

ferment in beer would it not be equally powerful to destroy the germs of foul brood?"

And in effect, many, practical apiculturists claim that it is the best remedy for the prevention and cure of this terrible disease of the brood chamber. The *Schweizerische Bienenzeitung* gives many experiments which have been successful. Here is how they went to work.

The bees of a diseased hive were crowded together as much as possible on a few combs; all the other combs were placed to one side. Into an empty comb from a certain height, a thin stream, 100 grammes of formic acid of a strength of 20 per cent, was permitted to fall, and the comb placed immediately in the midst of the infected colony. If the weather is fine and permits the bees to fly, in eight days all the tainted brood will be evacuated, the cells will be cleaned, and all bad odor will have disappeared. Rarely is it necessary to repeat the operation. For the protection of the other hives, it will be well, to place in them a small flask of the acid, lightly corked with a little cotton. To hasten the cure this remedy may be placed in the food of the bees in the proportion of a teaspoonful to the litre (2½ pints wine measure). Three members of our society in whose apiaries, foul brood had made its appearance have used this remedy with success. At our visits we have found much brood in a state of complete putrefaction, but in a few days these colonies were much better, and they have been able to place them in winter quarters strong, and healthy.

From the above we are truly led to believe, that the bees not only recognize the gravity of this terrible malady, but also know the remedy for its cure. Lichtenthaler says on this subject; "No one can deny that the germs of foul brood are found everywhere

generally the one thing lacking is a favorable place to develop. Heat and dampness are necessary for this; but these conditions are found in the brood chamber, only the bees render them harmless by means of formic acid. A comb brood, with its nurses placed in a room heated to 35° will certainly become foul broody? In order to disinfect the air which enters when a hive is opened the bees immediately throw out their venom in such large quantity.

We have already said that honey owes its qualities in a great degree to the formic acid, and we are led to inquire how it is introduced there.

Is it contained in the nectar of flowers, does the stored honey absorb it from the air of the hive, or does it come from the sting of the bee. Dr. Mullenhop explains it in the following manner; "when a cell is filled the bee throws into it a tiny drop of the venom, and afterwards the cell is hermetically sealed with wax to hinder the evaporation of the honey.

This theory was not accepted by Schoeufeld who engaged our compatriote M. De Planta to furnish scientific and irrefutable proof that the acid contained in honey could come only from the blood of the bee. In several articles in the *Schweizerische Bienenzeitung* the indefatigable researcher, to whom apiculture already owes so much, refutes the opinion of M. Mullenhof by proving that 100 grammes of sealed honey contains 0.186 grammes of formic acid of a strength of 20%. One hundred grammes are the contents of 165 work cells. But the least little drop of venom would contain 0.54 grammes of formic acid, which would make for 165 cells 4.1910 grammes that is to say 260 times more than there is in reality. Such a quantity of acid in honey would render it absolutely unfit for eating.

M. De Planta proved next that the