

as an auxiliary, and I greatly question whether it has ever been successful in curing of itself a hive attacked by a well-authenticated case of foul brood.

The foul brood bacterium seems to be very fastidious with regard to the conditions of its existence. The media in which it can be developed are rendered sterile by the introduction of infinitesimal quantities of well-known antiseptic substances. We are, therefore, justified in supposing that these same substances, if the bees can be made to absorb them, will prevent the invasion of the digestive canal and the surrounding parts by the bacillar bacteria, will destroy those that may have already lodged there, and will thus prevent the infection from spreading to the brood in the act of feeding.

The space at my disposal is too limited to permit of a detailed description of the numerous experiments which led me to fix on an antiseptic of the first rank, introduced some years back as a valuable antiseptic remedy in the case of intestinal derangements in man. This substance is beta-naphthol, which owes its introduction into general practice to the valuable researches of M. Bouchard, professor to the Faculty of Medicine of Paris. This excellent antiseptic cannot injure the bees, and they take to it the more readily as it is not very soluble, and therefore is not easily absorbed by the intestinal walls. Notwithstanding this, even when administered in minute quantities, e.g., in doses of 0.33 grammes to 1000 of liquid, it effectually prevents all fermentation, decomposition, or other changes caused by the micro-organisms. The media most favourable for the development of foul brood bacteria are rendered perfectly sterile when treated with a proportional quantity of naphthol.

Lastly, thanks to experiments made with some full hives partly attacked by the malady, which has been kindly forwarded to me by some of my correspondents, I have ascertained that a syrup medicated by a dose of naphthol in the proportions mentioned above is amply sufficient to rid foul broody bees from the parasites contained in the digestive canal. In cases where the infection has not laid too strong a hold of the parts surrounding the intestine, the cure seems to be speedy and complete. Even in captivity and under very adverse sanitary conditions, the insects soon regain all their old activity and liveliness. The treatment which I venture to recommend to the serious attention of apiculturists is as simple and rational as possible:—

In the early spring, before eggs are laid, administer to the diseased hives as large quantities as possible of sugar syrup contained 0.33 of a gramme of beta-naphthol. The naphthol should

be first dissolved in one litre of pure water, with one gramme of alcohol added to facilitate its solution. The liquid thus obtained is employed in making the syrup in the usual manner. I am quite certain that with this dose the bees will readily take to the syrup, which is in itself a powerful antiseptic. I need scarcely add that first-rate hygienic conditions are also necessary if we desire to give the bees the vitality and recuperative power which plays so important a part in enabling living organisms to resist the inroads of virulent microbes.

FOR THE CANADIAN BEE JOURNAL.

#### Separators or no Separators. Which?

IN your issue of April 1st, is an article from the pen of Mr. R. F. Holterman on the above subject, Mr. H. is evidently progressing, else he would not be asking this question, and it occurs to me it is just possible he may yet think after all, the wiring of frames, such as contained in Langstroth hives, manufactured by the firm he represents, is not a "needless and useless expense" in this increasing age of migratory bee-keeping.

To be sure, in endeavoring to answer him according to what experience has taught me, I trust no one will conclude, because it is the best for my locality, and my methods of working, that it is always the best in every instance, as some common sense must be used in this line as in every other course in honey production.

It is, however, amusing to note the changes that have taken place the past few years, with even some of our best authorities in all methods pertaining to apiculture, and the use and non use of separators is no exception. The result of such, being to a great extent, viz., so many changes in supers, the demands of the market, but especially because locations differ, resulting principally from late poor seasons. A few years ago it was no uncommon thing to hear separators condemned. Yes, even abused; owing in a great measure to the good flows of nectar, and the fact that the market did not then demand such even surfaces as at present; and the poor season following, instead of allowing anything in the shape of honey being offered, have only made matters worse, on account of so many bulging travel stained sections, a thing that could easily have been avoided by the timely use of separators.

It must, however, be remembered that all those who, even in poor seasons, can dispense with their use, but as the expense is so trifling, and no diminution of the crop perceptible, as a rule, it is therefore safer and wiser to use them.

With myself it is not desirable to give any