

which it might be drawn out by the bees. There were certain data to support the theory that there was a difference in the ductility of these foundations, but in going through the data more carefully that apparent favor, that apparent balance in favor of certain foundations did not seem to hold. However, there are, as I say, certain data to show that there is something in the view that the milling temperature has an effect upon the relative ductility or ease with which it may be drawn out by the bees. I did not feel that we had sufficient data to lay down any emphatic statement with regard to that.

The question is this, if it is true, as I have said, that the wax furnished by the bees is inversely proportional to the wax furnished them in foundation comb, and if we carry that argument out to a logical conclusion might it not be urged that we should endeavor to furnish all the wax for the comb? Now, I do not think that possible, and to show you and bring before you my reasons why I think so I would like to recall to your mind what I said with regard to the production of wax, that it is not collected by the bees, it is a normal function of certain cells in the bees, and I doubt very much if we could so alter the constitution of the bees as to direct all their energies towards honey making, and to entirely give up and ignore this matter of wax production. I believe therefore that there is a limit wherein it will be economical for us to supply the amount of wax. So much for our first year's work; I was not at all dissatisfied with it, but certainly it leaves certain points in doubt. You can readily understand that this work was fraught with many difficulties, the differences, naturally, are small, the weights are all taken on a very exact system, and taken with great care, but nevertheless the errors of experiment must necessarily be there, and guard against them as you will it would be very rash for anyone on one or two years' experiments, unless the data were most marvellous, to draw final conclusions.

I should have mentioned that in the first year's experiments we opened the cells at the close of the season by shaving off the top of the cells. The following year I thought I could improve on that, because of the unevennesses; it naturally resulted that a little more of the cell wall came off in certain places than it did in others, and so in the following year when we repeated this experiment, instead of shaving off the caps we carefully picked each one with a penknife, and then we did not extract the honey

in an extractor but those sections were placed in water and the honey was dissolved out. They were placed in successive quantities of pure water until all the honey had disappeared, and then the honey comb was allowed to dry in the atmosphere and two inches square stamped out, as formerly. Comparing these results with the results we had obtained the year previously, we found that in nearly every case, the amount of wax added by the bees was somewhat more, and I accounted for this extra deposition of wax by the bees, by the fact that we had not removed any of the cell wall, that we had only removed the cap. I believe there are others who have considered these results, and who consider they may not be correct, that it may have been due to an extra production of wax by the bees that season, because I know it is held by many of you that the production of wax, and I think there is something in the theory, is in a measure relative to the production of honey. However, it seemed to me that at any rate our method was more accurate in the second year, and that it would in some measure account for that extra deposition of wax by the bees.

Then, another object in the second year was to ascertain the relative amount of wax added by the bees in the outer and inner sections, it being held by some that there was a greater wax deposition in the outer sections than there was in the inner sections. However, to dismiss that point at once, I might say that the data for that year did not allow me to draw any conclusion on that point, because, although there are many instances in which the wax added by the bees in the outer section was somewhat greater, there are almost as many instances in which there is a slight increase of wax deposited in the inner section, therefore I did not feel that we had sufficient proof to allow me to draw any conclusion on that matter. However, we did receive corroboration on this point of the previous year's progress, and that was that the percentage of wax produced by the bees was inversely proportional to the weight of the wax furnished in the foundation. Then, another point that was brought out during the second year's experiments was the deposition of wax when clover and buckwheat honey were stored respectively; and this is a curious thing, and one that I have not seen noticed anywhere, it probably has not received the attention of any scientific investigation hitherto; that is, that we found invariably that the comb which stored buckwheat honey was