

# The Brood Diseases of Bees

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Apiary, With Special Reference to Bee Diseases," by Dr. G. F. White.

## American Foul Brood.

American foul brood (often called simply "foul brood") is distributed through all parts of the United States, and from the symptoms published in European journals and texts one is led to believe that it is also the prevalent brood disease in Europe. Although it is found in almost all sections of the United States, there are many localities entirely free from disease of any kind.

The adult bees of an infected colony are usually rather inactive and do little toward cleaning out infected material. When the larvae are first affected they turn to a light chocolate color, and in the advanced stages of decay they become darker, resembling roasted coffee in color. Usually the larvae are attacked at about the time of capping, and most of the cells containing infected larvae are capped. As decay proceeds these cappings become sunken and perforated, and, as the healthy brood emerges, the comb shows the scattered cells containing larvae which have died of disease, still capped. The most noticeable characteristic of this infection is the fact that when a small stick is inserted in a larva which has died of the disease, and slowly removed, the broken-down tissues adhere to it and will often stretch out for several inches before breaking. When the larva dries it forms a tightly adhering scale of very dark brown color, which can best be observed when the comb is held so that a bright light strikes the lower side wall. Decaying

view of the widespread distribution of infectious brood diseases among the United States, it is desirable that all bee-keepers learn to distinguish the diseases when they appear. Frequently happens that an apiary is badly infected before the owner realizes that any disease is present, and an upper story may be that any dead brood which is noticed in the hives is attributed to chilling. In this way disease starts which makes eradication there is a difficult

There are two recognized forms of the brood, designated as European and American foul brood, and these are particularly virulent. In all ways these resemble each other, but there are certain distinguishing characters which make it possible to differentiate the two. Reports are sometimes received that a colony is infected with both diseases at the same time, but this is contrary to the experience of those persons most conversant with these conditions. While it is possible for a colony to have infection of both diseases at the same time, it is not by any means the case in such cases are probably not locally reported. Since both diseases are caused by specific bacilli, there is absolutely no ground for the theory advanced by some bee-keepers that a starved brood will turn to the other of these diseases.

One of the best practical objections is also in keeping with this. A discussion of the causes of these diseases the reader is referred to Series No. 14, of the Bureau of Entomology, "The Bacteria of the