

**PRODUCTION AND DISTRIBUTION OF NATURAL HONEY. CASE STUDY -
PRODUCERS OF NATURAL HONEY FROM "HAȚEG COUNTRY"**

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***Abstract:** Honey is a natural, sweet and healthy food that is produced all over the world. In Romania, honey production has a long tradition and is an important source of income for many farmers. Currently, Romania is the third largest producer of honey in Europe, after Spain and Germany. In recent years, honey production has increased significantly, mainly due to the increase in the number of beehives and the growing interest in natural food products. Unfortunately, the adulteration of honey is a globally widespread phenomenon, and many countries are involved in this practice. These products, being cheaper, affect the producers of natural honey all over the world, therefore also in Romania. Through this paper, we highlight the main problems faced by the Romanian producers of natural honey, with an emphasis on those from the Hațeg region.*

Key words: natural honey, producers, case study, Hațeg Country

INTRODUCTION

The current state of Romanian agriculture, including its level of development and rural space, are largely determined by Romania's agrarian structure [1].

Honeybee colonies are essential for agriculture and the environment. They ensure plant reproduction by pollination, while beekeeping contributes to the development of rural areas.

Honey is a foodstuff consumed in Romania for thousands of years, and the production of honey in the country has a long tradition. Being an important food in Romanian culture, over time, it was used as food, medicine and even a religious offering. Currently, Romanian honey is famous for its flavor and quality, and honey production is an important source of income for many farmers.

During the Roman Empire, beekeeping was a widespread practice in Dacia [4]. Later, in the 19th century, Romania was one of the main producers of honey in Europe. Currently, Romania is the second largest producer of honey in Europe, after Spain and before Greece. In recent years, there has been a significant increase in honey production, mainly due to the increase in the number of beehives and the growing interest in natural food products.

MATERIALS AND METHODS

The data presented in the paper were taken after face-to-face discussions with two apiaries administrators, as well as with the persons directly engaged in the company's activities and were supplemented with those existing at the town halls of General Berthelot and Răchitova communes. These data were aggregated and compared with those reported at local and regional level, as well as with those provided by various national and international statistical data sources. This accumulation of data and information has been compared and processed, in order to obtain an image as close as possible to the reality regarding the situation and the problems beekeepers have.

RESEARCH RESULTS

The largest producer of honey worldwide (figure 1), at present and most likely in the coming years, is China (with more than 472 thousand tons), followed by Turkey (with more than 96 thousand tons) and Iran (with more than 77 thousand tons). Also, there are other large honey producing countries, like Argentina (with an annual production of about 71000 tons), Ukraine (has an annual production of about 68000 tons) and India (with an annual production of about 66000 tons) [9, 10, 12]. Also, the United States of America is a major producer of honey, with about 57 million tons in 2020 [6], North Dakota state being responsible for the production of the largest amount of honey, together with the states Minnesota, Montana, and South Dakota producing more than 50% of the total [13, 14].

It is important to note that these figures may change each year depending on weather conditions, market demand and other factors that may influence honey production.

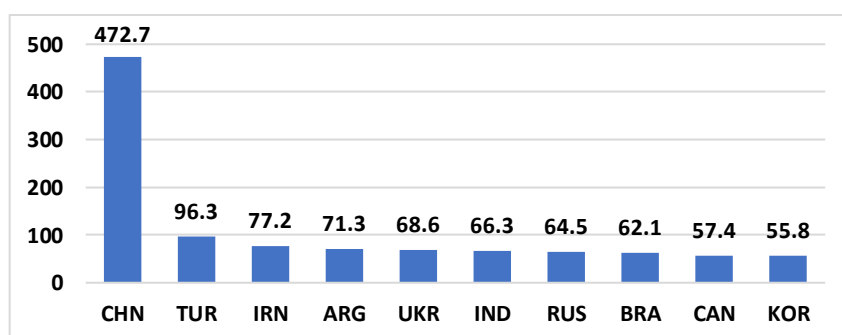


Figure 1. Top 10 honey producing countries, year 2021, thousands metric tons

Source: author's calculations after [9, 10, 12]

If we refer to the place occupied by Romania in Europe, in terms of the number of beehives, respectively honey production, our country has been, in recent years, in the first 3 places (figure 2), most apiaries being managed by small and medium-sized beekeepers. In 2019, the number of beehives in our country was about 1.4 million, and honey production was about 25,000 tons (figure 2, 3), the number of hives increasing in 2020 and 2021 to 2.24, respectively 2.35 million, producing between 25 and 30 million tons annually. This production is mainly concentrated in mountain and sub-mountain regions, which offer a variety of plants and flowers, which bees can visit to collect nectar and pollen. This fact ensures, in most cases, that the resulting production is organic, natural, even if it does not benefit from the appropriate labeling. As long as consumers have doubts that a product was obtained really organic, they will not pay more for it than for conventional products [3]. Unfortunately, due to lack of information, or partial information, we pay more than it is worth for poor quality products.

