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An experiment was conducted in order to detect the influence of quality of queen bees of the Carpathian bee breed derived with using of biologically active substances on melliferous capacity of bee family, it was formed two experimental and control groups of twenty-five breed of bees. Bees breeds formed in June by the generally accepted rules were used. For the formation of group, analogical couples of bees breeds in strength, the number of sealed brood, honey and bee cerago were taken.

The best queen bees' sisters by development obtained from spring 2015 were sat to the experimental group. It means that they were genotype analogues and analogical couples by weight and body length. Queen bees derived from queen bees families which were fed with biologically active feeding Apistimulin BM and Nanostimulin were introduced to the first and second research groups. Queen bees derived from queen bees families which were fed only with sugar syrup were introduced into breeds of control group.

Introducing queen bees in breeds was carried out by using conventional method of Titov's cage. The experimental bee families were in the beehives of the similar construction in equal conditions of care and feeding. Bee families were taken to honey harvest of linden and sunflower during the season. After finishing of honey harvest from each plant, pumping honey was conducted. Determination of the amount received from each of honey bee families was performed by the method of conducting experiments in beekeeping.

The influence of queen bees quality on melliferous capacity was judged by indicators of biometric processing of data from the output of trade honey during the season 2015, both separately for each breeds and overall.

Honey harvest of linden from June 26 to July 5 was held under very unfavourable weather conditions for the allocation of nectar caused by high temperatures. Also unfavourable weather conditions for honey harvest were during sunflower blooming from July 19 to August 11. During flowering sunflowers, especially in the beginning, there were heavy rains, with the air temperature significantly reduced, and since the middle to the end of honey harvest it has become too high. All climatic factors influenced the quality and quantity of honey harvest.

Analysis of the data showed that bees breeds formed on the basis of queen bees derived by using biologically active substances had more honey harvest than queen bees derived under usual conditions of feeding with sugar syrup. Thus, during honey harvest of linden, bees breeds of research groups have brought significantly more marketable honey by 16.4% and 51.5% than in the control.

The best result was obtained in the first experimental group formed by the queen bees derived by using stimulating bioactive feeding Apistimulin BM. The results of this group were 51.5% and 23.2% higher than in the control group and second group and received an average 14.71 kg of honey of bee family. Bees breeds of the second experimental group increased honey harvest by 16.4% that is a good result for increasing the output of marketable honey in the apiary.

The first experimental group had the lowest coefficient of variability, which indicates the similarity of queen bees and positive impact on their quality of honey harvest. The greatest individual features of queen bees were shown in families formed on the basis of queen bees derived by using stimulating bioactive feeding Nanostimulin. This group had the highest coefficient of variability.

During honey harvest of sunflower, the number of honey exceeded the indicators of the control ones by 17.5% and 52.4%. The smallest effect was manifested in families of the second experimental group and was 17.5%. The largest melliferous capacity was showed by bee families of the first group and it was 52.4% higher, in average 16.78 kg of honey per each family.

General results of marketable honey production by research bee families have confirmed significant influence of the quality of queen bees on the honey harvest. Thus, during the season 2015, the first and second research groups of bee families gathered 52% and 17% honey higher than the control ones.

So, developed biotechnological method, the essence of which is feeding queen bees families with the bioactive feeding in the embryonic period, provided high-quality queen bees whose families under adverse weather conditions for honey harvest had the best melliferous capacity.

It was established that bee families formed by using queen bees derived from queen bees families which were fed with bioactive feeding Nanostimulin and ApistimulinBM had 17% and 52% higher melliferous capacity under adverse weather conditions during honey harvest. Melliferous capacity of bee families depends upon the individual productive qualities of queen bees. At that, queen bees derived by using feeding ApistimulinBM are the most similar and their families have higher melliferous capacity than derived by using Nanostimulin and by generally accepted method.

***Keywords:* bee families, queen bees, preparation Apistimulin BM, preparation Nanostimulin, sugar syrup, queen bees' families, trade honey, bees' breeds**