

QUEEN REARING AND HONEY INDEXED PRODUCTION.

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It is the writer's wish in the present paper to bring before bee-keepers the importance of the practice of artificial queen rearing in connection with the production of honey. In order to have strong, populous colonies it is essential that the queens be vigorous, but many of the manipulations now practised, while they accomplish the objects sought, yet they have a very certain and harmful effect upon the queen stock raised under the artificial conditions imposed.

New and better methods of handling bees are constantly being developed and the hand of man is now employed in regulating their natural instincts, but when we undertake to pit our understanding against the forces of nature we must make sure that our interference will not result disastrously in ways that we least expect.

Artificial swarm control, artificial divisions for increase and artificial stimulating are now successfully practised, but the subject of artificial queen rearing, which should go hand in hand with these, is handled rather gingerly or left in the hands of specialists, and yet a knowledge of this subject is a basis of success with others. If we prevent our bees from swarming, where are the young, vigorous queens to come from to head next year's colonies? Of what use are artificial divisions if we cannot supply them with properly raised cells, or of what advantage is stimulative feeding, if we do not have queens in the hives with vitality enough to respond to the stimulating?

It is very interesting and instructive to trace the development of the methods now largely employed by bee-keepers to obtain increased yields of honey and at the same time to keep under control the natural swarming impulse. It may also be instructive to note how these manipu-

lations affect the welfare of the colony in the generations to come.

Probably the simplest manipulation is hiving the swarm on the old stand, thus throwing all the field bees in with the new swarm to give an added impetus to honey gathering. This manipulation certainly accomplishes the object sought. It concentrates a tremendous force of field bees for gathering in the crop, and as there is no brood to look after for a few days the honey piles up very rapidly in the supers. But what about the partially developed queen cells in the old colony that has been drawn on so heavily for bees? Does it seem reasonable that they will receive the warmth and attention so necessary to their growth into good, vigorous stock?

Another manipulation generally practised is the control of troublesome after-swarms by breaking down the cells left in the hive after the departure of the prime swarm, leaving only one cell to hatch out. This also accomplishes the object sought. No after-swarm will issue if there is only one queen cell present in the hive, but the same objection applies here as in the former case. The few bees in the large chamber will not give any more attention to one cell than they would to six. If the nights are cool, they will cluster in the centre of the hive, perhaps away from the queen cell, leaving it unprotected, and the young queen will thus be injured.

Next in order is the practice of universal shaking. By this method colonies are examined every few days and any found making the first preparations for swarming are shaken on to new combs on the old stand and the brood disposed of in various ways. From the standpoint of improvement in the stock this method is the most rational of any since there is no endeavor made to raise queens under unfavorable conditions, and the bee-keeper is forced to work out some other method of propagating his stock. We must all