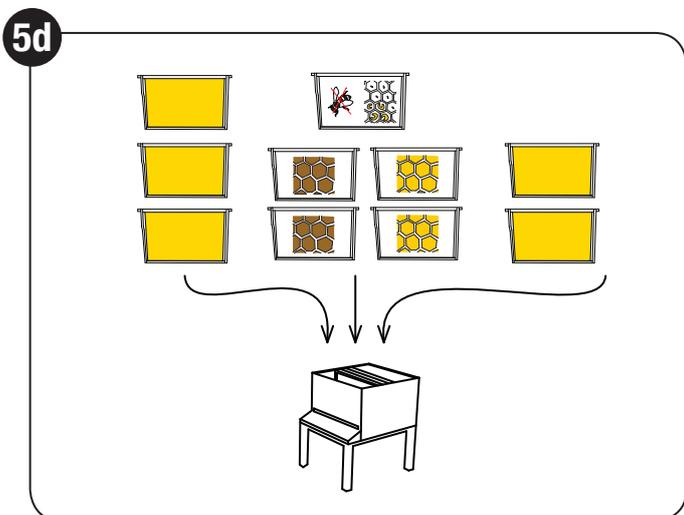
Exchange 1 frame with eggs and young larvae and bees (without the queen) from the mother hive for an empty frame of the new hive



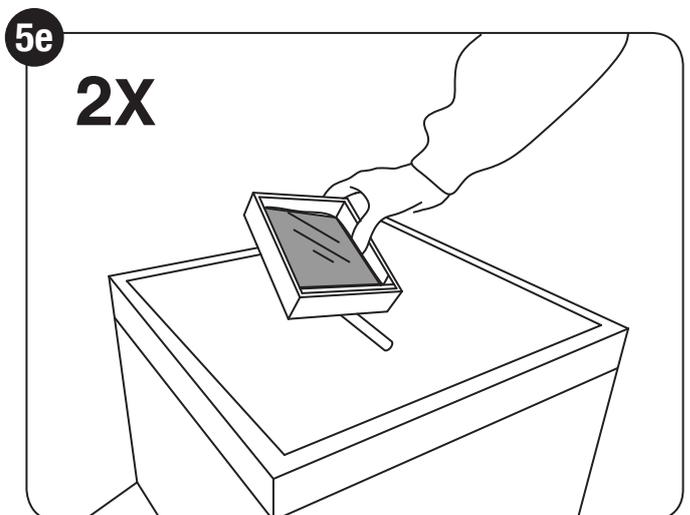
Exchange 2 frames with capped brood and bees (without the queen) from the mother hive for an empty frame of the new hive



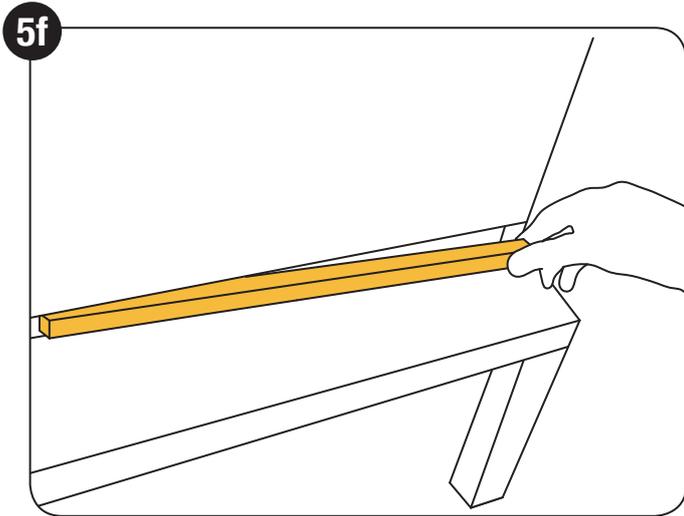
Exchange 2 frames with honey and pollen and bees (without the queen) from the mother hive for an empty frame of the new hive



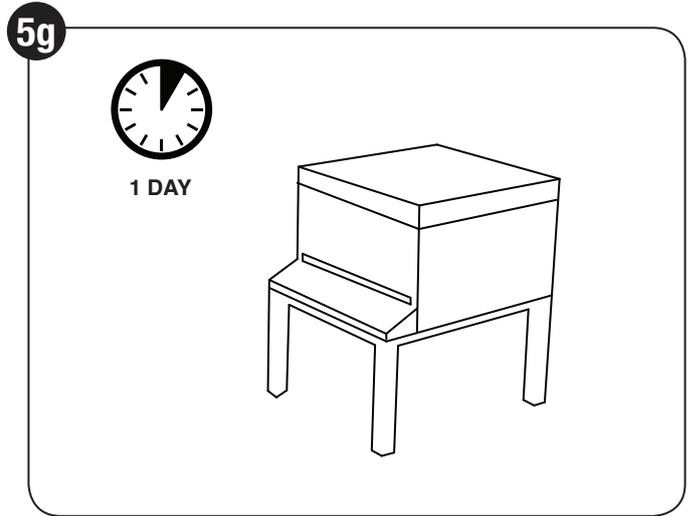
Put the occupied frames with the bees in the middle and the empty frames on the sides



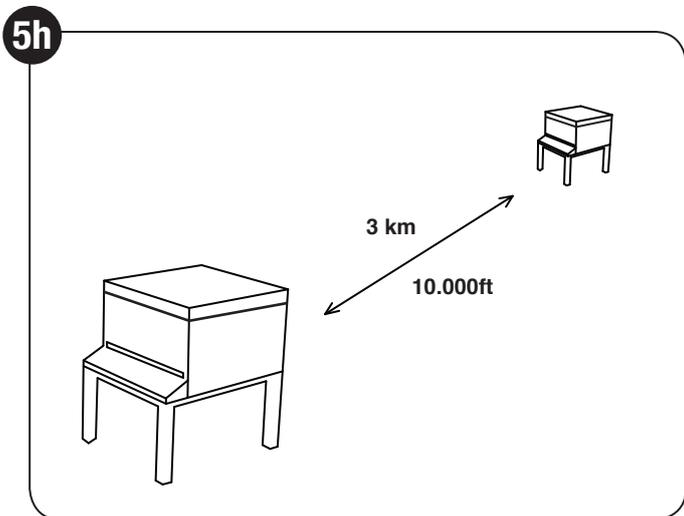
Feed both hives with syrup



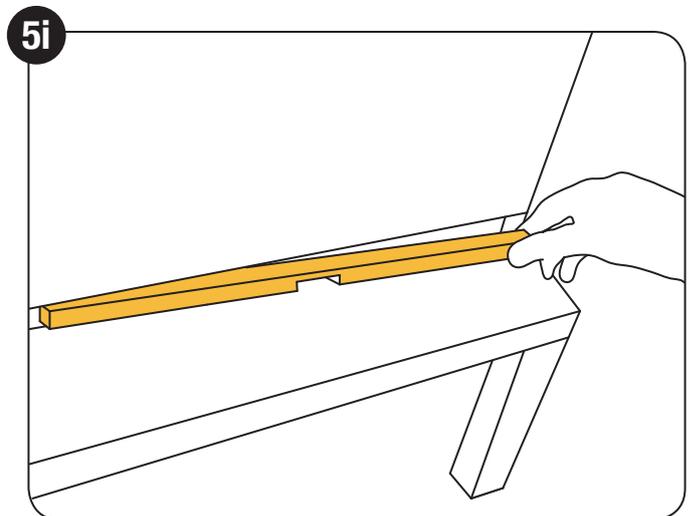
Close the new hive with an entrance reducer



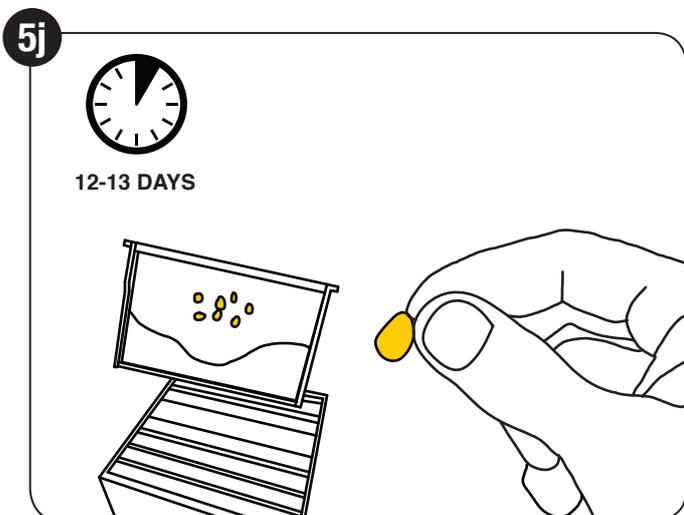
Keep the new hive in a cool dark location for one day for the bees to become relaxed



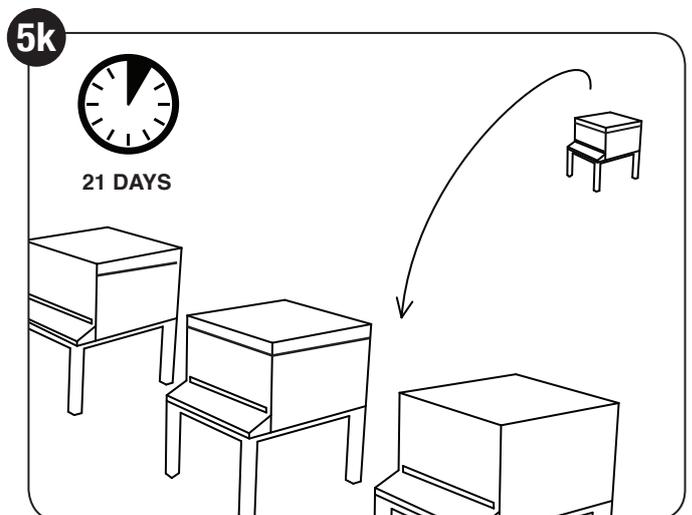
Place the new hive at a minimum distance of 3km from the mother hive



Put an entrance reducer with a small hole in the new hive



Check the new hive after 12 to 13 days to open the queen cells  16

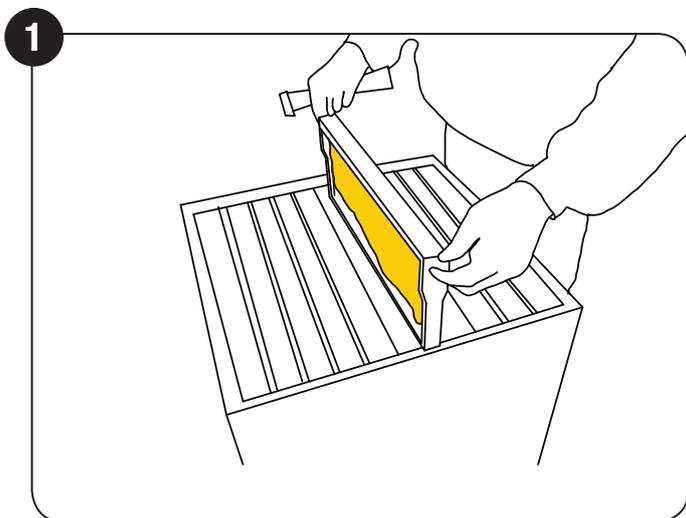


After 21 days, check the mother hive with the queen to see if she is still alive. Then bring the new hive back to your bee site

