

COLONIES NOT SUFFICIENTLY PRODUCTIVE.

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Translated from the Italian.

The extent of territory worked by the bees of a large apiary gives them each year a certain quantity of *nectar*; this quantity varies from year to year according to the season, and has also a pronounced variance in localities not widely separated, for it depends everywhere on the nature and variety of the vegetation growing naturally or cultivated. It is possible, however, after a close observation, continued during a sufficient number of years to estimate an annual average harvest. This is a rather delicate operation which can only be made by a practical apiculturist of long experience, having at his disposal an apiary almost isolated, of sufficient importance and well provided with complete frames of worker cells. Regarding the honey producing resources which an average extent of flight affords, an apiary may be found in two very different conditions: either the cultivated colonies are inferior in quantity to what might be expected from the possible average resources or on the contrary, they are notably superior in quantity (over-stocked.) In this second case the struggle for existence among the colonies of the same apiary is carried on in a very severe manner, and this is the reason that the observations which have been made in two kinds of apiaries give very different results, and it is necessary to bear this circumstance in mind if we wish to deduce practical results therefrom. Without doubt in days in which the honey is abundant, there is sufficient honey in the country for all colonies, the weak as well as the strong; but these days are, as a rule, limited in number, and only the populous colonies properly profit by them; the weak, the indolent receive scarcely any benefit. To the few days of abundance succeed long periods of scarcity and even absolute want; then the strong colonies gather all that is to be found and consume a part of the stores already garnered, whilst the weak succeed only in finding water and again lose all am-

bition.

The signs indicating that in a certain extent of territory the number colonies is inclined to exceed the possible amount of honey to be gathered are the following:

1. Even the strongest colonies, provided with a large number of frames, do not like to finish the honey-comb; if they work at it they do it with difficulty, irregularly and imperfectly.

2. The natural swarming is delayed in a marked manner in comparison to the little apiaries situated on the borders of the territory covered by the large apiary.

3. Natural swarms, even the strongest and the first, placed in hives upon the most tempting of frames do absolutely nothing.

4. Natural swarms aided only by a single empty section do little or nothing.

5. The common-hive apiaries and the small apiaries with moveable frames not much observed, situated very close to a large apiary, end by completely perishing.

6. The colonies which in spring appear weak in population for any reason whatsoever, do not increase or are scarcely productive during the year, no matter what system of management is followed; while the colonies situated on the confines of the territory covered by the large apiary and which were feeble in spring, will recover sufficiently to gather enough for themselves and for the apiculturist.

This latter observation is important because if it is sufficiently repeated in different directions it will give a correct idea of the common length of flight, and consequently of the total superficies visited by the pilferers of sweets. I think that in a level country the extent of flight necessary for an apiary is much less than many apiculturists even of long experience think.

There was a time when we believed that it sufficed to fill a hive with bees and to change the queen when necessary to obtain a productive colony. I will even say that my apiary has been constructed after this fashion; it will give me annually several hundred brood sections, and always place at my disposal breeding queens at will, and for my part I have been accustomed to re-