

## NEW LIGHT ON BROOD DISEASES.

A report has just been issued of the investigations made during 1905 in the Imperial Biological Institute of Dahlem, near Berlin. In this report Nos. 2 and 25 are of special interest to bee-keepers, as they treat of the experiments made on the diseases of brood. The first treats of foul brood of bees, and the last of what has been called "Aspergillusmykose" of bees.

The Institute received 119 samples of diseased brood, and 112 of them were found to be foul brood. It is stated that bee-keepers suppose that *Bacillus alvei* is the prime cause of foul brood. The investigations of the Institute tend to show that this is not absolutely correct, and that other bacteria play an important part in the development of the disease. In other words, of the 112 samples of foul brood examined, *Bacillus alvei* was found only in 13, or in round numbers in one sample out of every nine. This unexpected result gave cause for considerable reflection and experiment. Food containing the bacilli mentioned above was given to healthy colonies, and foul brood failed to break out; nor was any effect produced when bacilli were brought in direct contact with the larvae and nymphs in the cells.

From this it would appear that *Bacillus alvei* is of less importance than has hitherto been attached to it. Not only so, but in every case of foul brood another microbe has been found, sometimes in company with *Bacillus alvei*; but all attempts to produce the disease with it failed; therefore it cannot be considered as playing any part in its production.

In continuing the investigations a different microbe, a *Spirochoete* belonging to an altogether different family of the higher bacteria, was found.

It is spiral in form, is not motile, appeared in all the samples of foul brood, as well as in the dried mummies and scales, even when these were several years old.

According to the report the searches were to be continued in 1906, and it will be interesting to know if this hitherto unknown organism has anything to do with the disease causing so much damage to the bee industry. In any case the results tend to show that *Bacillus alvei* is not the cause of foul brood, and, when present, plays only a subordinate part.

No. 25 treats of what Germans call "Steinbrut," or mummified brood. When this disease the brood becomes hardened and brittle, and, what is important, adult bees are also affected. It is due to a microbe called *Aspergillus flavus*, found in abundance in affected brood and also on the bodies of adult bees. Inoculation experiments on rabbits and fowls not only produced the disease, but caused their death from which it is inferred that the microbe is the true cause of the disease in question. We would point out that too much reliance should not be placed on this, as we know *Aspergillus flavus* is pathogenic to many bits, whereas it is saprophytic on others. The disease seems to be epidemic in some districts of Germany.

Ask the average child whether he will have honey alone on his bread, or butter alone, and almost invariably he will answer: "Honey."

dom are the needs or the tastes of the child properly consulted. The child craves fat meat; the child likes honey. He wants sweet, not fat. He wants to eat honey; it is a wholesome food for him, and is not expensive. Should he not have it?

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