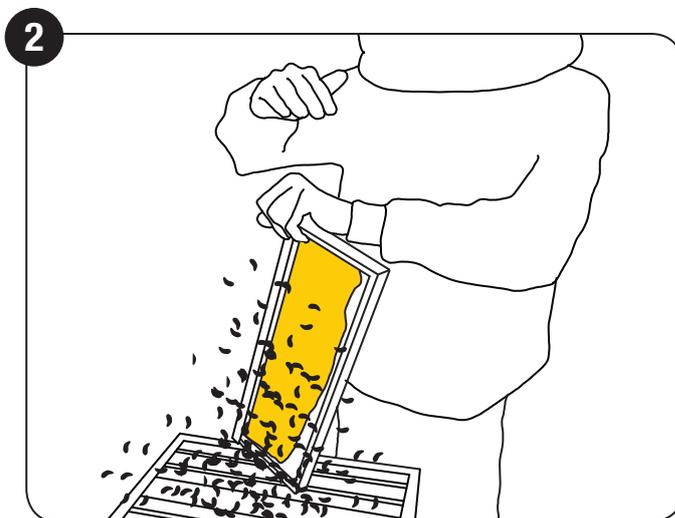
## CHAPTER EIGHT

# HARVEST OF HONEY

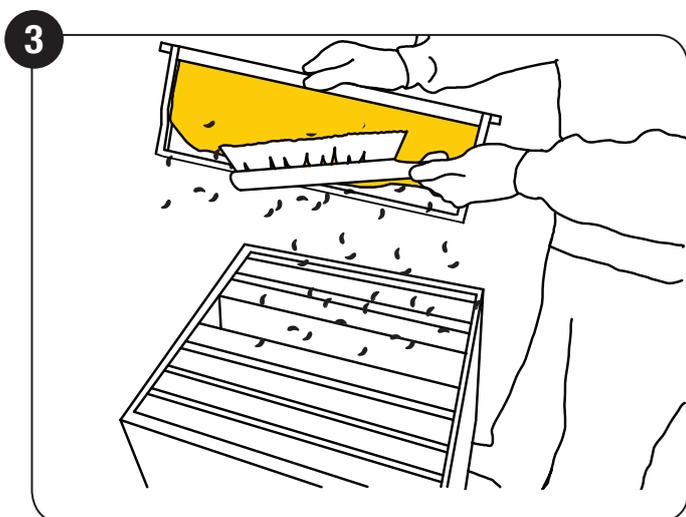
In the first year of a new hive you probably can not harvest honey. The bees were too busy with building their home instead of making honey.



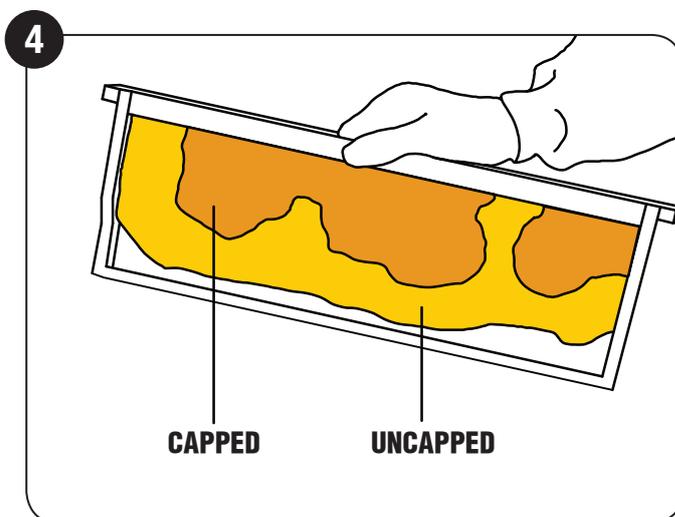
1 Take a frame out from the super (never harvest honey from the deep, the bees need this honey to survive the winter)



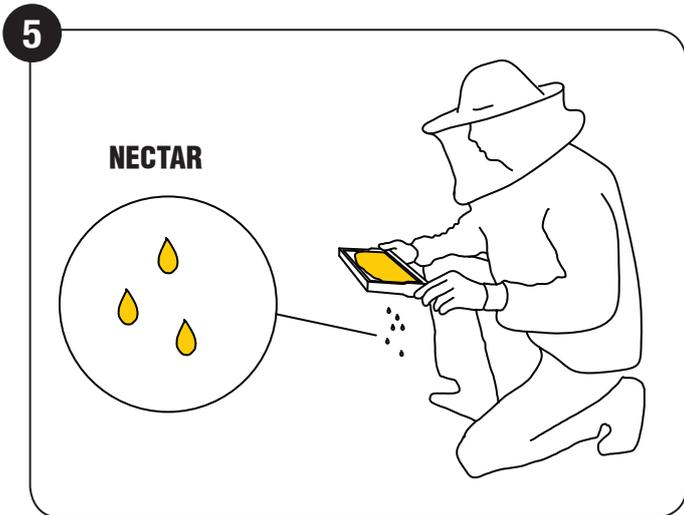
2 Knock the bees off above the hive



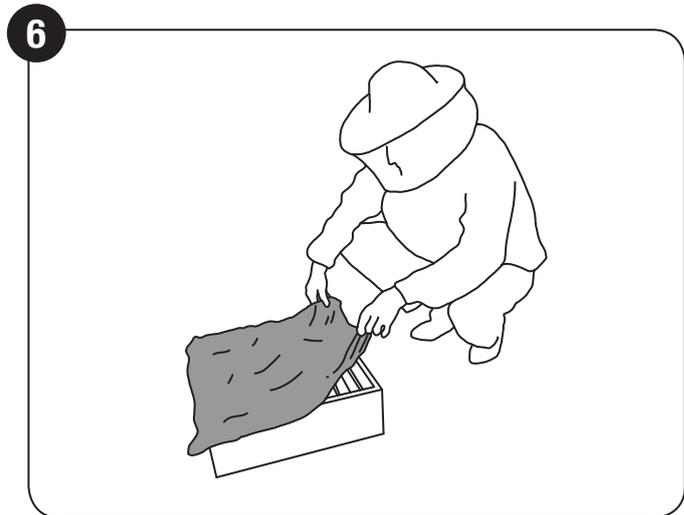
3 Remove the last bees with a bee brush from the frame (Use smoke sparingly, as it will affect the flavour of the honey)



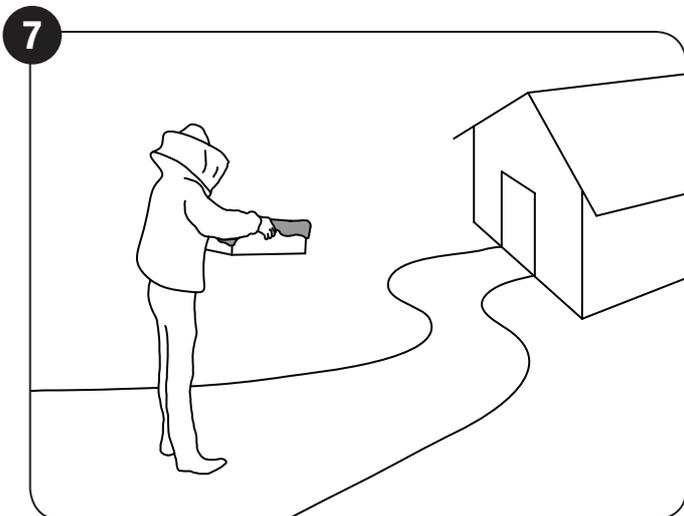
4 If more than a third of the cells is uncapped, put it back in the hive. The frame is not suitable to harvest



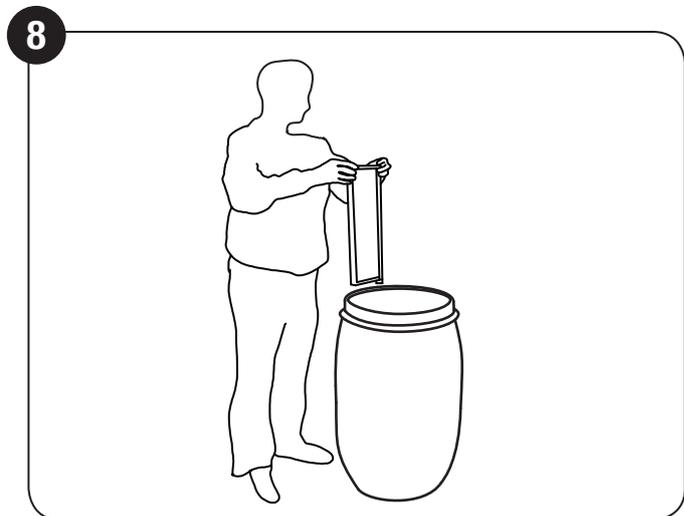
Keep the frame parallel to the ground. Nectar from uncapped cells will drip out, honey won't. If there is only a little bit of nectar you can use the frame for harvesting



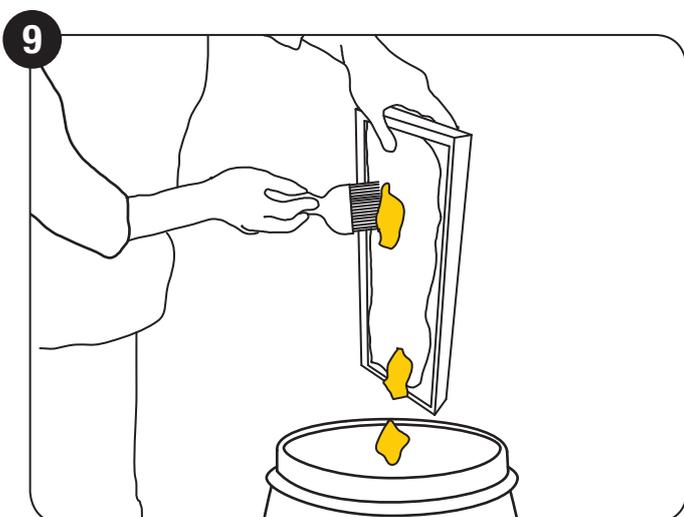
Put the honey frame in an empty super and cover it with a damp cloth or cover. Don't forget to feed the bees after the last harvest because you've taken their honey.



