

tended to prove. It proves that there can be no contagion, no germs, no infection, in this disease. If it is a germ it could not be cured in this manner. What, therefore, is it? From the evidence, it would appear to be some impotence in the queen; some pathological trouble. Or, if not this, it is caused by some external trouble with the food. Mr. Alexander held to the view that the queen was not responsible for the trouble! This is a problem for our bacteriologists to determine.

What troubles us most is the so-called rapid spread of the disease. If it is not a contagious germ disease, how does it spread? Until this problem is solved many of those who hold that it is simply starved brood will feel justified in still holding to their opinion. It is quite evident, therefore, that, as yet, we know very little about the trouble.

After expressing our opinion thus freely we must present what Dr. White, of the Apiculture Bureau, Washington, D. C., says on the subject:

European foul brood is another infectious bee disease. It attacks the brood at an earlier period in the growth of the larvæ, as a rule, than American foul brood. The cause of this disease is not definitely known. From brood dead of this disease, Cheshire and Cheyne isolated *Bacillus alvei*. From their work it was long supposed that *Bacillus alvei* was the cause of the disease, but later investigations make the value of their work doubtful.

A number of organisms have been found in the larvæ dead of this disease and some of them have been described. One species has been encountered in our investigations of the disease which is of special interest. The individuals of this species are quite small, apparently non-spore-producing media. Until we know more about this species it will be referred to as *Bacillus "Y."* Since the cause is not positively known, the amount of heat and chemical disinfectants to destroy the virus has not been demonstrated. If, later, *Bacillus "Y."* is demonstrated to be the cause, we shall expect that very much less heat will be sufficient to kill it than is necessary to kill *Bacillus* larvæ, the cause of American foul brood.

Likewise we shall expect that disinfectants will be much more readily effective. As the exciting cause has not been demonstrated, the determination of these facts has not yet been made. Until we know more about the etiology of European foul brood, we can do no better than to suggest the application of the same principles which are found advisable in American foul brood.

So-Called Pickled Brood.

We refer to this disorder of the brood as the "So-called Pickled Brood" and not Pickle Brood, because the condition which William R. Howard of Fort Worth Texas, described is not what the bee-keepers know as Pickled brood. The exciting cause of this disease is not known. The larvæ die at that age just preceding or just after capping. Some bee-keepers have a theory that heredity plays an important part as a predisposing cause. As far as is known, it does not seem to be infectious.

Treatment.—This disease is treated by some bee-keepers by requeening, on the assumption that heredity is the important factor in the production of the disease. If more were known concerning the etiology, the treatment might be materially changed.

The following is E. W. Alexander's article on black or European foul brood, taken from Root's compilation of Alexander's writings, and will doubtless be read with great interest:

This has been one of the hardest problems for me to solve that I have ever met in bee-keeping. For three years we tried everything in the line of disinfectants that we could hear of, also putting our bees on foundation, which did but little good. Some of the things we tried seemed to help at first to check its deadly work; but in a short time it would show itself again as bad as before; and so the years went by while we lost nearly our entire honey crop and over a thousand colonies before we got the first sign of a cure, and even then it was so simple it seemed like a drowning man catching at straws. But I kept at the little proof I had until I developed it into a perfect cure. Then for three years we tested it thoroughly on hundreds of colonies, so that we could be sure it was a cure which could be depended on.

This cure is on the line of introducing new blood into the apiary, which will necessitate getting a choice Italian

breeding-queens gathering stores. For this season, yellow Italian.

Go to eve and build it of maturing until you have this, go over queen; then again, and let the queen hatch. The queen and the hatched larvæ from to supply queenless colonies or virgin just introduced to the twentieth hour. SOO! point your young queen until the last of the days from the queen. If you this matter of the old brood queen comes the bees will combs for this will fill them as a hive ever seen in several never seen a comb after being tre.

It is not ne the combs or colony; neither affect anything. move the old young queen until three or brood is all with young. It cure for black.

In regard to formerly in you to kill them from their cold is responsible. I sure she is no queen that has choice honey-g so much more to vise saving the. I have experienced considerably, and has been witho