"The spores contained in a single scale are more than enough to produce considerable disease in the colony.

"The portal of entry of the infecting agent is somewhere along the alimentary tract of the larvæ, most likely the stomach (mid-intestine).

"The incubation period is approximately seven days.

"The brood is susceptible to infection at all seasons of the year.

"More brood dies of the disease during the second half of the brood-rearing season than during the first half.

"The course of the disease in the colony is not affected greatly, if at all, by the quality of food used by the bees, or by the quantity present.

"The spores of American foul-brood remain alive and virulent for years in the dry remains (scales) of larvæ and pupæ dead of the disease, and in cultures that have become and remain dry.

"The spores are very resistant to most destructive agencies. A variation in resistance is noted both as to the individual spores of a sample and as to the spores contained in different samples.

"Many of the spores are killed within one minute at 100° C., and all of them from some samples are killed in less than five minutes. In some instances 96° C., maintained for ten minutes, will destroy all of the spores, while 98° C. will often do it. The most resistant of the spores studied when suspended in water have not withstood 100° C. for eleven minutes.

"The spores withstand more heating when they are suspended in honey or honey diluted with water than when suspended in water.

"The spores suspended in honey or diluted honey can be destroyed by 100° C., but it may require half an hour or more to do so.

"American foul-brood spores, when dry, were destroyed by the direct rays of the sun in from twenty-eight to forty-one hours.

"The spores, when suspended in honey and exposed to the direct rays of the sun, were destroyed in from four to six weeks.

"The spores, when suspended in honey and shielded from direct sunlight, remained alive and virulent for more than a year. It is very likely that they are capable of remaining so for a very much longer period.

"The spores resisted the destructive effects of fermentation for more than seven weeks at incubator and outdoor temperatures respectively, and probably are able to withstand these agencies for a very much longer period.

"The spores resist carbolic acid at room-temperature in strengths ordinarily used as a disinfectant for periods of months; 1–1,000 mercuric chloride, for days; 10-per-cent. formalin, for hours.

"American foul-brood infection is transmitted primarily through the food of bees; possibly at times to some extent through their water-supply. Robbing from the diseased colonies of the apiary or from neighbouring apiaries is the most likely mode by which the disease is transmitted in nature.

"The placing of brood-combs containing diseased brood with healthy colonies will result in the transmission of the disease.

"Flowers should not be considered as a likely medium through which infection may take place.

"Whether the disease is ever transmitted by queens or drones has not been determined. That they have been overestimated at times as possible sources of infection seems likely.

"It is quite probable that in many cases hives which have housed colonies infected with American foul-brood will not transmit the disease to healthy colonies transferred to them. Results from the present studies confirm the observation made by beekeepers that danger from this source may be removed by properly flaming such hives inside.

"The clothing of those about an apiary, and the hands of the apiarist, are not fruitful sources for the transmission of the disease.

"Tools and bee-supplies generally about an infected apiary will not transmit the infection in the absence of robbing from those sources.

"American foul-brood usually can be diagnosed from the symptoms alone. A definite diagnosis can always be made from suitable samples by bacteriological methods.

"The prognosis in the disease in the absence of treatment is decidedly grave, but with proper treatment it is favourable.

"From the technical viewpoint many of the problems considered in these studies have been solved only partially; from the practical point of view, however,