## THE CANADIAN BEE JOURNAL.

## The Difference Between Ripening Nectar in the Hive and Evaporating it Artificially

## (By R. F. Holtermann.)

The subject which has been assigned to me has, I am sure, much about it as yet unknown, and yet probably of much practical value to the bee-keeper in making him put a better article upon the market, and assisting him in the sale of it: and to the consumer in showing him wherein lies, in part at least, the superiority of honey to all other sweets, fats and starchy products, as a food.

The apiarian body will contradict itself in the value of honey as long as some of its members claim what has been proven as to the nature of honey, and other members claim that honey or nectar taken from the hive freshly gathered and evaporated outside of the hive is the equal of that which has gone through all the stages in the hive w.til capped and fully evaporated to the consistency of well-ripened honey.

The obvious superiority of honey over many other products as a food. lies in part in its source-fragrant blossoms. It is gathered by the most fastidious and cleanly insect known; this insect storing the honey, and in the process of ripening the nectar in the combs, and moving it about from cell to cell, inverting the saccharine substance and making in reality a predigested food. Such foods are highly prized, and in other lines very high prices must be paid for them. Nor is this all. Honey is not only a sweet. but it contains an essential oil, imparting to it an aroma peculiar to the source from which it springs: this with our commercial honey pleasing the palate and bringing into beneficial action the organs of digestion and assimilation. That the honey in the process of production before explained is inverted has been proven, the latest evidence being by Prof. Phillips, of the Washington Apiarian Experimental Station.

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We know that during the process of evaporating nectar outside of the hive, no honey will be inverted. We can therefore not contend that the product of this artificial ripening is as valuable as that of the more natural process. Some may not be willing more, I know some are not willing to recognize this inversion by the bee. The question of the fact is not dependent upon such a recognition any more than that the fact that my friend will not recognize me proves that I am non-existent.

## Formic Acid.

That the percentage of formic acid varies in various honeys we know. Some eight years ago, when conducting a series of experiments for the Ontario government. I discovered this, and the experiment has since been verified in Europe. Finding that when bees worked on buckwheat the sting was more painful, I thought that the percentage of formic acid in buckwheat honey might be greater than in white honey. A sample of clover and also of buckwheat honey was analyzed, and it was found in the sample sent that buckwheat had about twice as much formic acid as clover honey. I have since realized that this experiment was

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