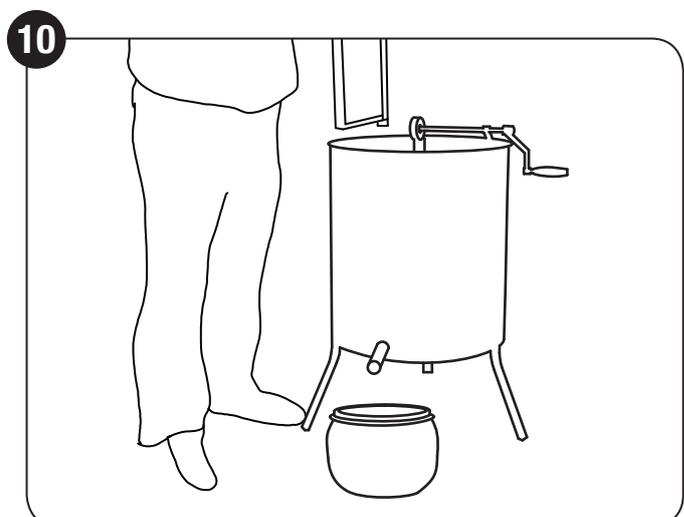
Take the frames with you and harvest the honey indoors, otherwise bees will be attracted



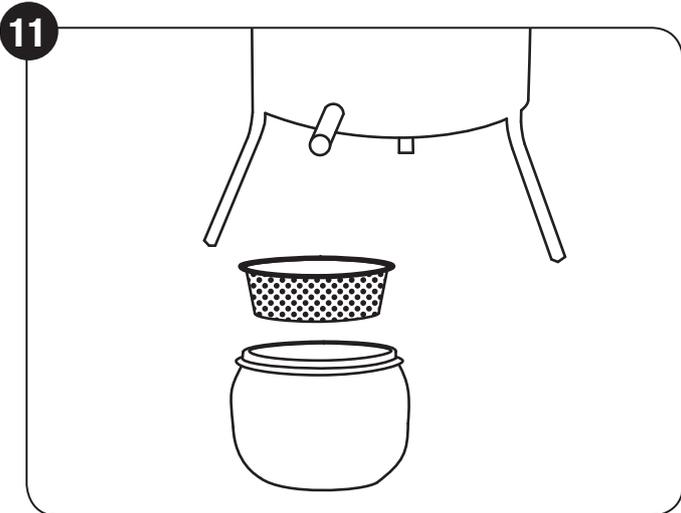
Keep the honey frame above a tank



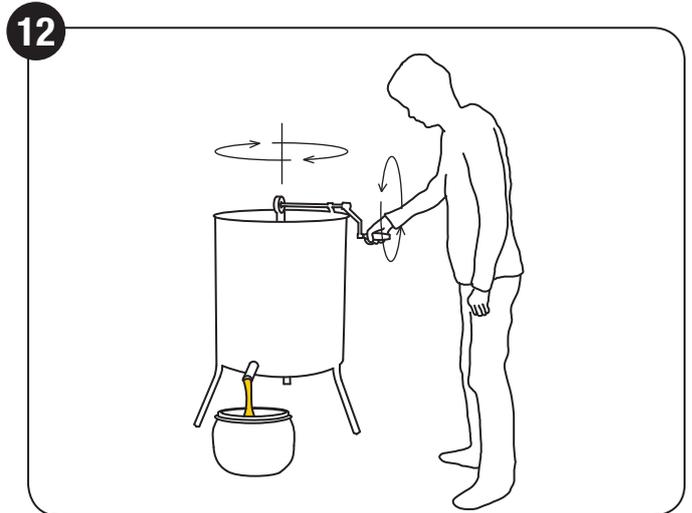
Uncap the cells on both sides of the frame with the uncapping fork



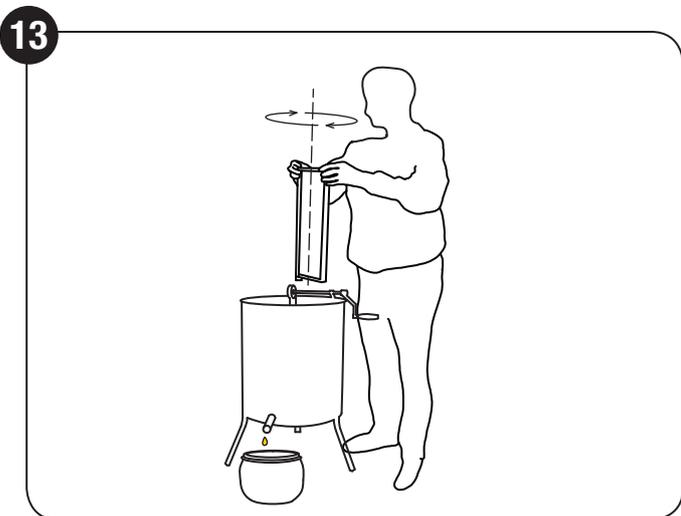
Hang the frame in the extractor. Make sure you divide the frames with a same weight equally in the extractor, otherwise it is unstable



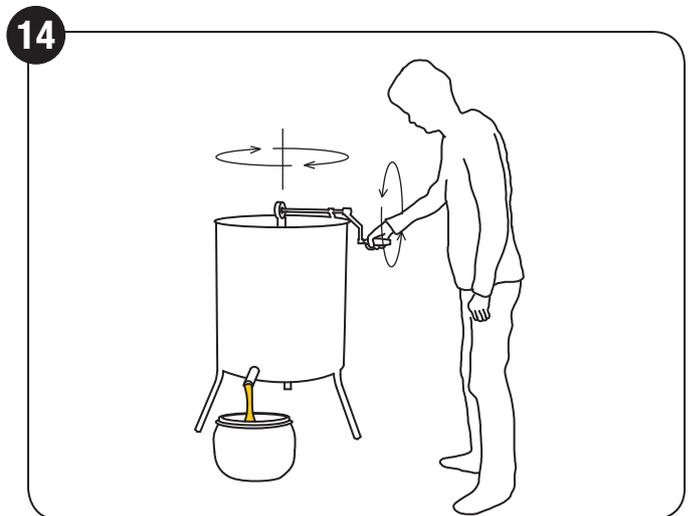
Put a bucket with sieve under the valve of the extractor



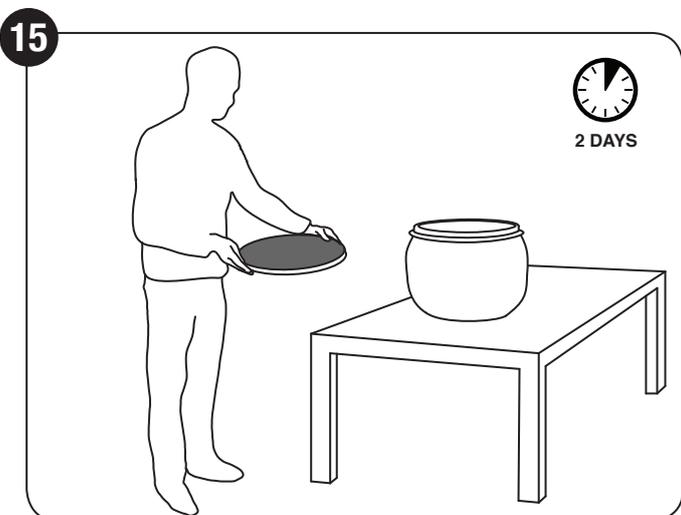
Spin the frames slowly until they are half empty. Don't spin too fast, otherwise the wax will be destroyed)



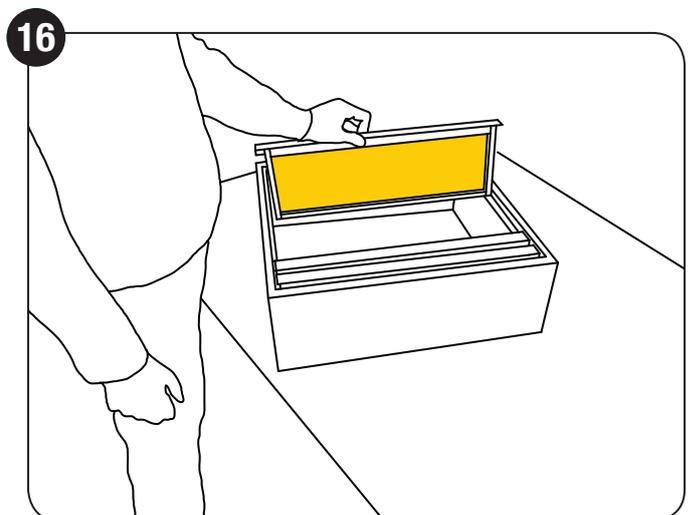
Turn the frames around and slowly spin out all the honey from the other side



Turn the frames again and slowly spin out the remaining honey.

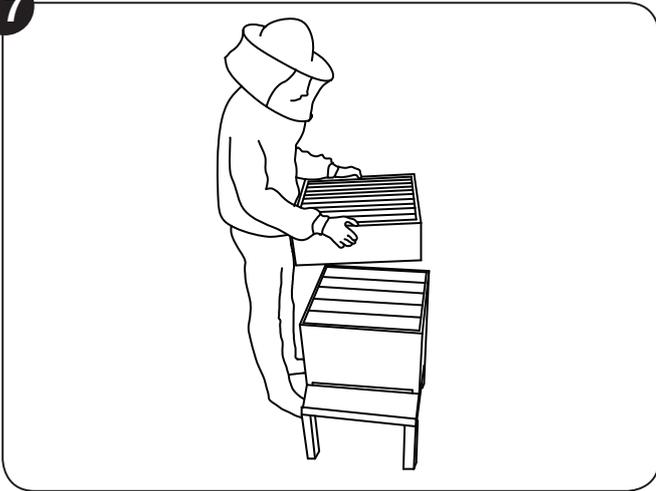


When all the honey is extracted, cover the honey bucket for 2 days



Put all the empty frames back in the super.

17



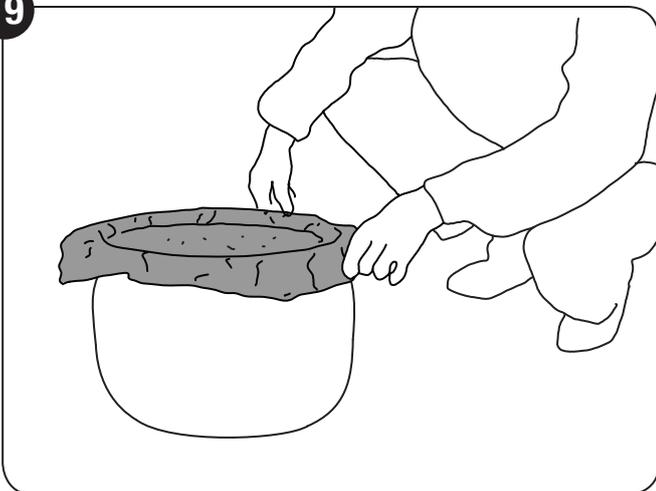
If there will be another honey flow, put the super back on the hive as before.

