

## REARING OF QUEEN-BEES.

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THE most vital point in successful beekeeping is to ensure that each colony is headed by a good queen. The traits in a queen-bee's character are just as hereditary and the degrees between good and bad just as great as in any other kind of stock. A queen-bee should be prolific, of good size, colour, and shape, and keep her brood-nest compact and solid. Her progeny should be good honey-gatherers, disease-resisters, reluctant swarmers, good-tempered, robber-resisting, of good colour, and not given to building too much brace-comb or collecting too much propolis.

The only way to secure queens with as many of these traits as possible is to persistently breed from stock showing these qualities. If in the apiary there is a colony which stands out pre-eminently above all others, that is the one to breed from. If there are none that are satisfactory it is advisable to send to a reputable queen-breeder for as many as one can afford, and after testing them in one's own apiary breed from the best. It is not necessary to be constantly buying breeding-queens, as each importation may alter one's standard, nor is it always advisable to breed from a queen before fully testing her, as it is quite possible the beekeeper may have a better one among his own stock.

It is best to breed only from pure Italian queens whose correct mating has been assured. Novices can judge the mating by noting the uniformity of the hatching brood as regards colour. Should the young bees show diversity of colour—some being yellow-banded and others quite black—the mating has not been correct.

The question of mating is always a difficult one, as queens mate on the wing, and therefore it is impossible for the apiarist to select the sires. But as purebred queens, even though mismated, throw pure drones, it only takes a comparatively short time to eliminate crossbred drones from an apiary. There is, however, still the chance of contamination from other drones in the neighbourhood.

To sum up the matter: By persistently breeding from the best it is possible to achieve wonderful results, while under careless management, or, as is often the case, no management at all, bees are sure to deteriorate.

Methods of queen-rearing are legion, but may be roughly divided into two classes—namely, those which use the naturally built queen-cells, and those which necessitate the provision of artificial queen-cups into which young larvæ are transferred. The former method is most suitable for beginners, or for use early in the season, as it minimizes the risk of chill to young larvæ; while the second method is used largely by beekeepers who want to rear queens in greater numbers. As an example of the first method I will briefly describe what is known as the "Stewart method" (after the noted queen-breeder, Mr. R. Stewart, of Crookston, Otago), and how to carry it out.