

heavier than that which stored clover honey. When we take the same brand of foundation and supply it to bees gathering clover honey and to bees gathering buckwheat honey we find invariably that there is a very much larger amount of added wax in the case of the buckwheat than in the case of the clover. I do not know what is the true explanation of that; I presume, however, that it has something to do with some physiological function in the production of wax. I do not think it is a mere accident, because our work of 1896 corroborates that again, and it impresses upon my mind the conclusion I came to sometime ago, as I said, I do not think it possible for you to furnish all the wax that is necessary for the bees. It is what I should call a natural concomitant, and it is a natural function along with the production of honey, and I think it is rather to be explained in some such way as that rather than to say that the buckwheat honey requires a stronger cell than clover honey. That of course is a point that is open for further work and for discussion and investigation. Of course, we again remarked upon the unsightly fishbones where an inferior wax was supplied. I drew out a table of averages, so as to show very concisely the different points, and I very much regret, owing to having to work right up until last night, that I was not able to prepare a large chart, so that I could have pointed to them while I am speaking. The same problem as to the relative ductility was considered, but we again met with considerable difficulty. There are again, I must admit, certain data which point to certain brands of foundation being more easily drawn out than other, but yet I have not results sufficient to draw any definite conclusion; that is to say, I should not like to put myself on record as saying that the milling temperature of the wax has any great effect upon the relative ductility or relative ease with the bees can utilise it. There are certain data, and I might mention those in connection with the choice wax by the Root mill. We invariably found that the choice wax by the Root mill which was milled at 89 degrees apparently was used to a greater extent than that milled at 120, and we found that in each year, and those are the data which go to support the view that there is something affecting the ductility in the milling temperature of the wax. The other brands of foundation were not sufficiently complete; that is to say, we only had a few instances in which the same wax was milled at different

temperatures, and it is only under such conditions as those that we could draw a strict comparison. However, from the results obtained from the choice wax of the Root mill we found invariably that there was a larger percentage of the wax furnished utilised which was milled at 89 than there was of that which had been milled at 120 Fahrenheit.

Just to sum up what we found out by the second year's experiments. First of all a very noticeable increase in the addition of wax furnished by the bees in the case of storing buckwheat honey; then, I found our results of the previous year corroborated as to the large percentage of wax added by the bees when only a very light foundation, such as 12 or 15 feet to the pound, was supplied in comparison with the quantity of wax added when a heavier foundation was furnished to the bees. That brings us to 1896. The same line of investigation, with certain alterations, was continued in our third year. Some correspondence that I have had with members of the Association led me to think that there were other reasons in supplying foundations than those that I have stated. As I said, from correspondence with certain members of this Association I was led to conclude that there were other grounds besides those of economy in furnishing wax for the cells, and so wrote to Mr. Holtermann, the editor of the Canadian Bee Journal to give me his views as to what he thought were the objects in furnishing foundation comb and if you will allow me I will quote from his letter. He says: "As to the object of using comb foundation, brood foundation is used to save the bees time and material, to get all worker cells, and to secure straight comb. The foundation in sections is first of all to aid in enticing bees into the supers, to save them material by the giving of wax, to save time, as they can begin storing more quickly in the supers; also to get an evenly-filled section, and to have it attached to the sides and bottom of section. Bees are much less likely to do this well when they build the comb themselves. Again, it is desirable to have the cells of a uniform size; by giving them the foundation, this is secured."

Admitting all that, there are other objects besides this economy in furnishing wax, and objects which are valuable and important from a commercial standpoint: these I have not fully realized before. I take it that if I have gathered aright the meaning of this, that one of the principal