

beginning to see the advantage of sowing it with timothy, or alone, as the case may be. Red clover ripens too early for timothy, and when sown with it, the crop has either to be cut too early for timothy, or too late for the clover, while the Alsike matures the same time as the timothy, which is a decided advantage. Your plan of securing a crop of buckwheat honey is good. We are just now sowing about fifteen acres and expect to sow ten acres more later on, which we trust will repay the expense, even though we should get no crop of buckwheat.

FOR THE CANADIAN BEE JOURNAL.

#### WINTERING ONCE MORE.

**W**HILE I think that we have the above problem practically settled, and that Mr. Corneil, yourself and I, are going to Winter successfully, no matter which is correct regarding the details of the cause and prevention of bee diarrhoea, yet it will no doubt be interesting and better for those who are just looking into the problem for the first time, if we get as clear upon the true laws underlying the problem as we can, and for this purpose and to make you understand me a little more correctly, I will add the following:

First, let us clearly use the terms pollen and bee-bread. What I claim is that as we advance southward, we find the honey more replete with floating pollen. I did not mean hives more replete with cells of bee-bread. You say that last year you "selected the combs containing the most pollen." Should you not have said bee-bread. To be sure bee-bread is always pollen, but pollen is not always bee-bread.

Since it is a fact that there is no danger in the presence of bee-bread, if the temperature of the hive is kept up to a certain degree, it is floating pollen in the honey that bees must take of necessity, or starve, that we must be looking out for. I am not sure that bees do not sometimes of necessity consume pollen, that floats into the honey from the bee-bread stored under it.

You know that when we are extracting old combs in Spring, that the bees died and left, we sometimes notice that the bee-bread seems to have become soaked up by the honey placed over it, and comes stringing along out of the cells, and gets into our extracted honey. We must not forget that excreta is nearly all pollen, and we must look carefully into these detail

causes of the bees consuming the same. I do not think that bees usually, at least I know they do not always, resort to bee-bread, in cases of starvation when the honey is all gone.

I am sorry if I carried the idea that I did not mean to furnish my bees plenty of air, should anything arouse them from a state of quietude. In Prof. Cook's letter he carefully mentioned that this little amount of air would only do in a state of rest. Certainly I shall open a ventilation hole above to let off the heat below, when the mercury rises above  $45^{\circ}$  to  $50^{\circ}$ . I have had evidence that uneasiness caused by high temperature, will not cause diarrhoea, nor otherwise destroy our bees. I have seen bees fed warm syrup daily for a large part of the Winter, and come out good colonies.

You will remember how Mr. Barbour of N. Y. speaks of the matter of temperature, on Page 12, *A. B. J.* for 1884. He then tells us of this fine strong lot of bees that increased and stored honey so nicely, and were all wintered in a cellar whose temperature ranged from  $65^{\circ}$  to  $90^{\circ}$  Far. He also then says that they will not become excited in that temperature, if no fresh air, either warm or cold, is let into their room. Then on page 235, you will see where this cellar got "very hot," and the bees "acted up," and swarmed out of their hives, etc., but no disease, and loss of bees. Everything came out all O.K., see page 292. Now on page 408, (all *A. B. J.*, '84), he tells us that his bees never saw a day that the mercury in this successful cellar was as low as  $50^{\circ}$  above zero. He tells us that the hives were all covered over their outsides with bees, colonies all mixing up, but his wintering and following summering, was a perfect success.

Regarding our bees that froze to death. Our colonies were packed into five and six combs, and these combs were given more space than in Summer. I am now sure that bees can be quite readily frozen to death in clusters of ordinary hive sizes.

#### DRY FÆCES.

On page 183, Mr. Corneil tells us something about it. It may be possible that bees do sometimes void dry fæces, but that this is their normal way of voiding, I do not believe. If Mr. Corneil will give a colony stores of honey thoroughly loaded with floating pollen, I think he will find that by no method of preparation can he keep them from having diarrhoea. I will tell you why I do not believe dry fæces, the common normal excreta of bees:

1st. Bees winter first-rate in very damp places. The successful R. J. Barbour believing the damp cellar is the best.

2nd. We have seen so many colonies come through in splendid condition, with none of this