18



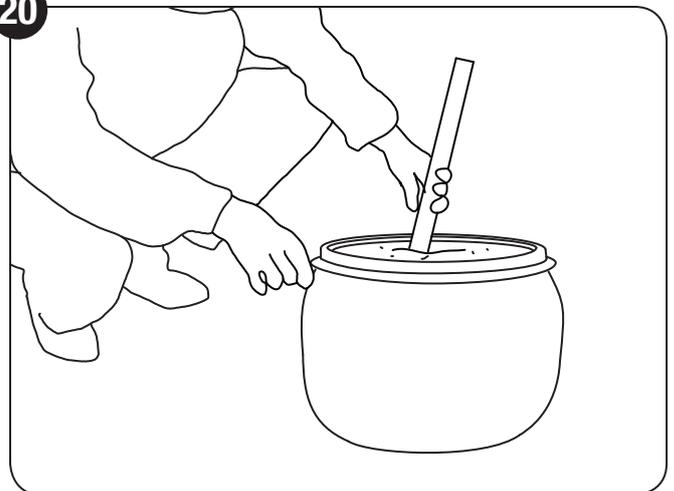
If there won't be not another honey flow, put the super on top of the inner cover, so the bees can take out the remaining honey

19



Skim the wax off with clingfilm or otherwise a wet cloth (be careful with the wet cloth, it can add water to the honey)

20



Strongly stir the honey

21

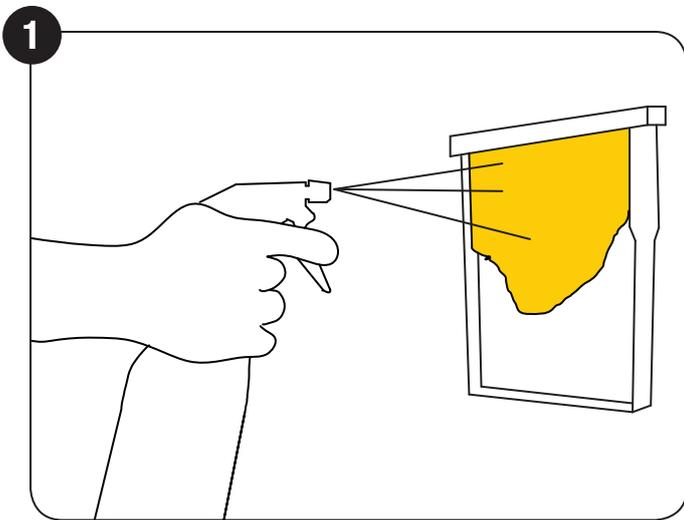


Poor the honey in jars for consumption and enjoy the taste of your own made honey. To make this job much more easy you could buy a bottling tank.

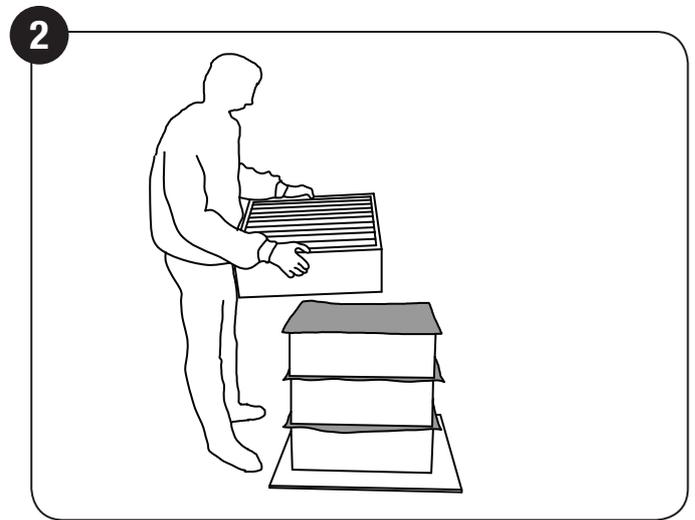
## CHAPTER NINE

# REMOVE AND STORE SUPERS AND FRAMES

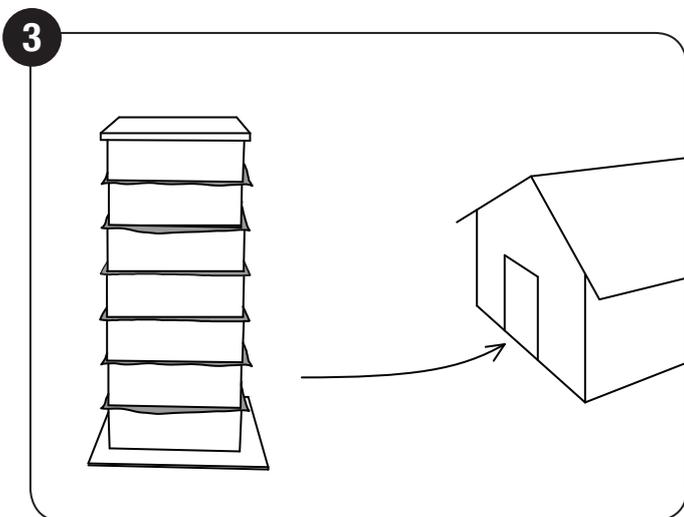
At the end of the season you should store the supers and frames in a good way, so you can use them again next spring.



Protect the combs from wax moths by spraying the comb with *Bacillus Thuringiensis*.



Put the frames back in the super after spraying. Put newspaper in between the boxes to protect from moths



Stack the supers with the frames in a dry place with the outer cover on top and no opening at the bottom, so mice can't enter.

## CHAPTER TEN

# PREPARING FOR WINTER

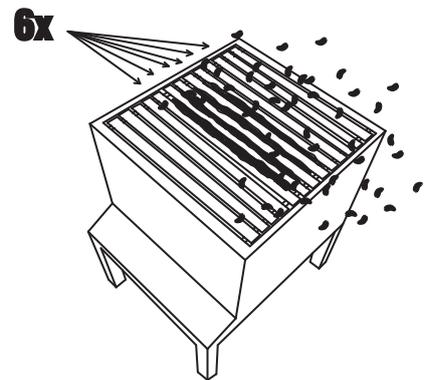
You have to make sure the bees will survive the winter and will be in good condition in spring. So you have to prepare each hive for winter.

1



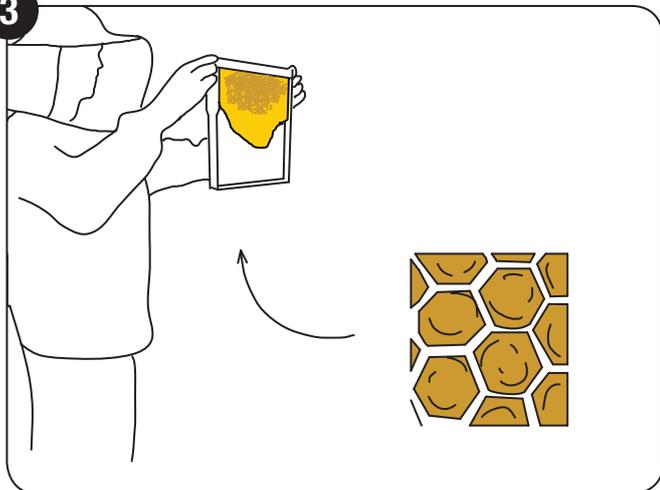
Check the queen of each hive; a colony with a weak queen has to be joined [13](#)

2



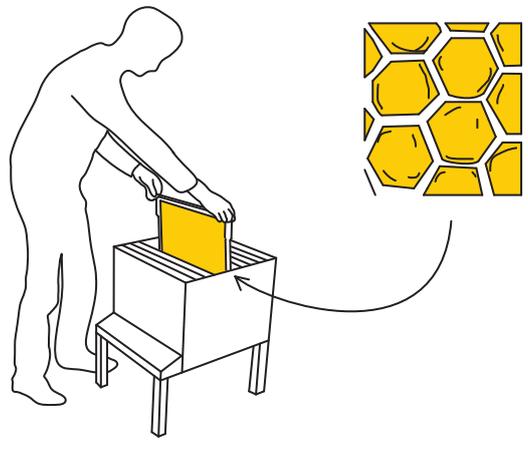
Check colony strength; a colony that occupies less than ten deep frames and has less than four frames with brood has to be joint [17](#)

3

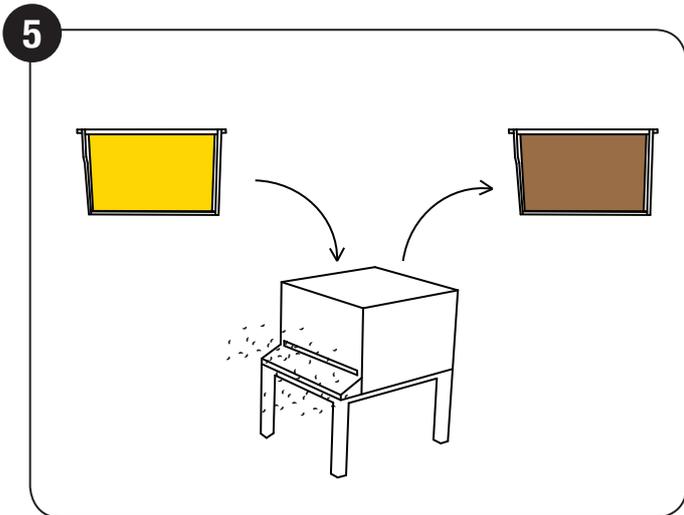


Check brood pattern; replace frames with drone brood [6](#) for frames with new wax foundation

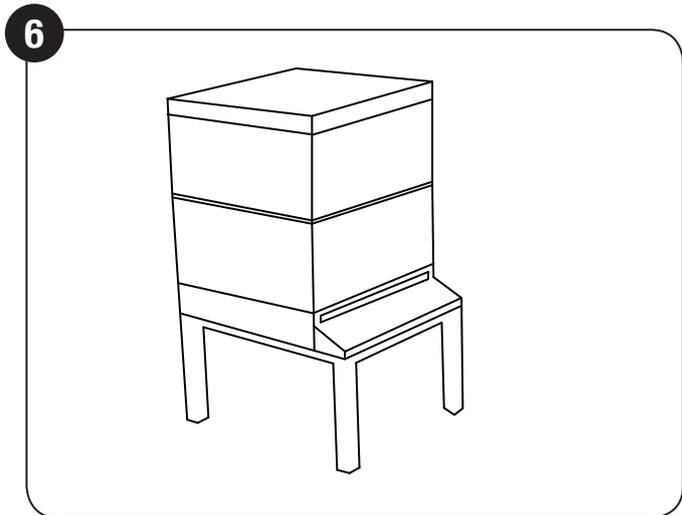
4



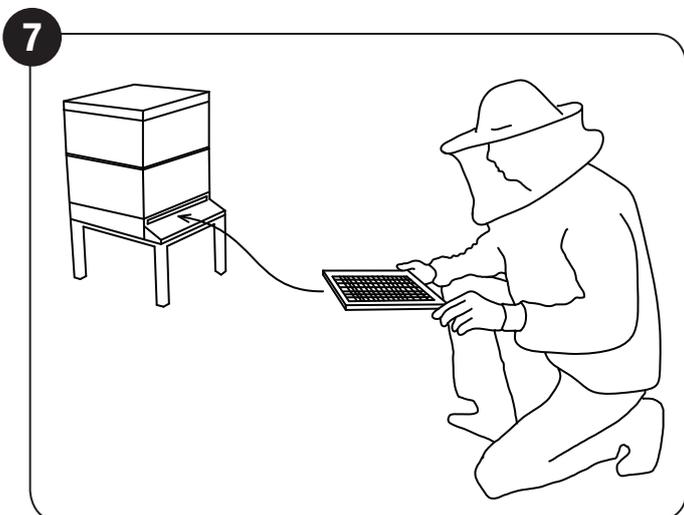
Put brood frames in the middle of the hive



