

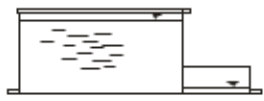
User Instructions

Please follow these user instructions exactly as successful treatment can only then be guaranteed.

Important user note!

The large lid (7) may not be removed by force, it is welded into position and its seal is necessary for the function of the evaporator. In order to rule out transport damage we recommend that each evaporator is tested as follows prior to putting into operation:

1. Fill evaporator completely with water
2. Place evaporator horizontally
3. Fill level in wick container may not increase in the next 4 hours.
4. Water may not run out via the wick container



The NASSENHEIDER evaporator is a long term evaporator for **continual evaporation of formic acid 60% ad us. vet.** for treatment of the **varroa mite of honey bees** (*Apis mellifera*).

The NASSENHEIDER evaporator is a permitted bee medication in Germany along with formic acid 60% ad us. vet (published in the Federal Gazette no. 31 of July 11th 2000).

Areas of use

Varroa mite ("Varroa destructor) of the honey bees (*Apis mellifera*)

Counter indications

Do not use during the yield. Use **only** after the last honey harvest of the year. The waiting time to the next honey harvest is determined automatically by hibernation. **No treatment may take place in the spring.**

Safety measures during treatment

When working with formic acid protective gloves and protective glasses must be worn.

Reciprocal actions with other agents: None known.

Warning Notes:

1. Formic acid must be kept away from children.
2. The solution causes acid burns.
3. Do not breathe in vapours.
4. If it comes into contact with the eyes rinse thoroughly with water and consult a doctor.
5. In the case of an accident or feeling unwell please consult a doctor immediately.
6. A bucket with water must always be available

Most important incompatibilities: None known.

Prerequisite for successful treatment:

1. Presence of brood **during** treatment duration.
2. If possible, **arrangement** of the honeycombs in warm construction.
3. A windy location is unfavourable, therefore:
 - turn the entrance hole out of the wind
 - or use a hedge or fence as a windbreak

Preparation work:

1. Honey harvest and inspection of the honey area **prior** to treatment.
2. Closure of grid trays of all types.
3. Normal opening of the entrance hole in accordance with the hive strength.

Sequence of the application:

July:	- Introduction of feed directly with removal of the last honeycomb - Counting of the natural mite fall
- for more than 5 mites/day:	1. treatment in July
- for less than 5 mites/day:	1. treatment in August: - with 60% formic acid (AS) - Duration 10-14 days - Continue feed
Start of September:	- Feeding in connection with 1. treatment
September:	- 2. treatment with 60% AS directly after feeding - Duration 10-14 days
October:	- 3. Treatment- removal of remaining mite with 85% formic acid - Duration 10-14 days - Brood can still be present
This treatment only functions with NASSENHEIDER horizontally and 85% formic acid. The 85% formic acid is already in the official admission procedure in Germany.	

IMPORTANT: Minimum treatment duration must be adhered to. Otherwise it is not effective over a complete brood cycle.
Treatment over a longer time period is not damaging.

The danger of reinfection from the environment should not be underestimated in September in particular. If mite fall does not sink significantly after 14 days, it must be extended or repeated after a short interruption.

Dosing with single and daily amounts:

1. The evaporator is filled with 60% formic acid and entered into the hold
2. After 2 days the evaporator frame to the acid control is removed. The evaporated acid amount in ml (cm³) can be read on the lid scale. For this the evaporator is tilted through 90°.

