SymBeeotic – By bees for bees

The bees' lactic acid bacteria are their own natural defense against unwanted microorganisms that can spoil their food and make the bees and their larvae sick. The lactic acid bacteria help the bees better if they are present in greater numbers in the bees' honey stomach. The lactic acid bacteria are given back to the bees, in the product SymBeeotic, when the bees are vulnerable as there may be a lower number of lactic acid bacteria than normal and the bee colony is facing major changes. Like for example in the spring when the colony is to develop and, in the autumn, when the colony is fed for the winter but also in the summer when e.g. supplemental feeding may be needed.

• One or more tubes with the bees' own lactic acid bacteria* and nutrients (from honey and pollen) for the growth of the bacteria.
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* The 13 different patented lactic acid bacteria from honeybees:
Lactobacillus kunkeei Fhon2, *Lactobacillus apinorum* Fhon13, *Lactobacillus mellis* Hon2, *Lactobacillus mellifer* Bin4, *Lactobacillus apis* Hma11, *Lactobacillus kimbladii* Hma2 *Lactobacillus melliventris* Hma8, *Lactobacillus kullabergensis* Biut2, *Lactobacillus helsingborgensis* Bma5, *Bifidobacterium coryneforme* Bma6, *Bifidobacterium asteroides* Bin2 *Bifidobacterium asteroides* Bin7 och *Bifidobacterium asteroides* Hma3.

Storage
In refrigerator. At long storage of the vial (more than 6 months) in the freezer.

Materials beekeeper also needs per vial

- Tap water.
- Needed per Vial is a clean container with a volume of about 3 liters, with lid.
- A 60 ml plastic syringe, often used in beekeeping.
- 1.5 kg of honey (recommended) or HFCS (or similar feed).
  IMPORTANT! In order not to spread the American or European foulbrood disease between colonies, use honey from symptom-free colonies. Otherwise HFCS or products are recommended with similar composition of sugars. Do not use table sugar solution (sucrose only) since the lactic acid bacteria grow poorly in it.

Instructions
Each tube is sufficient for the treatment of 10 bee colonies over three consecutive days.

1. Mix 1.5 kg of honey well with warm water in a clean container, about 3 liters, with lid. Let cool down to 45 °C, otherwise the lactic acid bacteria will die of.
2. Turn the tube a few times so that the lactic acid bacteria get mixed well.
3. Open the tube lid and empty the content in the honey water, put on the container lid and stir using circular motion of the vessel.
4. Place vessel warm (30-40 °C) for one day, for example against a hot radiator.

Distribute SymBeeotic in the beehive
The vessel now contains about 2.2 liters SymBeeotic. Approximately 73 ml should be distributed a day per colony. SymBeeotic is distributed on the bees between the frames by use of the syringe. The bees clean each other and ingest the lactic acid bacteria through SymBeeotic. This is done for 3 consecutive days. One can also use the entire amount to feed the bees through a feed balloon in the early spring or summer, or in the winter-feeding. Note that SymBeeotic is more viscous than the winter-feed.

5. Replace the container at the source of heat and let stand until the next day.
6. Repeat until you have distributed SymBeeotic at a total of 3 times.

Produced by ConCellae AB.
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