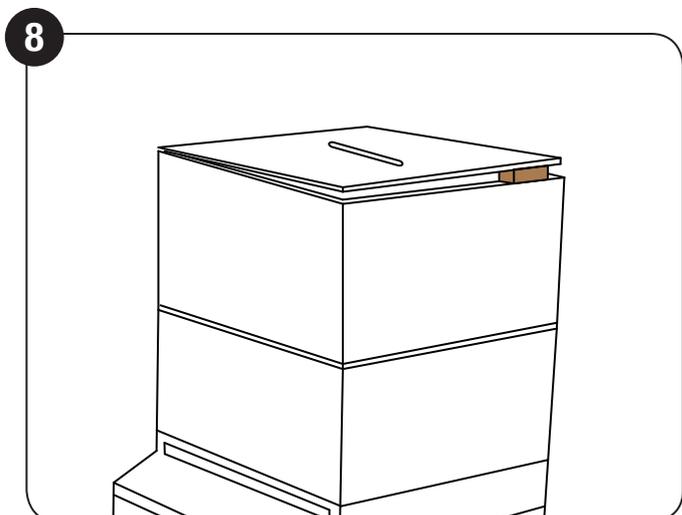
**5** Replace frames with old wax for frames with new wax. A frame is old if no light is shining trough when you hold them against the sunlight



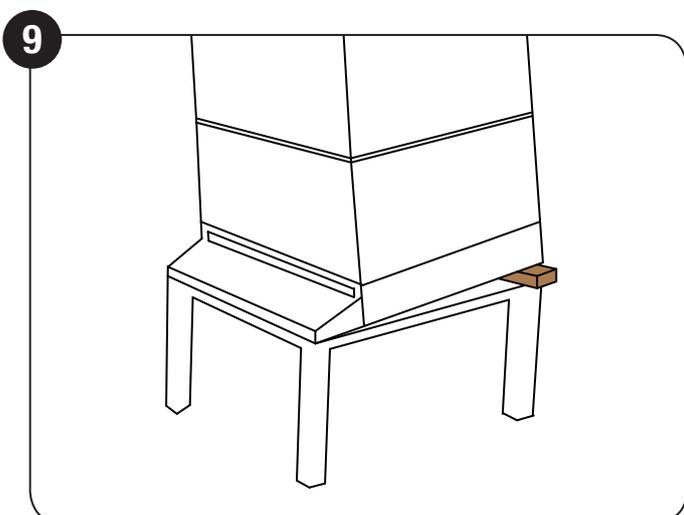
**6** A strong colony can easily stay in two deeps in winter time



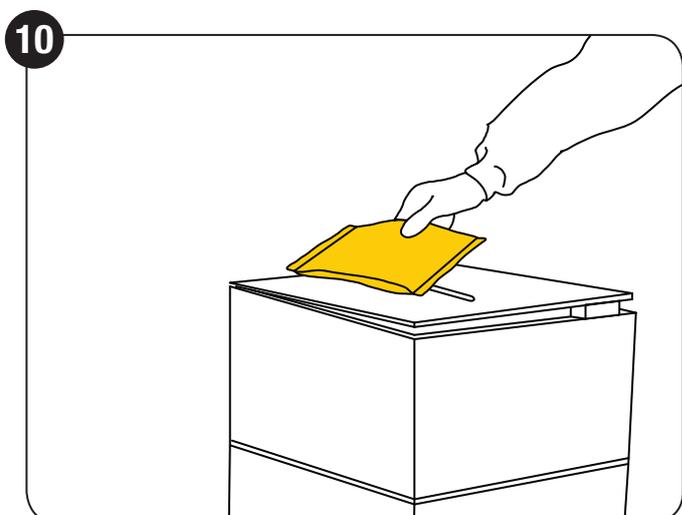
**7** To create ventilation in the hive use a screened bottom board, the same as the board to protect from varroa mite



**8** Insert a wedge to lift the inner cover about 1 cm

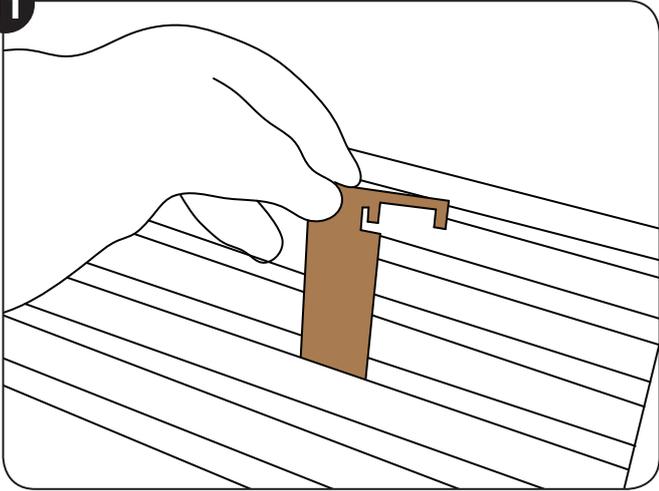


**9** Insert a wedge underneath the bottom board lifting the hive forward for about 2 cm. Or put the hives on a permanent slight slope, make sure the hive is up on the back side



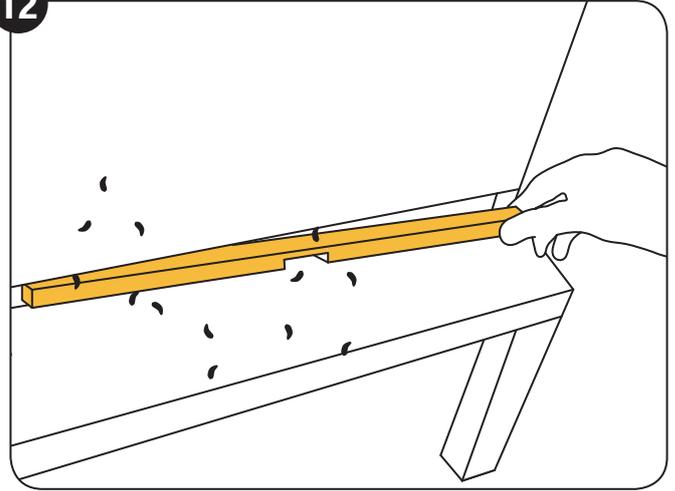
**10** Add solid bee food to your hives. Do this in the evening to protect the hive from attacking other bees

11



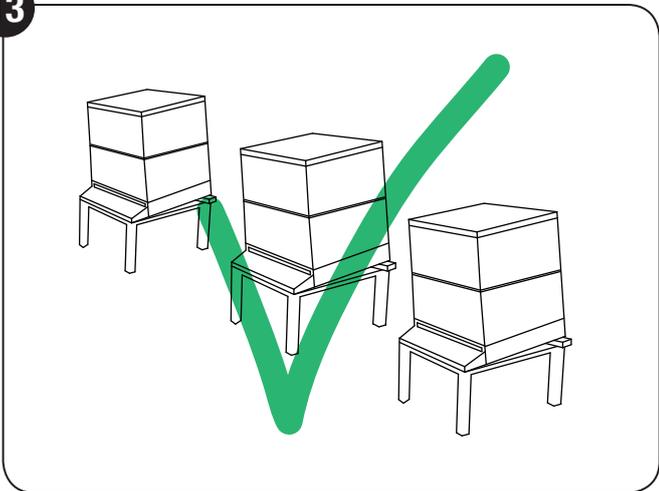
Hang the varroa strip in the middle, between the frames

12



Add a wooden or metal screened entrance reducer so mice will not get into the hive

13

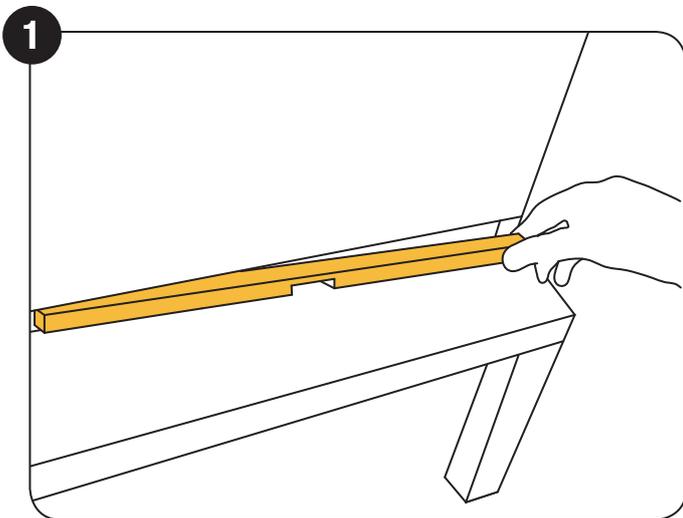


Your hives are now ready for winter! During wintertime you shouldn't open the complete hive. Only check for holes made by birds or mice

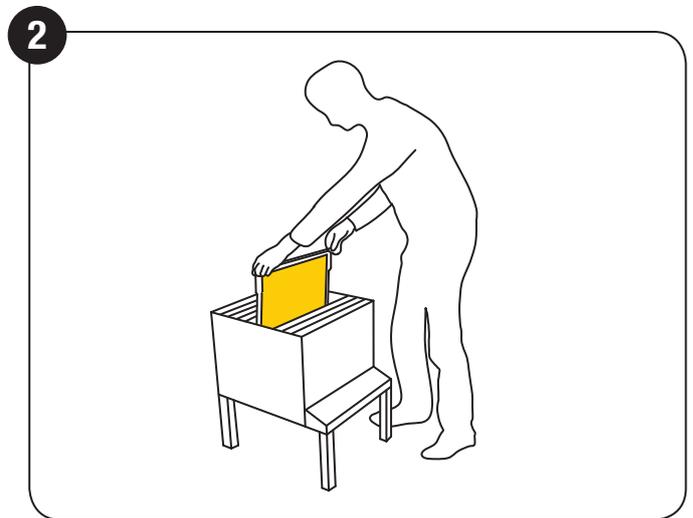
# CHAPTER ELEVEN

# NEXT SPRING

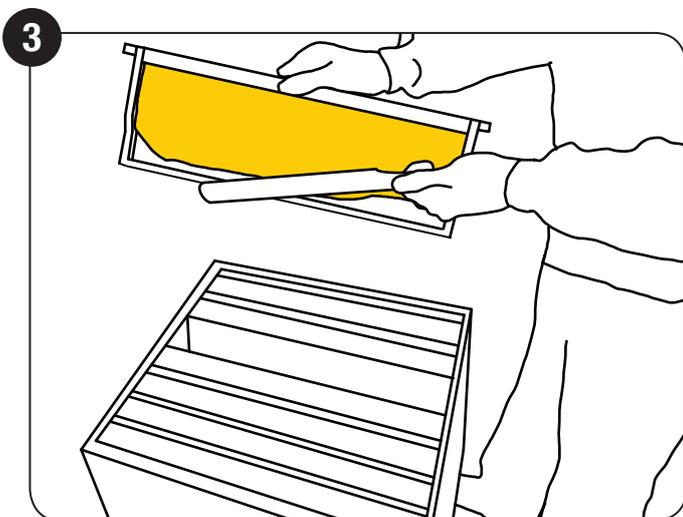
It is time to check how many colonies survived the winter



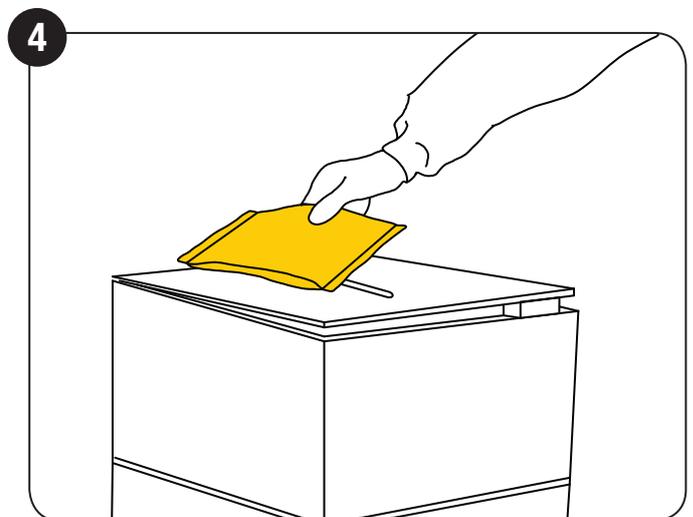
1 The first check of the year must be done when it is over 14 degrees and good weather



