

many seasons your bees will winter far better on granulated sugar. You must take into consideration that they must have had a certain amount of pollen in those hives before you fed the sugar.

Mr. Evoy—I think what Prof. Shutt meant to ask was, what would the bees winter best on?

Prof. Shutt—I put the question as a question in physiological chemistry. Admitting and supposing that they had access to no pollen, that there was nothing else that they had access to, wouldn't they do better on honey than on cane sugar? And if they did, I could account for it in that way.

Mr. McEvoy—Yes, they do.

Mr. Holtermann—I do not think there is any data on that question, but there is this about it: it seems to be reasonable and the theory is generally accepted by bee-keepers at the present time, that so long as the bees winter quietly; and all they have to do practically is to keep up the heat of the hive, under those conditions almost hibernated, but not hibernating proper; that there is no wear and tear of muscle, and under those conditions they do not require the nitrogenous food and do not require pollen, or at least to a very slight extent. The question is this: are the bees able to take up the honey, or is it the excrement that the pollen grains pass through? If that is the case, it would almost indicate that the bees are unable when they are in that quiet condition to take up the pollen grains.

Mr. Gemmell—Personally I believe there is very little excrement on the bottom boards. I believe it is pollen grains that have been passed out after.

Mr. Hall—I think it is pollen grains that have already spoiled in cleaning combs out.

Mr. Best moved, seconded by Mr. Gemmell that the thanks of this Association be tendered to Mr. Sparling for his very valuable paper.

The President put the motion, which, on a vote having been taken, was declared carried.

QUESTION DRAWER.

Mr. W. A. Chrysler—Has any bee-keeper present found it profitable to save propolis to extract wax from?

Mr. Alpaugh—My experience is if it is just propolis there is no use saving it.

Mr. Post—That is my experience. If it is all propolis that is all it ever will be, any way.

Mr. Chrysler—The reason I ask this question is: A bee-keeper sent me twenty

or more pounds of wax which he claimed was rendered entirely from propolis and it is very nice wax. He is one of the best bee-keepers in Canada.

Mr. Gemmell—And don't know propolis from wax.

Mr. Darling—How do you separate propolis from wax.

Mr. Post—By the steam wax extractor.

Mr. Darling—How and why does it separate?

Mr. Smith—You put it all into the solar extractor.

Mr. Hall—The propolis stays on the tin of the extractor and the sun melts the wax and it runs away.

Mr. Smith—It will run sufficiently to cake.

Mr. Darling—There was a thought occurred to me; I find that where there is propolis and wax mixed together, no matter whether it is in the comb I have taken or whether it got mixed in the wax extractor, when it is placed in hot water it separates itself. They both melt. Propolis is heavier than water and goes to the bottom and forms in hard lumps.

Mr. Frith—In getting wax from propolis there must be small quantities of wax on the frames.

Mr. Chrysler—Probably this man meant he had scraped the propolis off his frames and rendered the wax from it. A great many, I think, probably throw away too much propolis that contains wax.

Mr. Smith—What is the best manner of preventing pollen in the section? Is it by the use of the thinnest foundation or some other means.

Mr. Holtermann—I believe in a thinner foundation up to a certain stage at least, but I do not think the heavier foundations would give you any more pollen in the sections than the thinner.

Mr. Hall—I do not know that there is any information in what I am going to say, but we put in about six thousand sections this year and we took about 4,500 of honey and I must say that there was two supers out of the whole lot that had a quantity of the pollen in them, and I do not think there is an average of one cell of pollen to the whole super. This was not taken off a shallow hive, it was taken off a hive 12½ inches deep, and I used thick foundation. I never think of the pollen that is in it, I think of the honey that is in it. Last year we had a lot of pollen in our sections, and it was heavier foundation; this year we used heavy foundation and we never had so little; I cannot account for it; we used the same depth of hive.