

Number of Bee Families, which are used to extract honey in Bulgaria

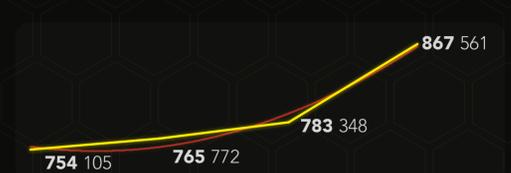


The bar chart illustrate the percentage of bee families, which are used to extract honey from 2015 until 2019. The data for 2015 shows that in Bulgaria there were 592 987 bee families or 79 per cent of all bee families are used for reproductions purposes and restoration of the empty beehives after the winter season. 2017 is the year with the least extraction of honey, whereas the years with the highest amounts are 2016 and 2019 as from 2017 until 2019 there is an increase in the honey production. In 2019 the number of bee families, used for breeding purposes, has increased with 3 per cent to compare with 2018. There is no general trend of development, but throughout the years 2017-2019 the percentage of bee families reaches the ones in 2016.

Statistical Regions in Bulgaria



Number of Bee Colonies - Total for Bulgaria



In Bulgaria, the interest in beekeeping is growing. It turns out that throughout the years 2015-2019, the number of bee colonies has increased at an annual average by 30 032. If we compare the number of bee families in 2019 to the number of bee families from the previous year, we see a raise of 10.8 %.

Why the Bees are so important ?

The importance of bees is significant, as they help to pollinate the thousands of existing plant species. 91 of the 100 most popular plant foods, feeding 90% of the world's population, rely on the existence of bees.

Unfortunately, along with many other insects, bees are disappearing worldwide / in severe decline and their extinction is one of the most dangerous phenomena today, called "the empty hive syndrome". If bees were to become extinct the planet could be in serious trouble, because these creatures are such an integral part of most ecosystems. And while the number of bees progressively decreases as they are destroyed by chemicals and natural conditions, Bulgarian beekeepers face great difficulties in creating their own new bee families with the requirements set by the Bulgarian authorities on the allocation of funds invested by the European Union.

In Bulgaria people of different ages and professions are involved in apiculture. Eurostat data on exports and imports of natural bee honey from the 28 EU member states that for the last year, Bulgaria has exported approximately 10,000 tons of honey to EU countries, and about 4 tons of honey for non-EU countries. So that's why we decided to analyze the data for bee families, to understand what is the situation in Bulgaria.

To Bee or not to Bee ?



Destroyed Bee Families and Loses for different reasons - Total for Bulgaria

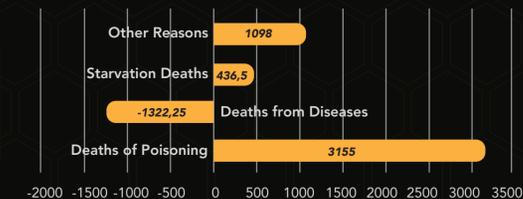


From the data, which the bar chart illustrates, we can draw the conclusion that in 2019, the number of bees, died from poisoning, is the highest for the period shown, and the lowest number of bee families is the one showing the starvation deaths.

Total Destroyed Bee Families in Bulgaria



Average Absolute Growth Rate of destroyed bee families per reasons in Bulgaria



Divided by years, we cannot prove that there is an upward trend, because the autocorrelation coefficient is insignificant. However, according to the bar chart for the period 2015-2019, the destroyed bee families have increased their number.

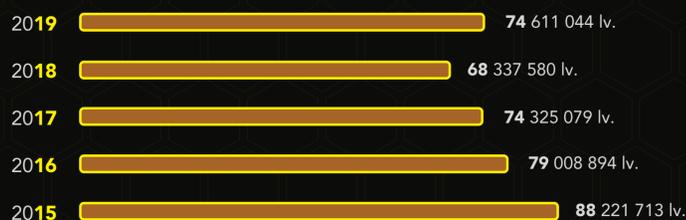
Annually, the number of bee families, died from poisoning, has increased on average by 3 155 families. The number of bee colonies, died from sickness, has decreased at an annual average by 1322.25 colonies. Annually, the number of bee families, died from starvation, has increased on average by 437 families. Annually, the number of bee colonies, died because of other than the listed reason, has increased on average by 1098 families.

The Costs for the maintenance and nourishment in Bulgaria



The expenses for the maintenance and nourishment of bee colonies have decreased until 2018. Despite this decline the costs have increased again in 2019, but have not exceeded the ones in 2015, which proves that there is a downward trend. The autumn nourishment is the most expensive one, and the lowest costs are for the winter, although in 2019 it is the most expensive one.

The Total Costs in Bulgaria



The total expenses for the maintenance and nourishment of bee colonies have decreased until 2018. Despite this decline they have increased again in 2019, but have not exceeded the expenses in 2015. The general trend of development is decreasing.

To conclude our analysis, we can determine that for the period from 2015 until 2019 the total number of bee families is has raised. However, there is no increase in the tendency of development for the whole period for bee families, which produce honey. This proves that the number of bee colonies, producing honey, is not increasing.

After looking through the data regarding the costs of maintaining and feeding bee colonies, it can be said that the increase of the number of bees depends on the amount of cost incurred. The higher those costs are, the greater the number of bee families (producing honey) is, for the examined period. The number of destroyed bee colonies is also increasing and the highest number of destroyed bee families is by poisoning. Unfortunately, this proves that people contribute a lot for bee's destruction. By 2022, the number of bee families will increase, if the tendency of development remains the same. This shows that if no measures are taken, bees will disappear, and this will lead to a massive decrease in the total number of bee colonies on account of the number of destroyed bee families.

That being said, we believe that with this analysis we prove that the destruction of bees on the total number if bee families, from which honey is extracted. The risk of their extinction in future will be lower, if more care and cost/money are spent for their maintenance and nourishment.

Is the end of the bees coming ? . . .

Forecast of Expected Total Number of Bee Families until 2022 in Bulgaria



Based on the developed forecast, the expected total number of bee families for 2020 would be 867,566 families, in 2021- 867 571 and in 2022 the number would be 867 571 families. The number of bees has increased by 30,031.75 colonies on average through the five-years period.

Forecast of Total Mortality of Bee Families until 2022 in Bulgaria



As per the developed forecast, the total mortality of bee colonies expected for 2020 would be 61,744 colonies, in 2021- 65,111.5 colonies and in 2022 it would be 68,479 bee colonies

Source: <https://www.mzh.government.bg/>
<https://ec.europa.eu/>