

honey. The well filled brood-nest so necessary to the successful production of comb honey, is also very favorable to the forcing out of swarms. A large hive well shaded and ventilated, with plenty of room in both brood and surplus apartments, will retard and sometimes prevent the issue of swarms, but there is no certainty about it, and it is better to have swarms issue earlier than in the middle of the honey harvest as is apt to be the case with large hives. Cutting out queen cells, the withdrawal of brood, and the management of the brood-chamber as recommended by Mr. Simmins, will also delay but not prevent swarming, while there is danger of throwing the colony into a condition known as having the swarming fever. In this state work to a large degree will be suspended and the bees show by unmistakable signs that they are dissatisfied. Many bees will desert their own hives and enter others which seems to disaffect these also. The bee-keeper will be similarly affected when in the midst of a honey flow he comes to look into the surplus receptacles or to notice the number of idle bees hanging about the hives. It is only strong swarms that produce box-honey satisfactorily, and no system of management will be successful unless the colonies are built up strong before the harvest. This is particularly true of the method I am about to describe.

I recommend the clipping of queens' wings, believing it to be the best. There is then no loss of unexpected swarms and no swarms to be hived from inaccessible places. In every apiary there are some colonies, in some seasons a majority, that will work right along without any attempt to swarm. When no increase is desired there is no need of molesting them as they usually produce their full share of comb honey. All other colonies as they complete their preparations for swarming should have their queens removed with one or more sheets of brood and enough workers to protect it and be placed in another hive or small receptacle provided for her. All queen cells old enough to hatch within nine days should be removed from the old stock, and the remaining brood combs pushed together contracting the brood nest that much. On the eighth or ninth day after, all cells should be broken from the now queenless hive leaving them helplessly queenless. In a week or ten days longer the old queen may be smoked back into the old hive. The success of this will depend somewhat upon the race of bees kept. When we had black bees there was seldom a failure but as our bees became Italianized the losses were greater. Mr. Crane, one of the best bee-keepers in the country, takes this time to requeen the most of his stocks by giving them a

virgin queen which is usually well received. If the queen is to be changed the old queen can be killed at the time of her removal and the brood-nest not contracted. The brood removed may also be returned to the old hive or it may be used for nuclei, or put into extracting swarms, or used in a variety of ways that may suggest themselves to the bee-keeper. No colony should be left queenless longer than twenty-one days, as after the brood has all hatched there may be no empty cells for storing pollen except in the sections. If the queen cells are broken out at end of seven days after the removal of the queen there will often be another brood of queens reared from the brood remaining. I have never known such queens to lay anything except drone eggs, but they are capable of leading off swarms or of establishing a monarchy in the old hive that is hard to overthrow. Before I learned that the books were not right as to the time for breaking out cells to make a colony hopelessly queenless I had many such cases and this is the only kind of fertile worker I have ever been troubled with.

This system of non-swarming works well with us and undoubtedly will do the same in localities having a similar honey flow. In other sections modifications of the plan may be adopted to meet the varying circumstances. With sectional hives like the Heddon a whole half of the brood chamber might be taken with the queen and returned with the queen at the proper time, which with us is usually near the close of the white honey harvest. Or the sections might be changed leaving the queen out longer than the twenty-one days. It is said that queenless colonies do not work so well, but we by this method get extra strong colonies and as much honey as by other methods with less work and expense. This method of non-swarming is not recommended after a short trial, for it has been worked for several years with thousands of swarms in different bee-keepers' hands, and tons of honey produced. In answer to the objection that honey produced by queenless stocks is not as choice as that produced otherwise, I will say that honey so produced took the highest prize at the Centennial in 1876, and later at the Paris Exposition after having been carried across the ocean and exhibited in the original packages.

In the fall we have not found the brood-chambers of such hives any heavier on the average than others, neither have I or other bee-keepers discovered that such colonies failed in winter because of too much bee-bread. With reasonable attention we are sure of having no swarms issue and I know of no other way by which we can uniformly reach the same result.

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