

dation which would lead to an effort to make it to please the mandibles of the bee instead of the eye of the purchaser. There might be something yet to learn about the manipulation of wax as well as the peculiarities of foundation machines.

To use Mr. Taylor's own word he states: In the experiments now under consideration eight varieties of foundation were employed of which the sources and other distinguishing peculiarities are sufficiently indicated in the following table:

- A Dadant's Thin, Sheets 12x4 in., 15 to  $\frac{1}{2}$  lb.—10 ft. to the lb.
- B Dadant's Extra Thin, Sheets 12x4 in., 18 to  $\frac{1}{2}$  lb.—12 ft. to the lb.
- C Van Deusen's Flat-bottom, (procured of A. I. Root) Sheets 16 $\frac{1}{2}$ x3 $\frac{1}{2}$  in., 16 to  $\frac{1}{2}$  lb.—13.75 ft. to the lb.
- D Root's Thin, Sheets 16 $\frac{1}{2}$ x3 $\frac{1}{2}$  in., 12 to  $\frac{1}{2}$  lb.—10.31 ft. to the lb.
- E Root's Extra Thin, Sheets 16 $\frac{1}{2}$ x3 $\frac{1}{2}$  in., 14 to  $\frac{1}{2}$  lb.—12.03 ft. to the lb.
- F Foundation made on the Given press, Sheets 15x3 13-16 in., 12 $\frac{1}{2}$  to 2 $\frac{1}{2}$  lb.—10.09 ft. to the lb.
- G Foundation made on Given Press, Sheets 15x3 13-16 in., 12 to  $\frac{1}{2}$  lb.—9.37 ft. to the lb.
- H Fdn. three years old, made on Given Press, about 9 ft. to the lb.

Each variety of the foundation was designated by a letter of the alphabet as indicated and the letters were used for marking the sections to indicate the sort of foundation each contained and also as labels to distinguish the septa of combs made from the foundation when they (the septa) were cut out and sent away for the measurements hereinafter explained.

The foundation was cut to the same size 3 $\frac{1}{2}$ x3 $\frac{1}{2}$  inches and after being fastened in sections were placed in Heddon cases alternately as already stated so that each kind appeared seven times in each pair of cases. In all, eight cases were thus prepared, but misfortune attended them in other ways than indicated in the foregoing; some were not well-filled, two contained more bee-bread than I ever found I think in any other two cases and their was only one pair that was filled to my entire satisfaction so that the material that could be fairly used for comparison by weighing was comparatively meagre and consisted of five of each sort from the two cases that were well filled, four of each from two other cases and three of each from still another pair. The cases were selected with a view to their giving an opportunity of selecting well filled sections of each sort from the same relative positions in the cases and the sections compared were so selected. The following figures give the results in pounds and ounces:

	A	B	C	D	E	F	G	H
5 each sort	4-13.5	4-11.5	4-13.5	5	4-15	4-15.5	4-11.5	4-15
3 "	3-13.5	3-12.5	3-10.5	3-15	3-16	3-16	3-15.5	3-15.5
1 "	2-14	2-14.5	2-14.5	2-15.5	2-13	2-14.5	2-15.5	2-15.5
Total	11-9	11-6.5	11-11.5	11-14.5	11-11	11-12	11-13.5	11-14

This indicates pretty clearly what I have been aiming at as well as the course with the modifications already suggested which I think should be pursued in making further investigations in this line. Of course it would be rash to claim any very definite result from the experiment so far but the totals here given will be found very interesting matter for comparison with the weights and measurements given further on which were procured with the expectation of evolving something that would assist in the solution of the general problem under consideration.

I suppose it would not be denied by any one that so far as the amount of wax contained in comb honey is concerned we must take the amount of wax contained in natural comb when used as the receptacle of honey as the standard of perfection. How near does comb produced from foundation prepared for use in sections approach that standard? And do combs produced from all sorts of such foundation approach equally near to that standard? It was with the purpose of making a beginning if possible at answering these and similar questions that I undertook the experiment with section foundation. It first occurred to me that samples of honey made from different kinds of foundation and from natural comb might be submitted separately to several careful individuals experienced in the production of honey for comparative tests with the hope that the reports of such tests would