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(Professor Shutt's address continued.)

Any percentage of water you released could be obtained if you only knew just how long to dry the bees. The chemistry on levulose states that it is a substance which is extremely subject to decomposition at heat at 70 degrees centigrade. 70 degrees centigrade is the temperature of boiling water and there is no doubt about the very ready decomposition of levulose at that temperature. But even at the temperature of 70 degrees levulose begins to decompose. We took a second series of honey samples and we dried them as near as we could at 70 degrees centigrade. What did I get. Instead of 29 and 28 I get 21 and 21; instead of 30 and 33 I get 23 and 25; instead of 24 and 26 I get 20 and 19; instead of 28 and 32 I get 22 and 21, and so on.

It is evident therefore that at the temperature of 70 degrees, one obtains from 8 to 9 per cent less water than by the method in which the bees are dried at the temperature of boiling water.

From the work of the last two months I am convinced that any

method which involves the drying of honey at the temperature of boiling water is unreliable and the results will be inaccurate. Now I am not prepared to say to-day that the results from this second series of experiments, drying at a temperature of 70 degrees centigrade, are absolutely accurate, but I will say this that I feel convinced they are much nearer the truth than those which you find ordinarily on record and those which I first obtained by the method which was used by the Inland Revenue Department analysts. There is another method of obtaining the amount of water in honey, it is one which is used by the sugar manufacturers largely. By taking the specific gravity of the sugar solution one can calculate the amount of dry matter present and of course by subtracting the dry matter from 100 you get the percentage of water. We tried that method; we took the specific gravity of the honey and we made a calculation and estimated in that way the amount of water so present.

Instead of having 21 per cent of water as determined at 70 degrees centigrade I get by the specific gravity method results from 25 to 17 per cent, a still smaller quantity, than when the honey is dried at a temperature of 70 degrees which is evidently too high for levulose. If our results obtained by the specific gravi-