

"Where the diseased colonies are weak in bees, put the bees in two, three or four together, so as to get a good sized swarm to start the cure with, as it does not pay to spend time fussing with little weak colonies.

"When the bees are not gathering honey, any apiary can be cured of foul brood by removing the diseased combs in the evening, and giving the bees frames with comb foundation starters on. Then, also, in the evening feed the bees plenty of sugar syrup, and they will draw out the foundation and store the diseased honey which they took with them from the old combs; in the fourth evening remove the new combs made out of the starters and give the bees full sheets of comb foundation and feed plenty of sugar syrup each evening until every colony is in first-class order.

"Make the syrup out of granulated sugar and put one pound of water to every two pounds of sugar, and then bring it to a boil. As previously stated, all the old combs must be burned or made into wax when removed from the hives, and so must all the new combs made during the four days.

"The empty hives that had foul brood in them do not need any disinfectant in any way. I have handled many hundreds of colonies in the Province of Ontario and cured them of foul brood without getting a single hive scalded or disinfected in any way, and these colonies are cured right in the same old hives."

McEvoy positively states that "No colony can be cured of foul brood by the use of any drug. All the old combs must be removed from every diseased colony and the hive got away from the bees before brood rearing is commenced in the new clean combs."

Howard (40) is most emphatically opposed to the drug treatment. "I regard," says he, "the use of any and all drugs in the treatment of foul brood as a useless waste of time and material, wholly ineffectual, inviting ruin and total loss of bees. Any method which has not for its object the entire removal of all infectious material beyond the reach of both bees and brood will prove detrimental and destructive and surely encourage the recurrence of the disease."

A. I. Root (45) says that "The starvation plan in connection with burning the combs and frames and boiling the hives has worked best in treating foul brood. It never reappeared after such treatment, though it did in all cases where the hives were not boiled, thus confirming the theory or fact of spores."

These two authors, therefore, go further than McEvoy in both advising the disinfection of the hives.

McEvoy (56), however, admits that his method as described above cannot be used for every case. His reports frequently refer to burned colonies; and he acknowledges that his method does not always cure. In 1890 he used the expression, "600 cases of foul brood and over 360 cured"; and again in a subsequent report, after mentioning the number of cases, he added the words, "mostly cured."

In a personal communication, M. Bertrand of Nyon, Switzerland, states that he does not believe in and will not recommend in his periodical (*Revue Internationale d'Apiculture*) the starvation method as used in America.

3. *Treatment by Chemicals*—In the treatment of bees by chemicals, we assume that such substances as are used are employed as antiseptics, and that their efficiency is due to the fact that they destroy the bacillus or prevent the germination of the spores, and thus bring about an internal disinfection; but we must remember that many of the substances used are more poisonous in their effects upon the cells of the bee than upon *B. alvei*. As is well known, quinine is frequently used as a specific for malaria; and in such cases the

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