

ANNUAL MEETING ONTARIO BEE-KEEPERS' ASSOCIATION

The President—We are glad to have with us this evening Prof. Shutt, of Ottawa, and I will now call on him to deliver an address on "Notes from the Experimental Farm Laboratories, 1905." (Applause.)

Prof. Shutt—Mr. President and Gentlemen: It isn't very often that I have to apologize before making my remarks, but it is really with a good deal of diffidence that I appear on the program this year, but your secretary really wouldn't take No for an answer, and so I am here. This year I have been able to do very little in connection with or in reference to the chemistry of bee-keeping. I have appeared before you on several occasions previously and I think I can say without any boast that I have generally had something to say, but this year my material is very very slight. However, when it became known to me through the Minister of Agriculture that you would expect me to do something, being in Toronto, I endeavored to put in hand several small matters more or less closely connected with the keeping of honey, and I shall very briefly speak with regard to them now.

These subjects I might say were suggested to me. Our work at the Farm Laboratories are extremely varied. It covers the whole Dominion on every branch of agriculture and my duties are distributed over a great many subjects, so you see I haven't very much time to devote to this subject. However, we have been able to do a little during the last few weeks. These matters, as I said before, were suggested to me, and one was with reference to the candying of honey, what conditions honey would remain

Could we learn the factors which control this matter. Could we learn on fluid and what conditions favor the candying or the solidifying of honey. Before I tell you what I have done I might say there are two schools of thought. There are those who hope and desire to keep the honey fluid and there are those who prefer to have it solid. The way I look upon it is this. We are all agreed that genuine honey solidifies about November, it candies, and that is really a badge of its genuineness, and that is a factor that we should pay particular attention to. The question of adulteration of honey has been brought before you. We know that the chief adulterant of honey is glucose syrup, and it never solidifies, and if there is anything that causes a doubt about the genuineness of honey it is really the fact that it remains fluid. On the other hand, as I have learned on enquiry there are a large number of consumers and dealers who require the honey in a liquid form.

The factors which we investigated in this matter were practically light and temperature. That is, I proposed to take some of the same honey and place some of it in the dark and some of it in the light. I proposed to take another sample and agitate it. Another quantity I took and put in, what I may term, a number of crystalizing points. I wanted to see whether honey solidified any sooner by reason of solid matter in it. Then we wanted to ascertain the effect of heating the honey and of preserving it in the light and dark respectively. I have a number of samples here which have been kept under these various conditions since the first of September. You must understand that all this honey was from one and the same sample. We took two of these jars and heated that to 122 Fahrenheit; the honey was perfectly fluid, but there was evidence of commencement of granulation—we

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