

posed by for or against the use of the Formalin treatment. From your letter, Wis., as I understand that formalin disinfection, has not been effectual in cases of foul brood where the cells had been filled with honey, but I must succeed on the National S. Mr. say that in a number of experiments I have actually noted a destruction of the spores of *B. alvei* in cells filled with honey. This may seem to you rather an extravagant claim to make for Formalin disinfection, but it is no more striking than many of the experiments performed by Dr. M. P. Ravenel and S. H. Gillilan, Bacteriologists to the State Live Stock Sanitary Board of Pennsylvania, and of the Veterinary Department in the University of Philadelphia. These gentlemen in a long series of experiments on the working of Formlrlin and using only one ounce of the drug to every one hundred cubic feet of space killed the cultures of various disease-producing germs (among them the spores of the Anthrax germ) which were placed between muslin, put into sealed paper envelopes and placed between layers of woollen blankets. This is certainly a severe test and speaks well for the efficiency of the Formalin vapor.

In cases where the diseased matter has become dried up and adhering to the side of the cells, I am confident that Formalin gas, if properly applied, will kill the spores, even when situated in these dried-up masses. However, it might be advisable in such cases to sprinkle the combs with water as the disinfecting power of the gas seems to be greater when there is moisture and some warmth, (not over 100°F.), present.

I do not think that temperature has anything to do with the germination of the spores in the dried-up foul brood matter unless moisture and suitable food are present.

Mr. Weber states "The trials that the trials I made last year in the end of August, during September and October, did not show up any signs of foul brood in the early part of spring until the the extremely hot weather set in, which seemed to melt this dried-up matter, exposing the germs, and, consequently bringing on a re-action of the disease." I do not think that this could take place unless moisture was present, as these dried-down masses, which are largely composed of the chitinous portions of the larvae, further, one finds, as a rule, comparatively few living spores in this matter. If foul brood was in the neighborhood, or in the apiary, there is a possibility of re-infection of a treated hive from such a source.

I think that a large number of failures have been due to lack of proper precautions in obtaining Formaldehyde of proper strength, or in not disinfecting in tight boxes, or in not leaving the gas long enough in the disinfecting chamber.

I noticed sometime ago that there was some discustion as to the name of the drug, The name "Formalin" was given by the Chemische Fabrik auf Actien Vormals E. Schering, of Berlin, Germany, to "A Forty per cent. Solution of Formaldehyde in water," On account of the brevity and convenience of the name "Formalan has been used more generally than "A Forty per cent. solution of Formaldehyde gas." Formaldehyde is a gaseous body which is prepared by subjecting Methyl alcohol to oxidation, It is readily absorbed by water and for this reason is put on the market in form of an aqueous solution. I am giving this explanation because the firm of Schering claim the name "Formalin" as a trademark.

Very truly yours,

F. C. Harrison.