

cides in foul brood are the bees themselves. If we cultivate the bees more and the bacteria less, spores will not be so abundant in the hive, and the bees will be able to attend to them.

If bees were like silkworms, Pasteur's treatment for the diseased worms would, no doubt, effectually stamp out foul brood from the apiary. But the bees fly around a good deal, and if they have not trouble at home they will borrow or steal it from their neighbors.

It is a remarkable fact that the idea of curing infectious diseases with germicides never entered Pasteur's mind. He never for a moment thought that he could teach nature anything. There is an old woman living near me, who undertakes to cure cancer by dropping some kind of fluid on the sore. She has not only one successful case to boast of but several dozen, and still no intelligent person believes for an instant that she ever cured a case of cancer.

Bees protect their colony from bacteria by carrying away from their combs and the immediate surroundings all particles of organic matter in which bacteria might possibly grow. When work is commenced by the colony pollen is scattered around the interior of the hive in every direction. The pollen deposited in the cells of the combs and mixed with honey is safe from the growth of foul brood bacteria, but the bacteria will grow in some kinds of pollen if not mixed with honey. The bees, if they can reach them, will remove from the hive all grains of pollen dropping outside the cells. If we tie a handful of chaff in a cotton or linen bag, and place it in the hive or in a recess connected with the hive, the bees will cut a hole in the bag and carry out of the hive every particle of the chaff, and then the bag and the cord

we tied it with. If we tie the chaff in a wire gauze bag the bees will plaster it over with propolis and wax endeavoring in that way to protect the colony from some dreaded evil.

When bees are located in a straw hive they try by plastering over the interior to make it a safe habitation, but they very rarely succeed. Pollen grains lodge in the interstices of the straw and supply the bacteria with food, where moisture and temperature favor their growth, so that the bacteria in time get the advantage of the bees and destroy them. Thousands of men have tried to make bee-keeping profitable by multiplying colonies in skeps. The skep and the floor board cost about a shilling, and if swarms could be sold at half a crown and wax at the market price, the honey could be fed to the pigs, and bee-keeping be made a profitable industry. The scheme, however, never succeeded, but always "gave away." No large apiary in skeps has ever existed in Ireland. The enemy is too near, and always waiting the opportunity.

Woodhead states that on the authority of Vignal that the bacillus alvei is an inhabitant of the human mouth—that great home of the bacteria where Leuwenhoek first discovered them. It is well, therefore, in working among bees to remember that human saliva can infect, and that it can start foul brood, and if the conditions are favorable to the bacteria can destroy all the colonies in the apiary. A spark, if it can ignite the fire, is just as effectual as a torch in the light.—A. W. SMITH, M. D., Donaghadee, in Irish Bee Journal.

(To be Continued.)

#### Soft Honey Cake.

1 cup butter, 2 cups honey, 2 eggs, 1 cup sour milk, 2 teaspoonfuls soda, 1 teaspoonful ginger, 1 teaspoonful cinnamon, 4 cups flour.

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