As for the types of honey produced in Romania, they are varied and reflect the variety of plants and flowers in the area. Among the most popular types of honey produced in Romania are: acacia, linden, sunflower, forest, manna and lavender honey.

Unfortunately, honey adulteration is a global phenomenon, and many countries are involved in this practice [7, 8, 9]. Here are some of the countries that have been reported to be responsible for honey adulteration in recent years:

- China - as it is the largest producer of honey in the world, it is also one of the main players involved in the adulteration of honey. In 2019, the European Union banned the import of honey from China due to quality issues and counterfeiting.
- India - one of the world's largest producers of honey, is also a country where honey counterfeiting is widespread. Thus, in 2020, the Indian authorities discovered that some major brands of honey sold in the country were counterfeit.

- Vietnam - in 2018, Vietnam was accused of counterfeiting honey and exporting it to other countries, including the United States of America.
- Argentina - in 2019, Argentine authorities discovered that several brands of honey marketed in the country were adulterated, leading to an investigation and stricter regulatory measures.
- Ukraine - in recent years, the neighboring country has been involved in several honey falsification scandals, as a result of which the Ukrainian authorities began to take measures to combat this practice.

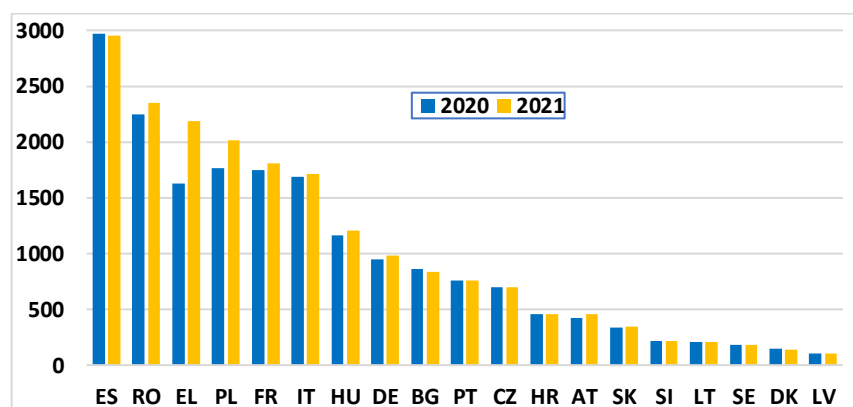


Figure 2. Number of beehives (thousands) in 2020 and 2021 in Europe

Source: author's calculations after [5]

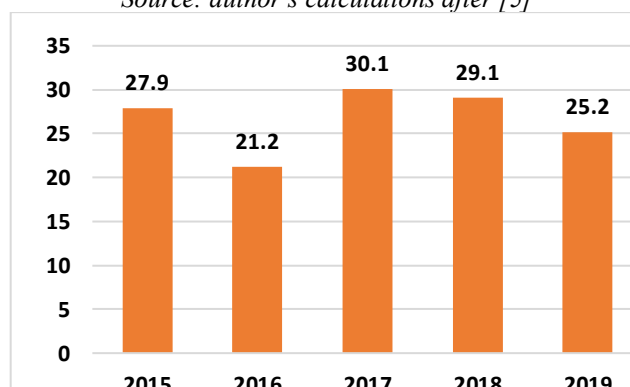


Figure 3. Volume of honey produced in Romania, 2015-2019, thousands of tons

Source: author's calculations after [11, 15, 16]

In Tara Hategului, one of the agricultural activities with great potential for local development is beekeeping, against the background of the substantial increase in the number of bee families in the localities of this region [2].

The number of bee families has registered important increases in Tara Hategului, from 2,123 in 2000 to around 10,000 in 2020 [17]. This increase is mainly due to the subsidization of this sector, both from national and European funds. There are many beekeepers in the area who have benefited from the installation measure for young farmers and the measure to support semi-subsistence agricultural farms. This activity benefits both the environment and obtaining additional sources of income, by capitalizing on the obtained products. Also, the beekeeping products obtained are of high quality, due to the floristic richness (biodiversity) and the absence of pollution in the area.

One of the beekeepers with whom it was discussed, is Mr. H. Alin, who has been raising bees for 12 years, in General Berthelot commune, Tuștea village, when he owned 10 bee families. In 2017, the farmer registered with the Trade Register, as an individual enterprise, in order to benefit from various national and European financing programs. Today

it owns a number of 140 bee families.