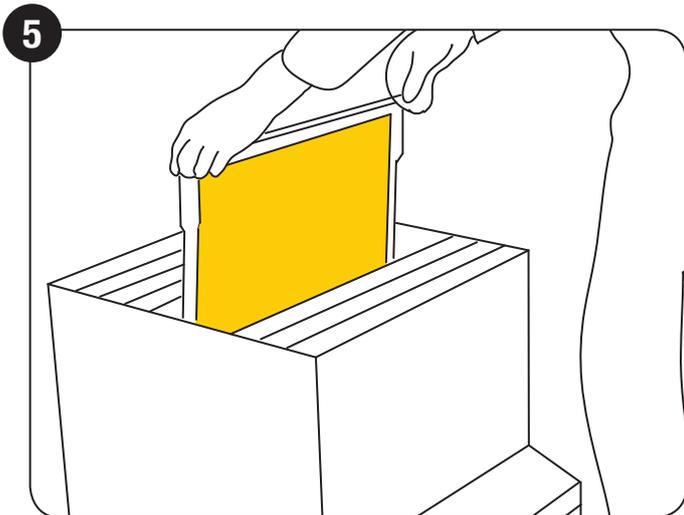
2 Check if your colonies are still alive; If a colony died, take out the frames with honey combs



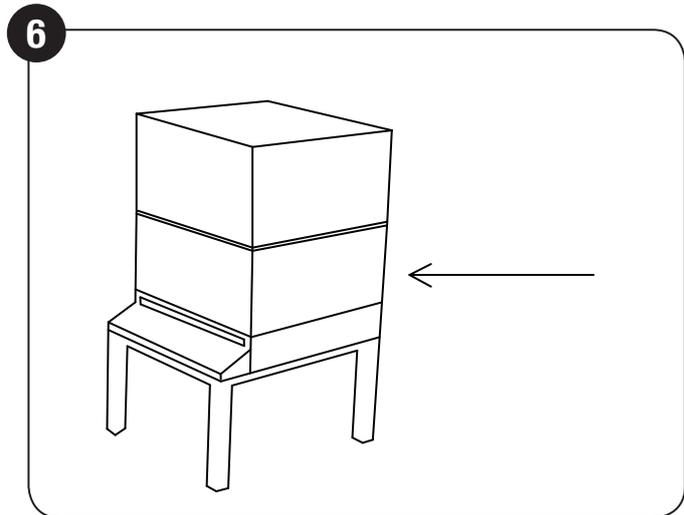
3 Scrape off the brood and store the frames in a good way 📖26



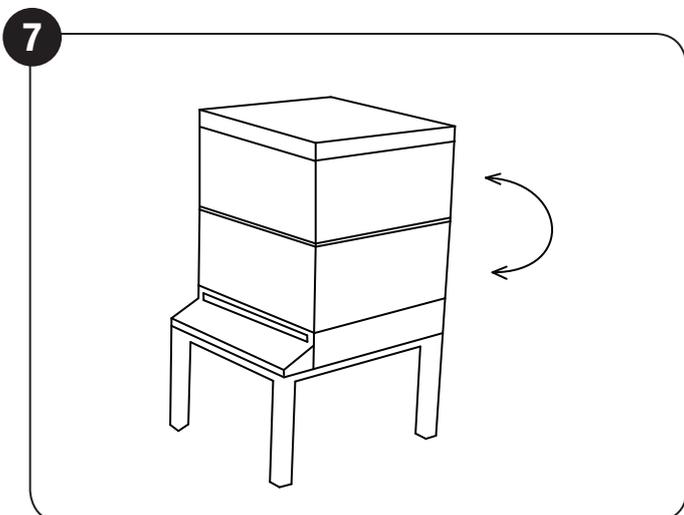
4 If your colony survived, check the food storage, feed extra if there is not enough



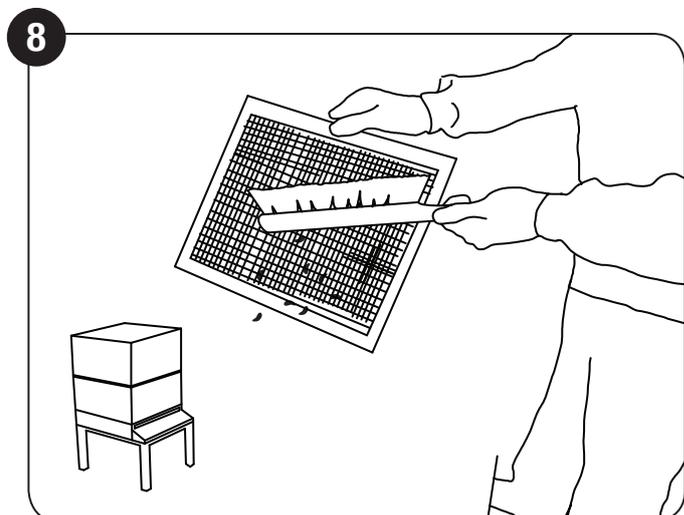
5 Check the centre frame with bees to find brood



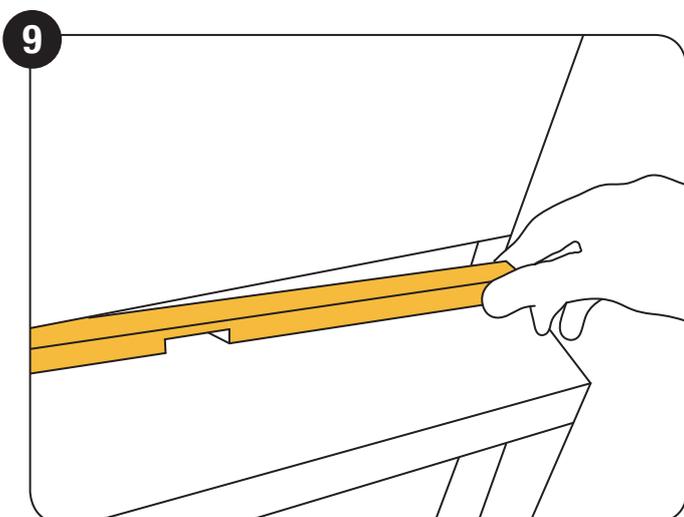
6 Check the deeps. If the lower deep is not occupied by bees, remove it



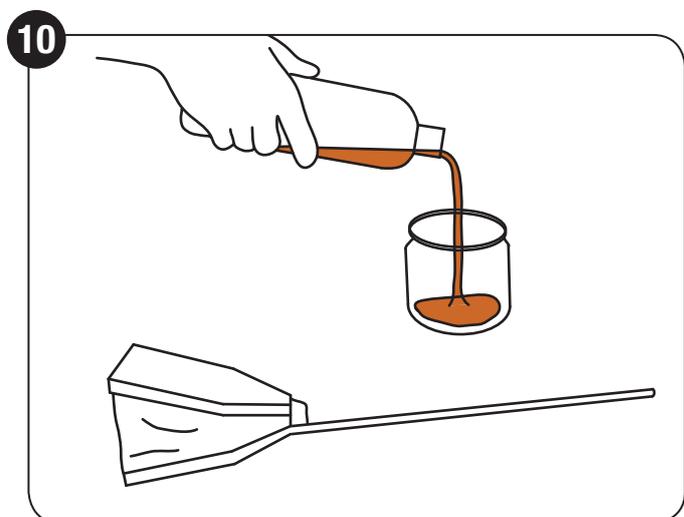
7 If the lower box is mostly empty and the top box is mostly full, swap the boxes



8 Clean the bottom boards of the colonies that survived.

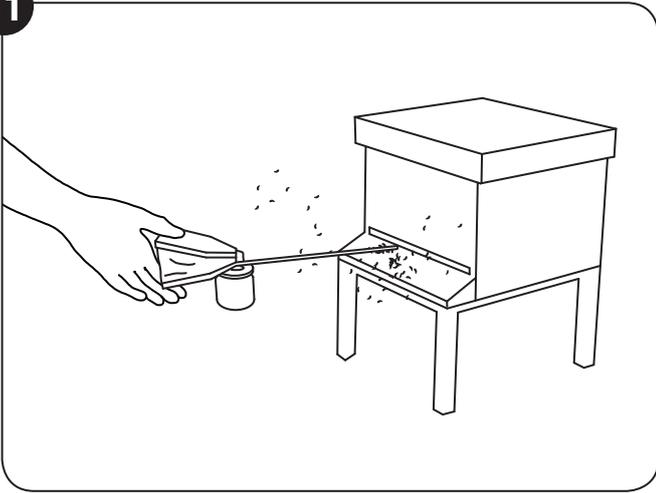


9 Remove the screened entrance reducer



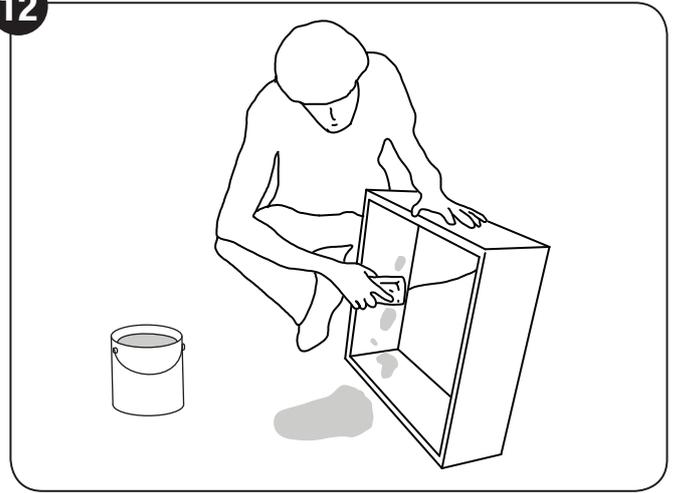
10 Treat your hives against varroa mites. ☑ 4,8 Put the right amount of acid in the varroa atomizer

11



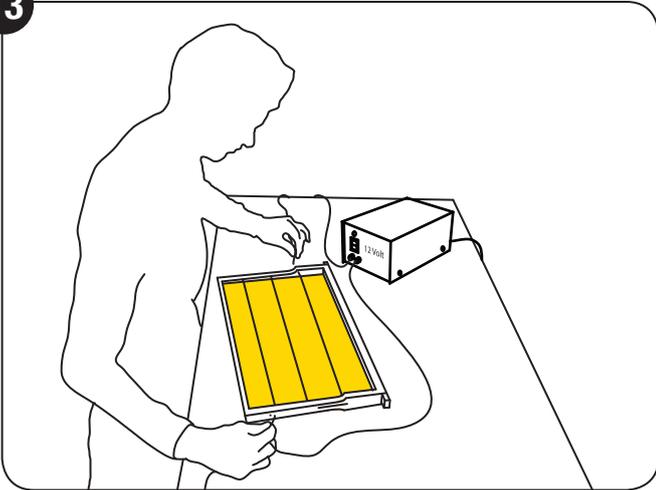
Smoke the hive

12



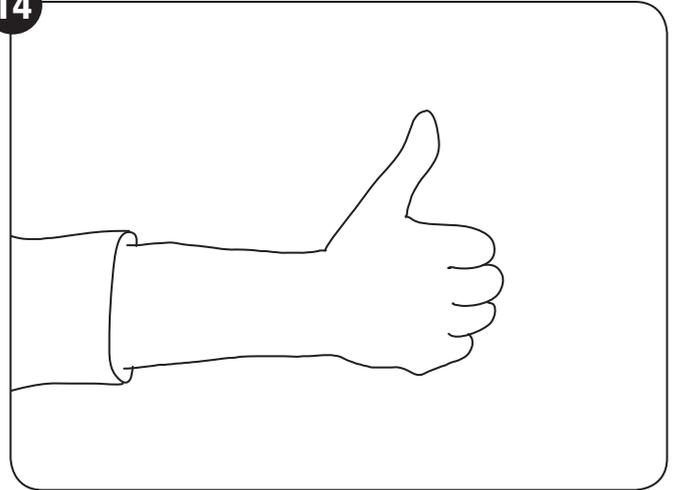
Prepare the stored supers for the new season by washing them with soda water.

