

Mr. York, most able and courteous of bee paper editors, believes that the honey bee may be improved by careful methods of breeding. He himself is a queen breeder, and should know. Successive issues of the American Bee Journal have contained valuable contributions on the subject, and bee-keepers generally are under a debt to him for keeping the subject "alive." We ourselves have seen what can be done with the bee by judicious crossing and careful selection, and trust to refer to the matter in these columns at an early date. We are fully convinced that no other subject presents the same possibilities for bee-keepers as that which concerns the improvement of the honey-gathering capabilities of the bee. At the same time, it seems to us no less certain that the empirical methods so far practised by bee-keepers cannot be productive of the results looked for. Candidly speaking we are somewhat skeptical as to the measure of success really achieved by certain of the writers on the subject. To effect any lasting improvement in the races of bees some regard should be had to the modern teachings of science, and, so far, we have read but little that implies the possession on the part of the writers the necessary knowledge of the laws of heredity or of the science of breeding generally.

We have learned with very considerable interest how a certain well-known apiarist claims to have "improved" his strain of bees in some half-dozen different ways—by selection of course; we have also perused the contribution of a learned doctor who states on the other hand that "improvement" in the case of the bee is impossible—who, in fact, denounces the attempt as something very wicked indeed. We should like to listen to a debate between these two bee-keepers on the subject.

But we would return to our American editor, who is still appealing to the non-sitting hen for an answer to the ques-

tion, "Can the swarming instinct in bees be eliminated?" Mr. York will, perhaps, pardon us for yet maintaining that biddy is not able to furnish him with an answer. We still hold that real reproduction does not take place when a worker bee is produced. The cycle of bee life in fact is not complete in our humble opinion, until an individual is produced capable of continuing the race. This individual is the queen that has been accepted as the new mother of a colony.

Mr. York asks us whether swarming is not really colonization rather than reproduction? We are willing to admit that the term "colonization" is appropriate to the act of swarming. Nevertheless, the fact remains that the queen is the individual, the matriarch, who alone counts in a community, whereas the few hundred drones are individuals merely tolerated for a particular purpose for a short space, and the remaining multitudes of workers, creatures whose individuality and purpose are sunk in those of the whole colony.

"Suppose," says Mr. York, "a colony continues year after year without swarming, each queen in succession being quietly superseded, would there be no reproduction?" The statement above furnishes our reply to this question. But "suppose" we bred such a race of bees! Now we imagine that the swarming propensity is very closely connected with the honey storing instinct,—that the two have been evolved in association and that to destroy the one will mean certain destruction to the other.

Personally, we have always regarded the prevention of swarming as being one of the most important aids to the bee-keeper. Any successful method of prevention is a very valuable help indeed to the man who wants honey. But for our own part we have never wished for a non-swarming race of bees. Give us bees that are prolific and efficient, and we will endeavour to find a means

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