

be much more virulent in the western part of the United States than in the East.

European Foul Brood.

European foul brood (often called "black brood") is not nearly as widespread in the United States as is American foul brood, but in certain parts of the country it has caused enormous losses. It is steadily on the increase and is constantly being reported from new localities. It is therefore desirable that bee keepers be on the watch for it.

Adult bees in infected colonies are not very active, but do succeed in cleaning out some of the dried scales. This disease attacks larvae earlier than does American foul brood, and a comparatively small percentage of the diseased brood is ever capped. The diseased larvae when first attacked show a small yellow spot on the body near the head and move uneasily in the cell. When death occurs they turn yellow, then brown, and finally almost black. Decaying larvae which have died of this disease do not usually stretch out in a long thread when a small stick is inserted and slowly removed. Occasionally there is a very slight "ropiness," but this is never very marked. The thoroughly dried larvae form irregular scales which are not very strongly adherent to the lower side of the cell. There is very little odor from decaying larvae which have died from this disease, and when an odor is noticeable it is not the "glue-pot" odor of the American foul brood, but more nearly resembles that of soured dead brood. This disease attacks drone and queen larvae very soon after the colony is infected. It is as a rule much more infectious than American foul brood and spreads more rapidly. On the other hand, it sometimes happens that the disease will disappear of its own accord, a thing which the author never knew to occur in a genuine case

of American foul brood. European foul brood is most destructive during the spring and early summer, often almost disappearing in late summer and autumn.

Treatment of Infectious Diseases.

The treatment for both American foul brood and European foul brood is practically the same. It is impossible to give minute directions to cover every case, but care and common sense will enable any bee-keeper successfully to fight diseases of brood.

Drugs—Drugs, either to be given directly in food or to be used for fumigating combs, can not be recommended for either of these diseases.

Shaking Treatment—To cure a colony of either form of foul brood is necessary first to remove from the hive all of the infected material. This is done by shaking the bees into a clean hive on clean frames with small strips of comb foundation, care being taken that infected honey does not drop from the infected combs. The healthy brood in the infected combs may be saved, provided there is enough to make it profitable, by piling up the combs from several infected hives on one of the weakest of the diseased colonies. After a week or ten days the brood which is worth saving will have hatched out, at which time these combs should be removed from the colony treated. In the case of skeps the bees may be drummed out into another box or preferably into a hive with movable frames. If hives are hard to inspect for disease and are a menace to all other bees in the neighborhood in a region where disease is present.

The shaking of the bees from combs should be done at a time when the other bees in the apiary will not be disturbed and thus spread disease, or under cover. This can be done safely in the evening after bees have ceased to fly, preferably during a good honey-flow.

Great care should be rendered to all infected material until it is destroyed or the wax is melted. Wax from infected combs should be rendered with a solar wax from a diseased colony to prevent thoroughly sterilized for at least half an hour before being used, it should be again used, it should be taken that the comb be left in. It is frequently the treatment by fresh foundation for four or five days. An inspector must do as necessary, but doubt it is safer to replace rather than infection. If replacement the bees from the foundation the hive or a but at the entrance. Treatment With shaking treatment that instead of shaking the combs the hive stand, and in its with frames and queen is at once new hive, and the when they next re the infected hive or close beside bee escape place the hive contain the younger bees and emerge from the hive, but cannot rejoin the colony. Fall Treatment—treat a colony so