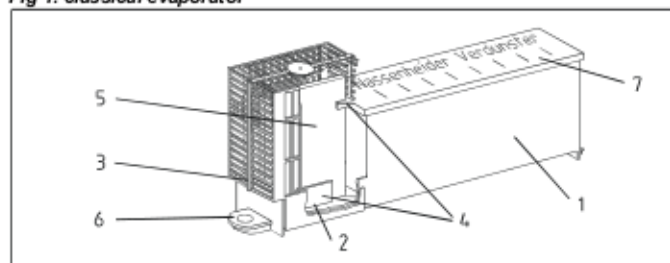
Recommended dose per surround for one or two surround hives
1. Treatment in July or August 15-20 ml / surround and day with 60% formic acid
2. Treatment in September: 10-15 ml / surround and day with 60% formic acid
3. Treatment in October: 10-15ml / surround and day with 85% formic acid

3. Determined by e.g. strengthened wafting of the bees at higher temperatures a **higher rate of evaporation** can be measured. In this way a part of the acid vapour escapes largely unused and the storage container becomes prematurely empty. Then it must be refilled in order that the given treatment time can be adhered to. In the first 2-3 days **exceeding the dose** can still be tolerated as the hold absorbs a part of the acid vapour. **This time should be used for control and possibly change of the dose- this is particularly important in July/August due to the more sensitive young bees.**
4. Retrospective filling of the evaporator is possible. A longer treatment time is not damaging for the bees.
5. **The minimum dose** of 15 ml/day and surround (following centrifugation) and 10 ml/day (prior to the brood pause) may not be gone below, as **the success of the treatment would not then be guaranteed.**
If too low an evaporation rate is established on checking the larger wick must be used

There are 2 different possibilities for use:

A) classical "NASSENHEIDER evaporator", art no. 30002

Fig 1: classical evaporator



- 1 storage area, scaled up to 180 ml
- 2 evaporation area
- 3 wick cover
- 4 wick holder
- 5 wick in 2 sizes
- 6 fixed brackets
- 7 large lid, welded

The evaporator is bolted into a frame with rust free bolts (art-no. 30006).

Preparation and filling of the evaporator

1. Wick cover (3) is removed.
2. Evaporator is filled fully in a tilted position (fig. 3) with the help of a laboratory bottle, a measurement cylinder or an injection syringe slowly with 60% formic acid (180 ml).
3. Refilling must take place with a treatment time > 14 days.

Fig. 2 evaporator in frame

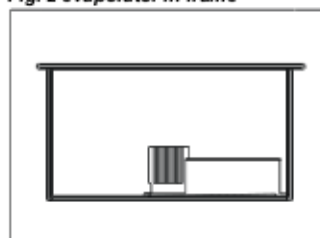
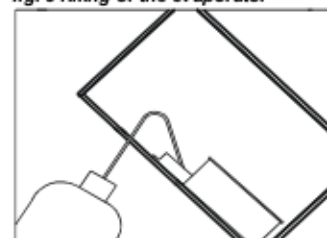


fig. 3 filling of the evaporator



Wick selection

1. In general the smaller wick (18 cm² evaporation surface) should be used. If a check shows that the evaporation rate is below the recommended area (below 15 ml in the summer, below 10 ml in the autumn), the larger wick (30 cm² evaporation surface) should be used.
2. For each new filling a new and dry wick should be used which is inserted into both wick holders (4). Then the wick cover (3) is placed in position so that it is pushed over the walls of the evaporation area (2) with the lower brackets outside. For dismantling, the brackets of the wick cover (3) are pulled apart once again.
3. The insertion of the wick only occurs immediately before introduction into the hive.

Take care! Hives which cement together strongly should be treated without or with a cut off wick cover.

Hanging of the evaporator into the hive

1. The frame with the evaporator is hung next to the brood nest, **away from the entrance hole** and connected to the first brood free comb. Due to the constant temperature of 35°C there the evaporation largely occurs independent of the exterior temperature.
 2. Single surround hives get one evaporator and twin surround hives get two where possible. If two levels are treated with one evaporator it must be ensured that the recommended dose for two surrounds evaporates from this evaporator (application of the large wick and where appropriate refilling of the acid supply after approx. 5 days).
- For two surrounds the hanging occurs in the upper surround in opposite arrangement to the lower surround.**