

combs less valuable. I left my extracting combs all on the hives last fall until the first of October, and everything was lovely.

It is said that guess work is as good as any if you hit it right. But I know that in guessing at the amount of winter supplies in a hive, one is liable to be away off. Did you every calculate the amount of honey in a hive by observation and heft, and then shake the bees off and weigh the frames, and also weigh the same number

of frames without any honey? I have, and found my judgement very misleading. Always better be sure than sorry.

Judging from the description given by Dr. Howard, of Pickled Brood or White Fungus, I know that I had a good deal of the genuine article in my yard during the past season. I also saw it in a number of yards in this locality. I am wondering if it will appear again this season.

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(Continued.)

plates in order to try the effect of each of these germs, whether they would grow on this formic acid. Without exception all of them reacted the same way, none of them were able to grow on this strong formic acid. A week after they had been on the surface of this I took a portion of the material, which I had previously placed on it, off and transferred it back to the agar which had no formic acid in it at all, and it was able to grow; in weak formic acid I had abundant growth in all cases. I wrote the word "Florida" on one plate from which I had got the source of and growth of the germ, and I could not see the outline of it when I wrote it with the inoculating needle, but after growth had occurred for twenty-four hours a most beautiful growth occurred where I had traced the letters.

With the strong formic acid I have had no growth at all. So, therefore, you may say that the antiseptic quality of the honey differs according to the source. They are unable to grow on it, therefore it has some slightly retarding effect on the bacillus but not on the spores; the spores are able to live on. It retards the growth but does not kill the germ.

The President—I think Prof. Howard's conclusions are all right that honey has little or no antiseptic qualities. Bacillus is

comparatively easy to kill compared with the spores.

Prof. Harrison—I certainly think it has no effect on the spores. I am keeping the spores of the germ as long as I possibly can on the surface of the stronger formic acid, and after it has been on a certain length of time, for instance a month or so, I will transfer it again to see whether it will be able to grow on ordinary agar. It takes time to work it out, and I have not been able to give any longer time than one week. The bacillus is a vegetative form, the growing form; the spore formation is quite different. When the spores are formed the bacillus has ended its existence. The spores are formed, when it comes to unfavorable surroundings, to tide it over places where the germ cannot live. It is the most highly resistant form of the germ.

That concludes the work which I have done on that proposition, having found formic acid in samples of honey and tried its growth.

The next proposition, No. 3, is as follows: "That when bacillus alvei or its spores are excluded from oxygen or atmospheric air they retain their vitality indefinitely and are capable of reproducing the disease in the presence of suitable nutritive media."

Howard found that a germ, with him grew better under mica—what he calls mica