

—a sort of semi-hibernation, into which the bees pass periodically between the first of December and the commencement of spring brooding, about the first of March. When wintered in a low temperature where the requisite heat inside the hive must be kept up by the bees themselves, there is but little of this hibernation and as a result a much larger consumption of food. Therefore, other conditions being equal, the lower the temperature the more food required.

As to the best food for winter stores, the bee-doctors differ in opinion. Mine is that the natural stores are the best—that is, good honey capped over. Some advocate excluding all pollen from the hive and wintering exclusively on syrup made from number one granulated sugar. It is said the pollen is the prime cause of bee-diarrhœa. For myself I do not fear the presence of pollen in the hives in wintering. Indeed, as it is an essential part of the food in brood-rearing I prefer its presence, so that when it is required by the bees for that purpose in winter and early spring, it will be there. With plenty of honey in the hive there is not much danger of inordinate pollen consumption by the bees before they are compelled to use it for the young. The honey gathered early in the season, thoroughly ripened, may be the best for winter stores. I think it is; but my experience is that buckwheat honey, well ripened and capped over, answers all right for winter. And as it is worth less in the market, and stored the last of the season at the most convenient time for the apiarist, there is no good reason why it should not be used for winter stores wherever it can be obtained. But the hives ought to be kept warm and dry while is being stored, and all remaining in the combs uncapped in October ought to be extracted. This being done, all colonies found deficient by actual weight (weighing is the only safe method of determining) must be liberally supplied.

Let it not be inferred from this that the work of supplying winter stores may be safely put off till October; but it sometimes happens that when we think we have supplied all with enough in September, we find some of them short later on, especially after extracting the thin, uncapped honey. And they may still be supplied should the weather be at all favorable, always remembering when feeding for winter late in the fall to keep the colony warm, so that the food may be properly capped over. The instructions given in the August number how to feed for stimulating purposes will apply to fall feeding, and need not be repeated here. There is this difference, however, that the feed for winter should be given much more rapidly—as fast as the bees can take it up and dispose of it.

ALLEN PRINGLE.

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From the Bee-Keepers' Review.

Winter Stores.—If Sugar is Used It Must be Fed Early.

IN the last *Review* Professor Cook says: "We know that sugar syrup is safe" for wintering. I arise to remark that last winter my bees were supplied almost entirely with that article, having been fed 2,800 pounds of granulated sugar, and they made the poorest stagger at wintering that they have in a number of years. I am not calling in question Professor Cook's veracity, I am merely stating a fact, and I do it, not to pick a quarrel with the professor, but to show how careful we need to be to avoid misunderstandings, and how difficult it is to draw conclusions that will always hold good, when the bees are allowed to have any hand in the matter. It is probable that Professor Cook is correct that sugar fed at the right time and in the right way is always a safe food. If I had from experience learned that the source from which my bees obtained my winter stores was such that I could with some degree of assurance consider such stores unwholesome, I should extract and feed sugar syrup. Or if, for any reason, my bees were short of stores, obliging me to feed for winter, I think I should, as I have done in the past, feed sugar syrup. And before going farther I will say that the mortality among my bees last winter, I think, would have been equally as great if the best honey had been fed in place of the sugar. I say I think, for I cannot be entirely positive about anything connected with bees, as I have already hinted. I did not feed till very late, hoping that a flow of honey from fall flowers might help to fill up, and I very much doubt if a colony entirely destitute of stores and then fed as late as October, will ever winter perfectly in this climate.

After a good deal of experience in the matter, I would advise any one who thinks his winter stores unwholesome, to try extracting and filling up with sugar syrup, but I would strongly advise that the feeding be done early. Just *how* early, must vary with the latitude. In this latitude—42°—I should like to have the feeding all done in August. Later than this, I am afraid the bees do not have time to properly ripen it.

As to taking away wholesome honey—and allow me to say that I think unwholesome honey is not so very plentiful—and feeding sugar in its place, that is another matter. It may be profitable if sugar is low and honey high enough, and time not too valuable. Allow me, however, to mention some objections, for I imagine that the favorable side will be fully enough presented. The editor and others will tell you that pollen, as clearly shown by scientific analysis, is at the