

## The Month's Work

A. E. Hoshal, Beamsville, Ont.

As to whether it is better to winter bees inside or outside:—In the opinion of the writer it depends largely upon the character of the winter. If the bee-keeper is situated where the winter seasons are long and steady, and where from the time winter begins until spring opens the weather will not permit the bees to fly, they will then do better if wintered inside; but if on the other hand, he is situated where there are occasional warm days during the winter on which the bees can fly, say once every month or six weeks, then they will do better outside.

When wintered outside they will need to be protected with some kind of packing to enable them to successfully withstand the cold. There are three ways in which this is usually applied. (1) With double walled hives, (2) with clamps and (3) with wintering cases. Of these three methods I would recommend the third. These wintering cases are plain boxes, usually made of about  $\frac{1}{2}$  inch lumber planed on one or both sides, and their covers of somewhat heavier lumber so they will not check or crack with the sun and become leaky. They are also of such size, and so constructed that when the hive is placed inside there will be two inches of space between the sides and bottoms of the hive and the inside of the packing case and from three to four inches between the top of the hive and the cover of the case. These cases should be perfectly rain and snow proof so that the packing inside cannot possibly become damp therefrom. They should also be

painted some dark color so as to absorb heat from the sun. Any dry material that is a good non-conductor of heat, such as forest leaves, chaff, cut hay or straw, makes good packing.

The wintering cases should be put on the hives about the first week in October. In doing this remove the hive (which of course is a single-walled one) from its stand and place the wintering case (which should be made to fit it) thereupon. Then place the hive inside the case and bridge from the entrance of the hive to the entrance of the case so that the packing will not prevent the bees passing in and out of their hive. Next fill up the remaining space in the case underneath, about and above the hives with packing, pressing it firmly in with the hands or end of a flat stick and filling the case a little more than even full, so that when the cover is put on and fastened down, it will press firmly on the packing inside. The whole when completed should not be shaded as is often done, but left in the sun during the entire fall, winter and spring, and if while doing this, it can also be protected from the winds so much the better.

An entrance about three or four inches wide and one-half inch deep is usually allowed the bees during the winter, and no upward ventilation through the hive given them. On the front of the wintering case immediately below and even with the bottom of the entrance is fastened a small board about six inches wide by ten inches long for the bees to alight upon when coming in, so that they will be able to gain the entrance easily and not drop upon the ground.

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Foul brood bacteria will live at a temperature of 216 degrees below freezing.