13



Make all your hives complete and add wax foundations to your frames 📖4

14



Congratulations! You finished a full year of bee-keeping!

## CHAPTER TWELVE

# DOS AND DON'TS

**1** Don't use perfumes or odours when you work with bees, as it will attract the bees

**2** Don't open the hive too often, this will disturb the colony.

**3** Do work with warm easy weather, most bees will be out

**4** Don't put an extra super on top too fast, otherwise the outer frames will not be used.

**5** If outer frames are not used, you may swap an empty frame with a frame with comb or honey.  
Don't swap a frame with brood.

**6** What to do when you have a sting? If you see the stinger, remove it and smoke the sting spot so other bees will not be attracted.

# APPENDIX #1

# CHECKLIST

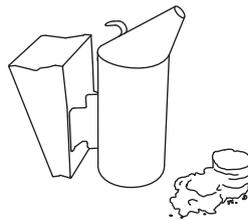
Tools to take with you when visit the bee site



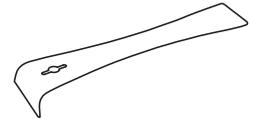
beekeeper suit



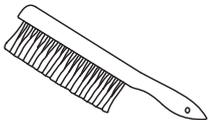
gloves



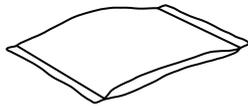
smoker + fuel



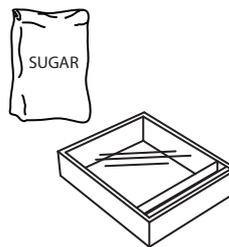
hive tool



bee brush



solid bee food



sugar + feeder box



inspection sheet

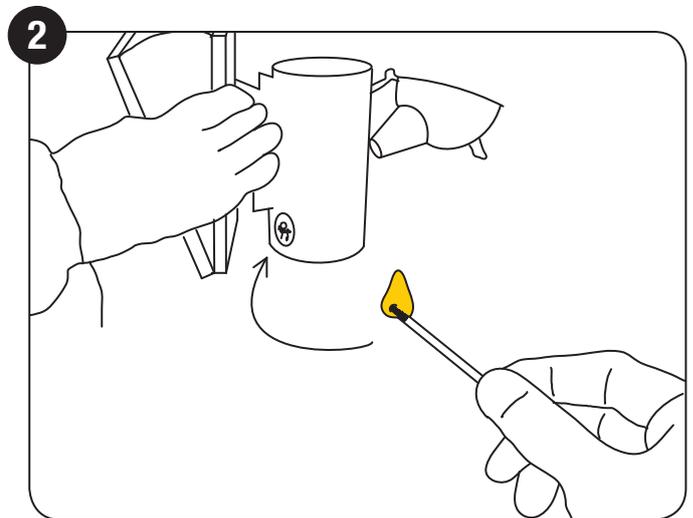
## APPENDIX #2

# SMOKER

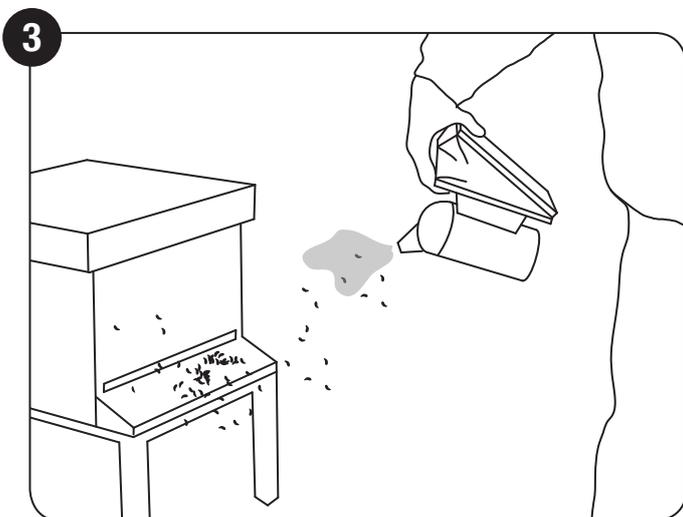
Smoke relaxes the bees, it makes your work much easier.



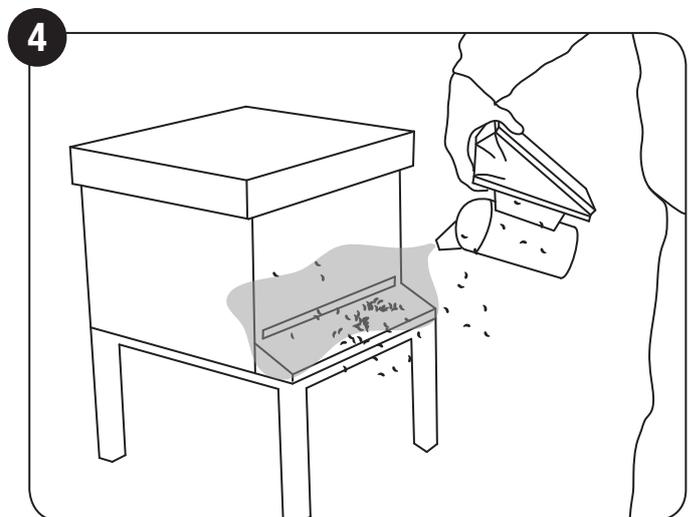
**1** Clean the smoker by scrapping it with your hive tool



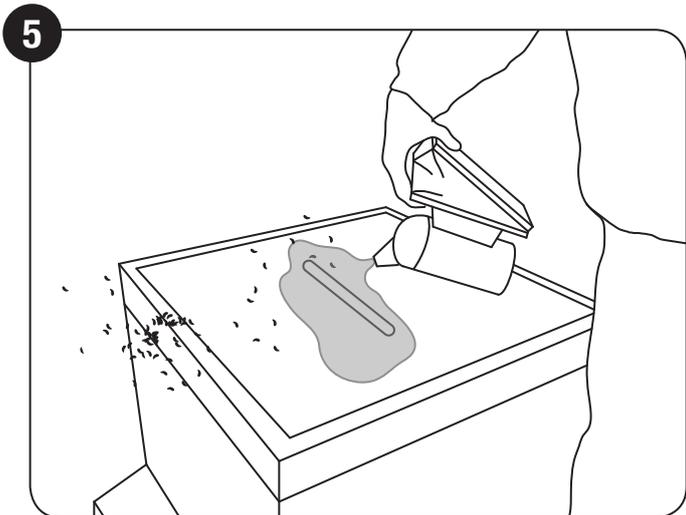
**2** Put the fuel into your smoker (fuel should be chemical free and untreated)



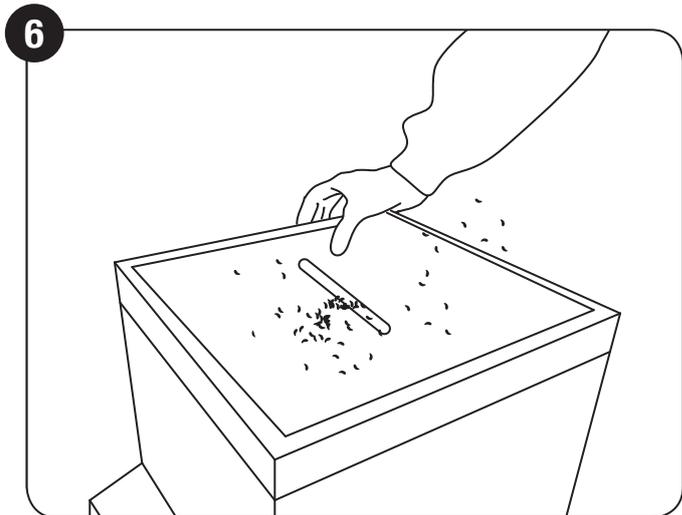
**3** Light the smoker, make sure the smoke is not too hot



**4** Use the smoker in a distance of about 5 cm from the hive



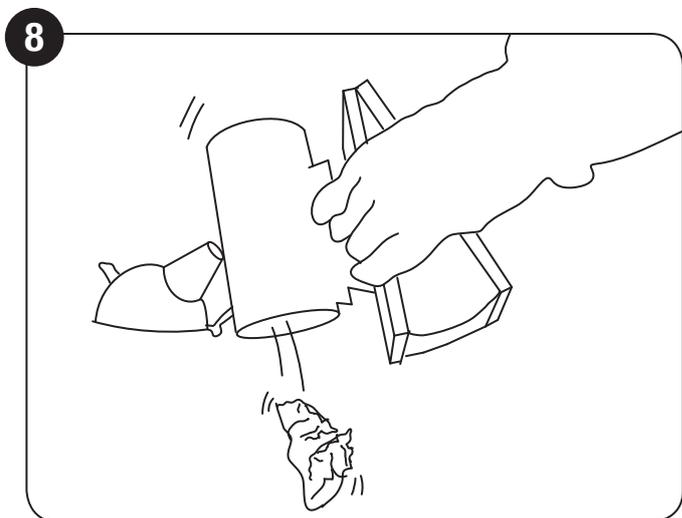
**5** Give a few puffs into the hive entrance, and wait for half a minute



**6** Remove the top cover and puff into the hole of the inner cover a few times, wait again for half a minute



**7** Remove the inner cover and smoke the top of the frames. Continue gentle smoking during your hive inspection

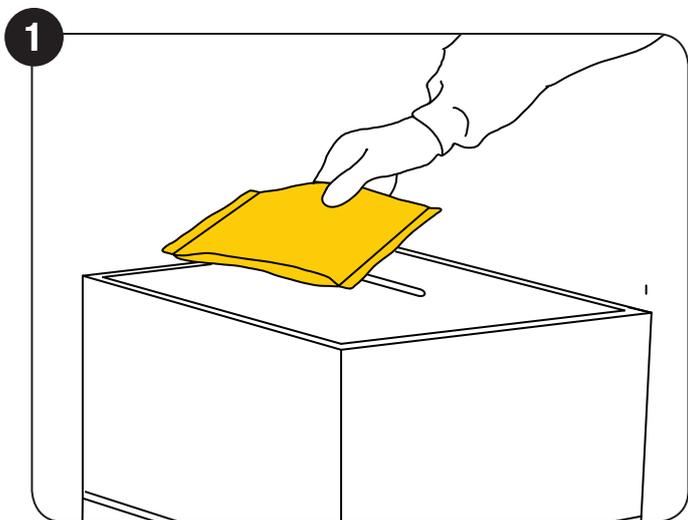


**8** When finished; extinguish the smoker by dumping the smoker fuel out and pour it over with water. Make sure it is extinguished

