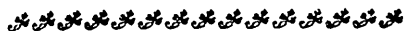


Eighteenth Annual Meeting

OF THE ONTARIO BEE-KEEPERS' ASSOCIATION.



Continued.

that the cell walls thus drawn out would be about equal in weight for an equal size, say two inches square; that is to say, taking for granted the cells are uniform, would the uniform thickness of the cell walls be alike or nearly alike in each case?

Prof. Shutt—That would depend. After a certain height was reached they would, but it was not so during the first part of the cell, near the septum. There was a tendency to continue in the same relation of weight as was applied in the foundation, but, as the cell walls got higher, there was a tendency to make them a constant weight; taking the same kind of honey, there was a tendency to make the cell walls approximately all of the same thickness.

Mr. McKnight—Would you deduce from your experiments that bees left to their own instinct, and even when they are not left to their own instinct, when foundation is supplied them, would put about the same amount of wax into a number of cells of a like size?

Prof. Shutt—Yes.

Mr. McKnight—Then the practical deduction to be drawn from the experiments, I think, is that the foundation comb supplied should come as near the weight which the bees naturally make it as possible.

Prof. Shutt—If the weight of the foundation that you supplied the bees was only of the same weight as the natural septum or basil plate, then you would not be furnishing them with any material to build cell walls.

Mr. McKnight—I am not sure that it is an advantage to supply them with material to build cell walls.

Prof. Shutt—That is another question.

Mr. McKnight—As to that additional weight of comb in the case of buckwheat honey being supplied, you can scarcely arrive at any reasonable conjecture as to the cause. I think it is reasonable to believe that it is not needed, because buckwheat honey is more difficult to contain or exercises a greater pressure on the cell walls than honey derived from

other sources. Might it not be that there is something in buckwheat honey itself, some principle that enables the bees to secrete more wax from the consumption of a given quantity of it, and thus, having a supply more abundant, putting more wax into the cells? We know that if you feed a cow upon a given quantity of one kind of food, and a given quantity of another kind of food, that one kind will enable her to secrete a great deal more milk than the other. Might there not be something of that in buckwheat honey?

Prof. Shutt—As I said myself here, in some way this question is wrapped up in mystery, but I think the solution of it is in some such way as you suggest. That is a physiological function. Whether it acts as a stimulating agent upon the wax in the secreting glands I do not know, or I do not know how it is that it is heavier. I do not see myself that the honey requires any stronger cell walls.

Mr. McEvoy—What time did you test that for the clover; was it at the beginning or middle or near the end of the flow?

Prof. Shutt—I could not answer that question.

Mr. McEvoy—If that was tested at the beginning of the flow, the bees were thin and poor; they were not in shape to make it; while, with a heavy flow of buckwheat honey it would be different.

Prof. Shutt—These tests have been made three years in succession. I do not think there is any strength in that argument.

Mr. Gemmell—You touched upon the point that the nectar had something added to it in order to convert the cane sugar into grape sugar; would you properly call that honey?

Prof. Shutt—I told you it is very difficult to speak of the scientific methods of ascertaining chemical changes in ordinary language. That term is all right if it is perfectly understood. There is nothing added to it; you take the starch or cane sugar and you boil it with acid or merely submit it to a