The production obtained following pastoral trips was, on average, 25 kg of honey per bee family, the total production obtained being 900 kg of acacia honey and 100 kg of polyfloral honey. The acacia honey is stored in 200 l barrels (approx. 300 kg), and the polyfloral honey is packaged in jars for sale on the local market. At the time of the discussion (summer), the acacia honey has not yet been exploited, the beekeeper waiting for the price increase from the autumn-winter period. In past years, acacia honey production was sold to processors in Deva and Blaj, at prices ranging between 26 and 29 lei/kg.

In 2021, the beekeeper purchased, through the National Beekeeping Program, 60 bee families from an elite apiary in Alba County, doubling the number of beehives owned at the time.

For a number of 80 families of bees, the beekeeper only benefited from the de minimis aid in the amount of 23.7 lei/family of bees, which is granted from national funds, for the losses recorded in the spring due to weather conditions.

In the coming years, the beekeeper wants to obtain other bee products, such as propolis and pollen, which are highly sought after in the market. He also wants to build, through European funds, a packaging line for the beekeeping products obtained.



Figure 5. Aspects from the apiaries and the displacement in the pastoral

Source: photo Băneș Adrian, M. Marcel Claudiu

One of the biggest beekeepers in Tara Hațegului is Mr. M. Marcel, who owns 170 families of bees, in Răchitova commune. He, together with his wife, are medical assistants, and in order to supplement the family's income, they raise bees, an activity that they do in their free time with great passion. In order to obtain high productions, the apiary is transported in a pastoral system to the acacia, in the forests near Drobeta-Turnu Severin, in the linden forests in Bocșa and in Timiș county to the sunflower culture. Moving and transporting the hives is carried out with a 7.5 t van, which he owns.

The production obtained in recent years from a family of pastoral bees is 40 - 50 kg

of honey per family. The high productions are also due to the very good quality genetic material, the queens being purchased only from apiaries certified and authorized by the National Veterinary Sanitary and Food Safety Authority (A.N.S.V.S.A.).

Of the total amount of honey obtained, 20% is capitalized on the local market, in jars, and the rest is sold wholesale in barrels. In 2022, the farmer encountered problems selling honey, because its price dropped a lot compared to previous years with the start of the war in Ukraine. The prices offered on the market for polyfloral honey of 12 lei/kg, linden honey 14 lei/kg, and acacia honey 29 lei/kg, unfortunately, do not manage to cover the production costs, which are quite high, so, at the time of the discussion, the beekeeper decided not to sell, yet, the honey obtained from that year.

The beekeeper accessed sub-measure 6.3, "Supporting semi-subsistence agricultural farms", from the National Rural Development Program 2014-2020, through which he benefited from 15,000 euros, non-refundable funds, from which he was able to purchase mainly boxes for raising bees. He also enrolled in the National Beekeeping Program, through which he purchased queens and treatments necessary for bee hives.

CONCLUSIONS

Honey production is an important and traditional activity in Romania, which provides benefits both for the local economy and for the health and well-being of the population. The quality and diversity of the honey produced in Romania is appreciated all over the world, and represents, in addition to a source of additional income, also one of national pride and identity.

From the discussions held with the beekeepers presented above, as well as with those from the fairs where they presented and sold their products, several problems that they faced resulted.

A major problem that beekeepers have pointed out is the unfair competition on the market of honey and bee products coming from non-EU countries. In these countries, beekeepers do not have to comply with all the rules of welfare and treatments applied to bees as in EU countries, so also in Romania. As a result, bee products have a lower purchase price, and stores in Romania mainly sell this type of honey.

Another big problem is that of counterfeit honey on the market. It is no coincidence that I previously specified the countries that were reported to be responsible for the production and marketing of counterfeit honey. Almost half of the honey consumed in Europe comes from the world's largest producer, namely China, the Romanian market being also invaded by imported honey which is counterfeit or of lower quality. The law does not oblige those who sell honey to write what percentages are used in mixtures, but only the country of origin. Thanks to this gap, they buy honey from China, for example, and package it and sell it under the name of some Romanian brands.

The beekeepers interviewed said that the Romanian state should support them not only through de minimis aid, but through a real subsidy. Establishing a subsidy per bee family, exactly as it is in animal husbandry per head of cow, goat, or sheep, would be beneficial for supporting Romanian beekeeping. The few initiatives that the Government had, to support local production, remained only on paper, and in the absence of regulations regarding the consumer market, buyers are deceived, and producers are left to do as they can.

In accordance with the situation presented so far, the only breath of oxygen for honey producers is the sale of production at specialized fairs.

The beekeepers ask the governors for urgent measures, otherwise, they say they will have to give up because it is not profitable, especially since, for many of them, it is not the main source of income, because they could not support the family from beekeeping alone.

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