

it in stock, or perhaps any, and are almost sure to express surprise at your wants. It is not what is termed volatile, that is, giving off a vapor at a temperature of 60 ° F. The specific gravity of the acid used in my experiments was about 1.060, this I am not quite certain about, but will obtain the precise gravity later on. Its formula is H. C, H. O<sub>2</sub>,

At the strength given formic acid is a very simple and innocuous remedy causing no ill effects if spilt on hands. In taste it is simply acid, with a rather pungent flavor. I may say that I have placed some on my tongue without the slightest damage to that member, so that bee-keepers need be in no fear of injuring the skin of the hands if spilt on them. I mention this, as, in a letter to a contemporary, a well-known bee-keeper has issued a warning, cautioning bee-keepers against using, as he there terms it, 'the most dangerous remedy of the three, viz., salicylic acid, phenol, and the foregoing.' This idea has arisen from a mistake in the description of the strength of acid used. Concentrated formic acid blisters the skin and causes sores which are very difficult to heal.

We now come to the means I used in the administration and preparation of the cure. One of the principal items, about which I have received the most numerous inquiries, is my addition of zinc to the acid. What does it do? Upon the addition of zinc hydrogen is given off in quantities which carries with it infinitesimal quantities of the formic acid through the hive, not perceptible to the sight. This can be proved by placing a little of the acid upon a piece of highly polished zinc, and causing a very mild, continuous current of air to pass over same in one given direction for an hour. A mark will be made upon the plate, speaking nautically, from windward to leeward of the acid caused by these particles of acid being carried along its surface with the hydrogen, and acting upon the highly polished surface; in other words, the addition of the zinc causes a more rapid and thorough evaporation of the acid, as formic acid, as I have said before will not give off vapor at 60 ° F. Whether the addition of the zinc caused the marked improvement in the health of the colony I must leave for future completion of experiments now on hand.

There is one most important point to be considered in these experiments. You will remember that I commenced to treat No. 1 colony from seven to eight weeks ago, at this time they had a varying amount of sealed honey in each comb gathered and stored while the hive was in a diseased condition; how each of these cells full of honey I looked upon as so much 'bottled-up foul brood,'

and from a subsequent experiment I find that I was quite right in my surmise. I have, after curing the colony, again infected it from itself. Directly after my last examination I uncapped nearly all the honey-cells on top of combs and smeared a quantity of the honey scraped therefrom well over the floor-board at the back of the division-board; it was not long before the bees swarmed from under the division-board and cleared it all away, with this they, as I supposed they would and wanted them so to do, fed several of the larvae upon which the result that upon my next examination to-day (seven days after) several of the larvae are dead with 'foul brood,' and two cells had dead (foul) larvae in them. These two cells I disinfected by placing in them a straw dipped in formic acid, and marked such cells for future reference. I have now again applied the vaporiser to this hive, and will publish results.

The bad weather and want of time have prevented a thorough examination of the other colonies under experiment, so I will leave these for a future issue, feeling more and more confident of the future success of this remedy.--W. B. WEBSTER, in British Bee Journal.

### Close of the Honey Season.

At the close of the honey season and especially if the bees have swarmed largely, we often find colonies that are queenless, and all such are bait for robbers. When they once begin to rob it is a hard matter to stop them. In nearly every case there is some neglect of the bee-keeper, and in most cases it occurs from the colony becoming queenless. While the honey season lasts bees do not seem inclined to rob, but when the honey flow ceases there is danger of robbing if there is opportunity. It is necessary to look after this matter, and supply every colony with a fertile queen. If no queens are present for this purpose, a comb of brood may be inserted from some other colony and from this they can produce a queen of their own.—American Agriculturist.

### NO RAIN FOR A YEAR.

J. KNOWLES.—We are as yet in the drought in this section, no rain having fallen to wet the ground an inch at any time since last August. Still our honey flow is very good.

Our greatest trouble has been with queens, many having died this summer, or by loss in mating.

Edmonton, Alta. Aug. 7th '89.