

son she produced five tons of honey in one pound sections. The next season was a poor one, and the apiary only yielded two hundred and fifty pounds of an inferior article. It was evident from this that management alone cannot produce large yields.

I have done the work in our apiary (numbering seventy-six colonies) almost entirely alone during the busy season. Some days I hived nine swarms; only once did I call for a man's assistance. A swarm plustered in the topmost branches of a greenash tree. He put a ladder against it, and standing upon it could scarcely reach the cluster, with one of Mannm's hiving baskets he hit the cluster once and got about fifty bees in it, got stung on his hands, and thought that he was most killed. I had previously cut out the queen cells from which they issued, calculating to return them. I emptied the few bees he caught in the basket in front of the hive, saying never mind trying to get them down any more. I went into the house to rest as I did not want to see them leave; in about an hour I looked at the hive and it was full of bees; I supposed that the man got the queen, and the rest returned to their hive seeking her. The strain of bees that I have generally cluster low, but this was a virgin queen, an old one would not have been guilty of such indiscretion. Mrs. L. Harrison in B.B.J.

The Granulation of Honey.

It is practically easy to understand how honey from one kind of flower granulates sooner than that from another source, or again, how it is that honey from one district, or in another season, shows a greater readiness to crystallize; but when one is brought face with the problem, "How is it that one bee-keeper's honey, got in the same season, in the same district, candies sooner than his neighbors?" the matter cannot be so readily dismissed.

We must first think of nectar being simply a solution of cane sugar in water, the amount of sugar and chemical peculiarities varying, of course, with the kind of plant with the wetness of the season, and also with the humidity of the air at the time of the nectar flow (electrical influence is, for the moment, beside the question). The business of the bee is to gather the nectar, remove some of the water by the help of its own system, and by the help of a salivary ferment convert the cane into grape sugar, by adding formic acid to the honey regurgitated into the cell its further fermentation is arrested, and its keeping quality well assured after still more surplus water is allowed to evaporate before the bee seals it up in the cell.

The honey is still one-fifth of it water; two-fifths of the rest is dextrose, or crystallisable sugar, with two-fifths levulose, or non-crystallizable. Extracting honey before it is all ripe will, we know, throw out some bearing an undue proportion of water in it, this having a tendency to retard the candying, but we shall throw out nearly all the dextrose, which increases this tendency. If, however, one waits till all is sealed, good ripe stuff, when it is extracted a certain portion of the crystalline sugar remains in the cell, and thus gives out a greater share of levulose (non-crystallizable) sugar. Such honey naturally holds out longer in a clear, fluid state. If I had to decide between A and B in the same district, A having readily candying honey, whilst B's remained fluid, I should say B extracted from nothing but sealed comb, whilst his neighbor was not so particular. If this was not the case, my alternative would be that the bees of A had easier access to water, thus allowing the crystalline sugar to be readier slung out of the cells. I am presuming that A keeps his honey in as warm a place as B; if not, there is really no question at issue. R. A. H. GRIMSHAW, in the Bee-Keeper's Record.

New Methods of Queen-Rearing.

ZINC-EXCLUDERS, ETC.

AN interesting question now before our leading apiarists is, Can young queens be fertilized from a hive where there is a laying queen in the brood-chamber, the queens being excluded from the brood-chamber and each other, and given separate entrances?

This matter has been considered in the American Bee Journal, see page 26, Vol. XXV., where a negative view is taken. That view is still held. While it may occasionally occur, as in a great honey-flow, or where there is a failing queen, still it is an exception to a great law in the nature of the honey-bee; and that law is, that, so long as a vigorous queen occupies the brood chamber, she reigns practically supreme as regards all rivals. But if for any cause she deserts the brood-chamber for another and remote part of the hive, and begins laying, or if she leads out a swarm, the conditions for queen-rearing are essentially changed. The bees of that brood chamber will then start queen-cells, and, with proper mechanism, the bee-keeper may get every one of them hatched, fertilized, and laying, all in the same hive; at the same time, the bees have access to all of the queens.

Thus we may rear and get young queens fertilized from a hive while the mother-queen is actively depositing eggs in the same hive; but