

FACTORS THAT AFFECT HONEYBEES' SWARMING

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Swarming is a natural way of reproduction for bees and a complex phenomenon affected by many factors, such as hive's overpopulation, insufficient amount of the queen's pheromone, high temperature and queen's genetic predisposition. The aim of this study was to evaluate the genetic predisposition and the lack of space as factors in the occurrence of the swarming through the application of field experiments. Thus, groups of equal bee colonies were created and received the same treatments during the experiment, until the appearance of the phenomenon, while all the queens of each group were sisters to each other. The created groups consisted of colonies with 2-year-old queens coming from natural swarming (Group A) and queen breeding (Group B), 3-year-old queens (Group C) and 4-year-old queens (Group D) coming from queen breeding. The following treatments were applied to these bee colonies: a. supplementary feeding, b. removal of empty space frames, c. artificial increase of the population. During the experiment the growth rate (population and brood frames), the supplies rate, the colonies' behavior and the time of appearance of the phenomenon were recorded. According to the results, the queens that came from natural swarming (Group A) showed a significant increase in both their food stocks and population and swarmed in a short period of time. The 3-year-old queens swarmed after the queen lacked space for laying eggs, but a month later than the queens of the first group. Finally, the queens of groups B and C did not swarm even when there was intense crowding in the hive, lack of laying eggs space and intense bee feeding. In conclusion, it was found that the genetic predisposition of bee colonies is the most important factor for the occurrence of the phenomenon, while factors such as the lack of laying space influence the swarming at a lower extent.

Keywords: swarming, bee reproduction, genetic predisposition