## APPENDIX #3

# FEEDING

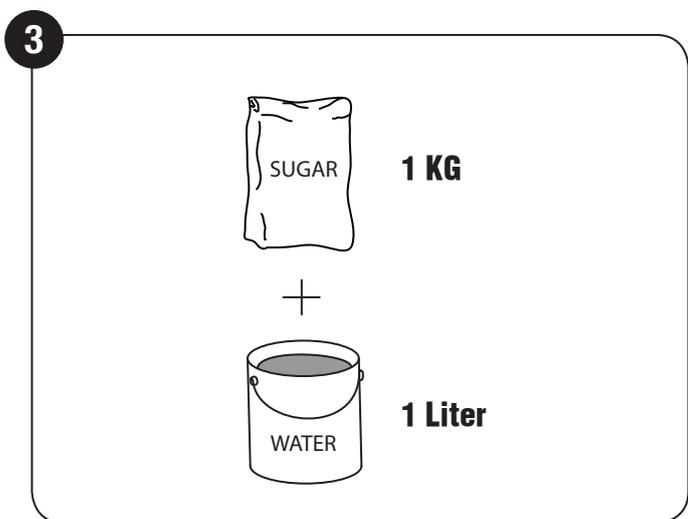
Bees make honey to survive the winter or other difficult periods. When you take the honey away, you have to replace it with other food; sugar.



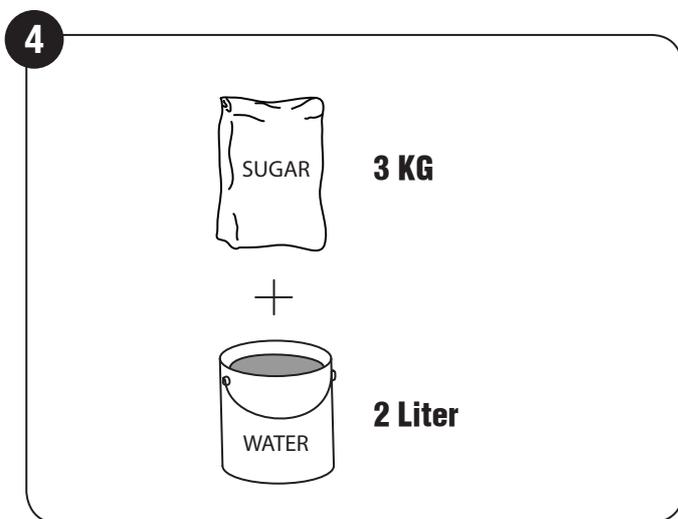
You can use sugar paste food from the shop. Open it a bit and put it on top of the inner cover and underneath the outer cover



Or you can make sugar syrup yourself by mixing table sugar with warm (not hot) water. The sugar should completely dissolve. Don't use brown sugar or raw sugar

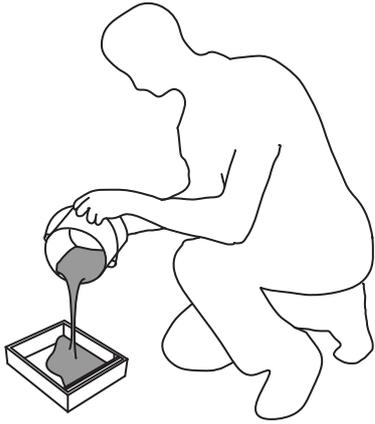


Spring feeding: Mix 1kg of table sugar with 1 litre of water.



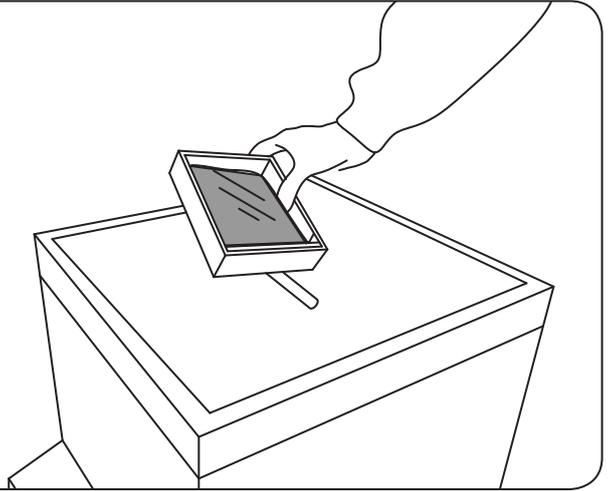
Fall feeding: Mix 3kg of table sugar with 2 litre of water.

5



Pour the sugar syrup in the top feeder

6



Put the top feeder on top of the inner cover and underneath the outer cover

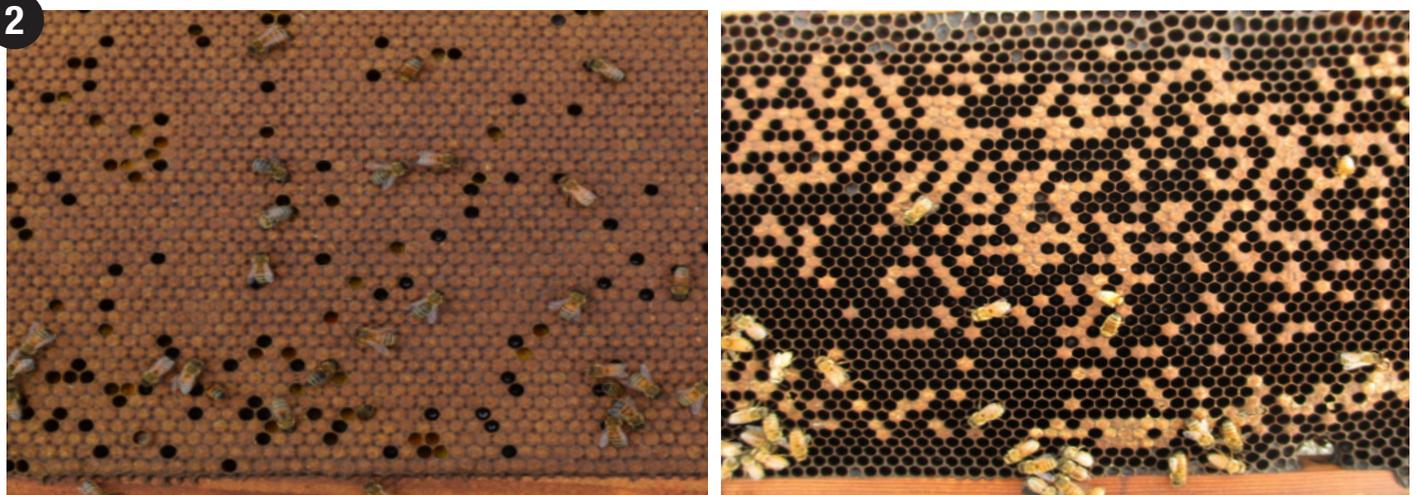
## APPENDIX #4

# PICTURES



Honeycomb of honey bees with eggs and larvae. The walls of the cells have been removed. The larvae (drones) are about 3 or 4 days old.

Picture: Waugsberg, [www.commons.wikimedia.org/wiki/File:Bienenwabe\\_mit\\_Eiern\\_und\\_Brut\\_5\\_egg.png](http://www.commons.wikimedia.org/wiki/File:Bienenwabe_mit_Eiern_und_Brut_5_egg.png)



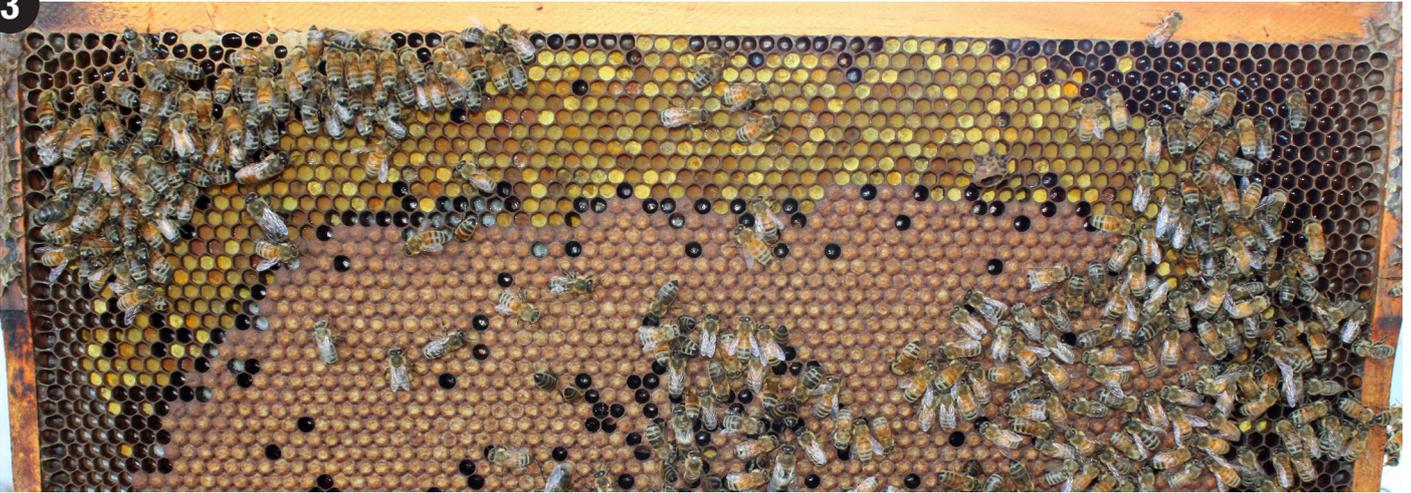
Excellent brood pattern

Picture: Bee Informed, Katie Lee

Poor brood pattern

Picture: Bee Informed, Katie Lee

3



Healthy brood pattern followed by larvae, pollen and then honey on the edges

Picture: Bee Informed, Rob Snyder

4



Varroa mite deformed wings

Picture: Courtesy The Food and Environment Research Agency (Fera), Crown Copyright

5



Queen cells

Picture: Courtesy Thehivelife.com, Spencersswarm

6



**Drone brood**

Picture: Courtesy The Food and Environment Research Agency (Fera), Crown Copyright

7



**Laying workers; more eggs in one cell**

Picture: Courtesy The Food and Environment Research Agency (Fera), Crown Copyright

8



**Two drone pupae with varroa mites**

Picture: Waugsberg, Wikipedia.org

© 2014 by Single Spark.

All rights reserved. No part of this document may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission of Single Spark.

**Single Spark**  
**The Netherlands**  
**[www.singlespark.nl](http://www.singlespark.nl)**  
**+31(0)646902592**

