

public analysts throughout Canada and the results published very shortly after that in a bulletin issued by that branch of the Government service. I shall have occasion later on to refer to the results in that bulletin. However, I said also at that meeting, as far as I was concerned, I felt it was quite within my province, and I was quite willing to undertake the work to ascertain, if possible, the possible percentage of water as present in honey, provided some members of this Association would undertake to furnish us with undoubtedly genuine samples. That offer has held good ever since that time but I have here to state to-day that those samples have not been forthcoming; and the work upon which we have been engaged during the past few months has been upon samples that have been produced upon the Experimental Farm, and regarding which I shall say something a little later on.

When your Secretary wrote me at the latter end of September asking me to address this convention I thought at the time that I had no special work which would be of interest to you, not having undertaken any work in connection with the chemistry of honey. Consequently, I somewhat demurred, but on talking over the matter with my colleague, Mr. Fixter, who has the management of the apiary upon the Experimental Farm, I found he had conducted a very valuable experiment during the summer and that he had samples of honey which would be available to me for the purpose of determining the water in ripe and unripe honey. I shall tell you more particularly of the character of those experiments and of the nature of the honey resulting therefrom in a few minutes.

These are the samples then upon which we have done the work in the laboratory since the 1st of October and

a very large amount of chemical work, by myself and assistants, has been done. However, I must make this statement at the outset so that there may be no misunderstanding; it is very greatly to my disappointment, gentlemen, that I am not able to tell you to-day what is the normal percentage of water in genuine honey, either ripe or unripe. We have done, as I have said, an exceedingly large amount of most careful, thorough chemical work since the 1st of October, but still I am not in a position to say really what the percentage of water is. Now, the reasons for that I will explain to you as I give these results. You will see it has not been a matter of negligence at all, but the question involved is one relating to the accuracy of the process now in vogue. In fact, I have to make some rather astounding statements to-day or clear the way for future and more successful work, I hope.

Now, to a clearer understanding of the great question, I think we might very profitably spend five or ten minutes in the consideration of the nature and composition generally of honey, because it is intimately connected with that phase of the subject that the great difficulty in the analysis of honey has presented itself.

First of all, I suppose we are fairly well satisfied that honey is not a material simply collected by the bees. Of course, I know nothing personally of the matter, not having conducted any experiments, but I find that the consensus of opinion amongst the best authorities is that the honey in a sense manufactured by the bees, the nectar is collected and then passing through the bees it is acted upon by certain secretions of the bees and in that way its composition altered from what it was as nectar of the plants. This will be very easily understood when you think of our

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