

of milk food by young workers. A supply of pollen in the hive is quite as important at this time as honey.

An equally important factor for the upbuilding of the colony is the proper feeding of the larvæ. This depends on the same conditions as the feeding of the queen, and if neglected would cause greater loss, as the queen can go about and look for food in the hive, but each larva remains in its cell waiting for food to be brought, and a lack of attention at the right time may result in starved brood or workers without their share of vitality.

Much as has been said and written on stimulative feeding to induce the queen to lay in the spring during the last fifty years or more, the late Wm. McEvoy, the first apiary inspector of Ontario, is about the only one to mention the importance of having the brood well fed. In the Annual Report of the Ontario Beekeepers' Association for 1892, he is reported as follows:—

"Between fruit bloom and clover I see that there is plenty of unsealed honey in the combs. If not, I feed in the evenings until there is, because the larvæ are never so well fed when all the unsealed stores are used up. In favorable weather the bees will gather abundance from fruit bloom and dandelions to feed the brood well and keep a large quantity of unsealed honey on hand. Then, right in the middle of it all we sometimes get a frost, followed by rainy weather, which cuts off the honey flow so suddenly that the bees have to use up the unsealed stores at once to feed the larvæ. Then, when the unsealed stores are used up and no honey is coming in, with a large quantity of larvæ to feed, the bees will not at such times uncap the sealed stores fast enough to keep pace with the large amount of larvæ that needs feeding. If the weather keeps backward after that, so that the bees get little or no honey, they will begin to drag out some of the larvæ, and a little later on we find starved brood. The larvæ that are lost at such times are the very life blood of the honey business."

It is particularly important that this condition should not be allowed to occur in an apiary affected with European Foul Blood, because the larvæ need the very best care to enable them to resist the disease germs which may be present. Italian bees, well looked after at this time, will usually get through to the main honey flow all right, and after that they are safe.

A favorable locality provides a continuous supply of nectar and pollen from natural sources throughout the spring, except in cases of adverse weather, as mentioned by McEvoy above. The beekeeper will need to understand his own locality fairly well to know whether this continuous supply is available. It takes five or six weeks from the laying of the egg for the worker to become a field gatherer. Active brood-rearing should begin then, at least six weeks previous to the opening of the main honey flow, and should be continuous, without any break, until the honey flow starts.

The impulse to collect dust of some kind and carry it to the hive as pollen in the spring seems very strong. When warm days come early, so that bees are active before any pollen-bearing flowers are in bloom, they will be seen collecting sawdust, coaldust, and have even been known to collect black earth and embryo cheese mites. For fifty years or more, writers have advised feeding flour or meal of various kinds to the bees at this time, considering that it stimulated brood-rearing. Some placed it in the cells of combs which were put in the hive, others in shallow boxes, where the bees could have access to it. To keep bees home in rough weather, it was advised to make soft candy of meal, pulverized sugar, honey and water, knead it into a stiff dough and put into an open-work sack. This was first dipped into hot water and out again quickly, then laid over the frames where the cluster could reach it. It supplied both sweet and pollen substitute.

Cheshire mixed pea flour with syrup and spread it over the surface of an empty comb, which he placed in the brood-chamber, and found that the bees used