

they had brood in all the combs forty days after they were hived. If not a single bee had died up to this time, they occupied more room than I should expect a good fair-sized colony to occupy which had had no accessions to its number in 40 days.

Now just a word about secreting wax. Bro. F. asks whether the bees in my observatory hive were building comb or not. Most certainly. Bees always build comb in a honey flow. Does not Bro. F. know that? You cannot have a honey-flow without the bees secreting wax, all talk to the contrary notwithstanding. When a honey-flow begins what do we see? The cells of the combs already built lengthened out with new wax, which delights the heart of the bee-keeper; next the cells of honey capped over, burr-combs built, etc., and Prof. Cook tells us that even bees on the clover blossoms have the wax scales on them (I quote from memory). But my time is up. Don't shut down on us yet, Bro. Root, for out of these friendly discussions and experiments much good may come.

G. M. DOOLITTLE.

Brodino, N. Y. Oct. 16.

[Doolittle is a pretty careful observer, and on general grounds it is not wise to disagree with him; but there is just one point on which my observation differs. I will admit that the average worker bee during the busy season dies inside of 45 days; but I cannot think they all do. Nearly every spring we have been obliged to buy up colonies and some would be hybrids. Although these latter would be re-queened early in May, I have often observed the presence of quite a number of the original hybrid bees, even to the latter part of August. This would make more than 90 days, and these colonies were remote from other hybrids too. The reason why I have observed the fact is because we do not dare to send out to our customers nuclei containing any impure bees. Two or three times we have been very much annoyed to find in a colony from which we had intended to fill an order, some four months after an Italian queen had been introduced, too many hybrid bees. We have once or twice sent bees to Australia in a mailing cage, and these bees were on the road anywhere from 38 to 42 days. It seems to me that, if bees will live this long, jostled about in the mails, with no opportunity for flight, they ought to be able, a few of them, to survive 90 days or longer, with freedom to fly, even when subjected to the toils of the season. Now, it is possible that I have not understood Mr. Doolittle, but I am very sure I have observed for several different seasons, Italianized hybrid colonies that would show

their hybrid blood for three months, and longer after the Italian queen had been introduced. —E. R., in Gleanings.

The above have many valuable points and as there has been something said in reference to the length of time bees will live, this gives the other side of the picture. We do not think bees live as long when shaken out on combs as they do in a hive in the ordinary way, and bees die off more rapidly after they have been introduced to a colony, than if hatched there. Of course, if they come a distance, the shipping and excitement will have much to do with it. On watching bees in an excited condition I have sometimes thought of suggesting the propriety of using a little chloroform, ether, or something equivalent in the food of bees, when they are to be shipped long distances, in order to keep them as quiet as possible. I have made some experiments in this direction, but as it is very difficult to determine just how long they would have lived had they been fed on good candy, and shipped in one of Benton's improved cages, these experiments would have to be carried out very carefully, in order to determine beyond question, whether it had any benefits or not. They seem very quiet in the cage, much more so than bees put on ordinary food, but there appeared to be no difference until after they had partaken of a sufficient quantity of food to affect them. Then again, we found that the moisture evaporated, and there was very little chloroform odor about the food after a day or two; on the whole we considered our experiments not of sufficient importance to warrant us in considering it an improvement, perhaps the good candy, by keeping the bees in a dark place when they are first caged, until they become quite accustomed to the new order of things, is best.

Bacillus Alvei—Reply to Messrs. Doolittle and Jones.

IN the article of Mr. Doolittle's, republished on page 680, of the C. B. J., he very plainly intimates that Cheshire is mistaken in his diagnosis of foul brood, and in a foot note Mr. Jones confirms what Mr. Doolittle says, that is, these gentlemen agree in saying substantially that Cheshire does not know foul brood when he sees it, yet strange to say, neither the one nor