

types offered for sale may be used. The boxes are either made of metal or lined with tin to prevent the leakage of honey, and about halfway up is a heavy wire netting to catch the wax cappings and allow the honey to drain off into the lower compartment. This honey may later be added to what comes from the extractor.

THE EXTRACTOR

The extractor consists of two or more baskets into which the combs of honey are placed and which are revolved inside or with a can. The rotation drives out the honey by centrifugal force, leaving the cells empty, provided the uncapping has been thoroughly done. While the extractor is a very simple machine in principle, its construction has been the subject of much experimenting, and various types have been made. The best type of extractor has been found to be one in which the surrounding can is stationary and the baskets are arranged to revolve inside it. Some types are now made so that the baskets may be turned and both sides of a comb emptied without removing the frame from the basket of the extractor. The more elaborate types, holding several frames and driven by power, may be found described in catalogues of the dealers in bee-keepers' supplies.

The extracted honey flows to the side of the can and then runs to the bottom of the machine; it then runs off through an opening at the bottom into a vessel or tank for the purpose. As it leaves the extractor it should be run through a cheese cloth to remove any particles of wax or other foreign substance which may have got into it. The care of the honey will be described later.

Empty combs wet with honey should not be returned to the bees while extracting is in progress, for fear of inciting robbing. They may be piled up in the extracting room until the work is almost

completed and, if any additional honey-flow is expected, they may then be returned. If to be kept until the next year, they should be given to the bees for a short time to be cleaned of honey, and then removed and put away so that wax moths will not destroy them. The greatest essential in the production of the maximum amount of extracted honey is an adequate number of surplus combs.

The Ripening of Honey

When nectar is gathered from flowers by the worker bees, the amount of water contained in it is very high. It is generally supposed that, by the time bees reach the hive to deposit the nectar in the cells, part of this water has been removed; at any rate, during the process of ripening, the amount of water is very much reduced, until, in thoroughly ripened honey, it will not exceed 25 per cent. and is generally not more than 20 per cent. Some very ripe honeys will have as little as 12 per cent of water in them. If more than 25 per cent of water remains in the honey at the time of extraction, it will probably ferment. The ripening of honey consists not only of the evaporation of the surplus water of the nectar, but especially of the transformation of the sugars of the nectar into the levulose and dextrose of honey. Unripe honeys contain a larger proportion of sucrose or cane sugar, and it is probable that the longer the honey remains in the hive the less of sucrose will be found in the honey. While honeys vary all the way from zero to 8 or 10 per cent in their sucrose content, the purest honeys are those which contain the least. The official honey standard of the Association of Official Agricultural Chemists allows 8 per cent of sucrose in honey.

It is the policy of most bee-keepers to allow this ripening to take place in the hive by waiting until the honey is almost or entirely capped, and this is un-

doubtedly the a matter of honey which long time has more of the ch By ripening in characteristic fl than is possible hive.

Several machines the artificial ripening been extracted " great a water co which all of the application of he for a sufficient ti of water present Either sun heat used. In the we States honey may tracted before it is the general pi run the honey di to large tanks, sc ons, out in the o both tightly tied Many of these t the top, leaving small opening. (reme dryness of al lack of rain his partial evap ive takes place v The advocates of ive argue that, if ve all the water es have less to a devote almost ing nectar in the ould result in a tent, the purest honeys are those which contain the least. The official honey standard of the Association of Official Agricultural Chemists allows 8 per cent of sucrose in honey. possible to dete een honey ripene at ripened outsid concerned, but this any other bee-ke hey tasting do 1