

For The Canadian Bee Journal.

In the July number of the C. B. J. Mr. H. Michener, of Low Banks, Ontario, a bee keeper of wide experience and a first class authority on all matters pertaining to apiculture, refers to my criticism of the Root Chaff Hive having the upper story double. The most of the Root style Chaff Hives in my vicinity are made for the Jones Frame, and much larger than those used by Mr. M., who uses the Langstroth. These hives (and I presume Mr. M's are, in that respect, the same) admit of but two half stories over the brood chamber. I cannot understand how any person who uses the tiering up system can be satisfied with any hive that will not admit of more than one full top story over the brood nest during the stormy season. I could not use such a hive and obtain satisfactory results, as I often use two and sometimes three full top stories when working for extracted honey to get the honey well ripened and keep the bees storing all the time honey is coming in. The point Mr. Michener raises, as to bees filling out sections better in hives having top stories double or packed, may be well taken. I have had no experience. I have quite a number of hives having the lower story double, top stories single, and have used some of them about ten years. Bees winter well in them but there is one point that must be guarded. The joint where the top story sits on the lower one must be tight. If there is any crack there the hot air generated by the bees will escape, forcing a draft of cold air at the entrance which will escape at the crack in the form of warm air that should remain in the hive. For a number of years I have placed a hill device over the bees, on that a piece of burlap and chaff packing to fill top story on top of the burlap. I have noticed that this is warm clear up to the cover over the top story in a strong colony and a few years ago it occurred to me that this heat in the chaff might better be in the cluster in the brood chamber. So in placing a packing case over my single story hives I left the honey board sealed tight on the brood chamber, placing no hill device or top story over the brood nest but just filling the case with chaff. In some cases I laid several thicknesses of paper on top of the honey board (or cover) before putting in the chaff. The bees wintered finely. As to absorbing the moisture, I am of the opinion that if the inside of the hive is warm enough, (and it is apt to be if the

bees do not have a whole top story of chaff to warm up) that the bees will take care of the moisture. What does the editor of the C. B. J. think of it? I have so much faith in that way of preparation that I have now 72 colonies mostly in clamps, similar to Mr. Alpaugh's, but holding six colonies instead of four, with cover propolized fast to brood chamber and about seven inches of packing on top. I am not by any means sure that this is the best way to prepare them and should be very glad of the experience of any who may be able to give me any pointers in this direction.

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The Emission of Perfume by Plants.

A series of investigations made by M. Eugene Mesnard, in the laboratory of experimental biology of the High School of Science at Rouen, indicates that light, and not oxygen, is the chief cause of the transformation and destruction of perfumes, but that these two agents seem in many circumstances to unite their efforts. The action of light makes itself felt in two different manners: on one hand, it acts as a chemical force capable of furnishing energy to all the transformations through which odorous products pass, from their elaboration to their total resinification; on the other hand, it exerts a mechanical action that plays an important part in the general biology of the plants, and this property explains, in fact, the manner of emission of perfume by flowers. The author thinks that the intensity of the perfume of a flower depends on the equilibrium that is established at every hour in the day between the pressure of the water in the cells, which tends to expel outward the perfumes contained in the plant skin, and the action of light, which opposes this effort. He says the whole physiology of odoriferous plants depends on this principle. We may understand thus, according to M. Mesnard, why flowers are less odorous in the countries of the Orient than in our own regions: why trees, shrubs, fruits, and even pods are there sometimes full of odorous products more or less resinified; why, finally, the general vegetation there is thorny and skeletal; for in these countries there is too much light and not enough water.—Scientific American.