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THE CURRENT STATE OF HONEY PRODUCTION IN OUR COUNTRY AND THE WORLD

Abstract. The coronavirus pandemic has hurt world beekeeping, weakened the inter-sectoral links of beekeeping, broken production and logistics chains within the honey industry, created difficulties in seasonal work in beekeeping and transportation of beekeeping products, and reduced the beekeeping database. However, during the pandemic, demand for honey as a healthy natural product increased in most parts of the world.

Keywords: honey production, negative effects, reforms, science-intensive production, export-oriented production.

Despite our country's favorable natural and climatic conditions, honey production is significantly lower than in other countries. I believe that to develop beekeeping in our country, it is necessary to conduct in-depth research in this area, considering the field as a strategic sector, combining planned complex measures through a systematic approach, defining short-term and long-term specific goals, and ensuring program solutions. It is necessary to implement the project.

Several factors contribute to increasing the efficiency of food security. These include the availability of natural resources, the level of economic development of the industry, the provision of the industry with new equipment and technologies, the use of advanced production methods, employment of the rural population, government regulation of all these processes, etc.

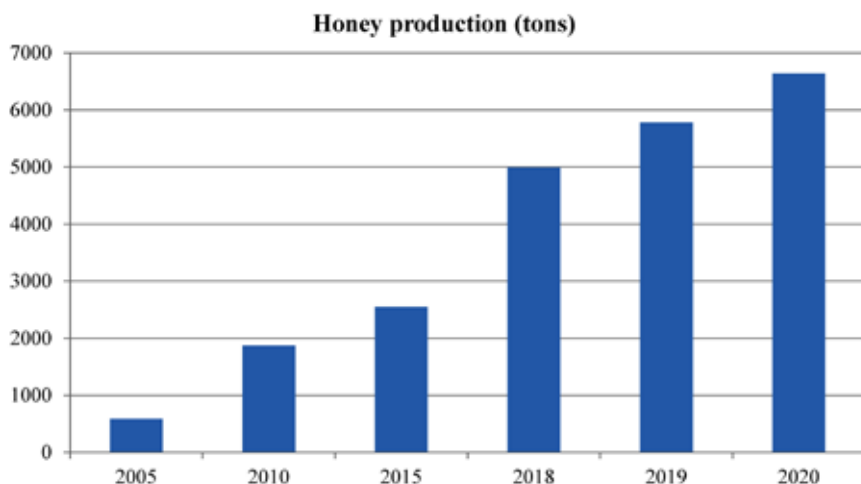
To improve the provision of the population with quality and safe food products, it is important to correctly determine the microbiological indicators of products, their supply, storage, transportation, packaging, and other stages by relevant state standards [3].

To develop beekeeping, which has a special place in ensuring food security, conferences and exhibitions are held through UNESCO. The annual honey fair held in the capital of the country has a positive impact on the scientific, ecological, and economic development of beekeeping and the development of relations between beekeepers and scientific organizations.

The President signed a special order to accelerate the development of this sector and starting from 2018 and starting in 2018, beekeepers will receive a subsidy of 10 manats from the state budget for each bee family. After the introduction of the subsidy mechanism, an electronic database of all bee families (hives) in the country was created. As a result, as of January 1, 2021, the number of bee families in our

country was 596,700, and the average productivity of each bee family was about 10–12 kilograms [1].

If we look at the statistics of honey, the main product of beekeeping, we can see that there is a dynamic growth over the years.



Scheme 1. Gross output in beekeeping in 2005–2020

As can be seen from Scheme 1, honey production, the main product of beekeeping, increased significantly between 2005 and 2020. In 2018, as can be seen from these figures, it has almost doubled compared to 2017. This increase in production was due to the implementation of the order of President Ilham Aliyev to provide a subsidy of 10 manat per bee family to entrepreneurs operating in this field from 2018.

According to the results of statistical observation conducted by the State Statistics Committee of Azerbaijan, in 2020, the total value of beekeeping products obtained from 596,700 bee families in 32,340 farms at current market prices amounted to 169.5 million. manat. If we take into account that the total value of livestock products in 2020 will be 4400.5 million manats, it is clear that the share of beekeeping products within the industry –is 3.8%.

Until recently, Azerbaijani honey was not exported, despite its high quality. Only within the framework of export missions carried out in our country since 2017, the first order was placed from the United Arab Emirates. Agreements were signed to export honey to Dubai, Germany, and Japan under the brand “Made in Azerbaijan”. As a result, 6.6 tons of honey in 2017, 8.3 tons in 2018, 0.29 tons or 5.61 thousand US dollars in 2020, and 0.10 tons or 2.13 thousand US dollars in the first 7 months of 2021 were exported.

According to 2020 statistics, the number of bee families in our country has reached 596,700. However, despite this, our country imports honey from many countries. In 2020, most honey were imported to our country from Turkey. Thus, during the reporting period, Turkey sent 175,000 to Azerbaijan. It exported 31.43 tons of natural honey worth \$1 billion. This is 5.5% and 11.3% less than a year earlier, respectively. The second country in terms of value was Russia. From this country, 27.31 tons of honey worth \$134,000 will be supplied to Azerbaijan in 2020. This figure decreased by 21.7% in terms of value and 25.7% in terms of volume.

Also, in the first half of 2021, the country imported 78.7 tons or 401.0 thousand US dollars of natural honey (54.6 tons or 200.6 thousand US dollars in the same period last year). 26.4 tons of imported honey were imported from Russia (4.38 tons in 7 months of 2020), 23.7 tons from Iran (28.7 tons in 7 months of 2020), and 21.9 tons from Turkey (17.6 tons in 7 months of 2020). The rest was brought from other countries.

Azerbaijan is the ninth-largest exporter of honey to Russia. The number of countries exporting honey from Russia has increased from 17 to 31. In January-May this year, Azerbaijan increased honey imports from Russia by 5.32 times to 23 tons. At present, the share of agricultural products in exports in our country is 14% of the country's total exports. According to our calculations, 0.1% of beekeeping products are exported.

At present, to protect the domestic market, many countries around the world impose certain restrictions on the import of honey from foreign countries. Honey import duties are high in Turkey, and Israel has generally banned the import of honey. I think that we also need to impose some restrictions to protect the domestic market and to create conditions for honey producers to sell their products. In this case, interest in the field would increase and prices would be adjusted to the purchasing power of the population due to increased honey production. Let's look at the statistics of the country's food supply.

As can be seen from (Table 1), the production of many agricultural products (food products) in the country over the years is normal or slightly different for some food products per capita per year, but the production of honey from medicinal food products according to 2017 data Although it is lower than the norm (0.5 kg), it has been in line with the norm since 2018 [2].

One of the factors that negatively affected the production of honey in our country was the occupation of the Karabakh zone by our enemies for almost 30 years, which is favorable for the development of beekeeping. In 2020, the liberation of the Karabakh zone, which has favorable natural and climatic conditions for beekeeping for up to 30 years, by our glorious army under the leadership of Supreme Commander-in-Chief Ilham Aliyev, opened wide opportunities for the development of beekeeping. The President of the country regularly travels to these lands, and on his instructions, beekeepers have already been relocated to these lands [5].

Table 1. – Annual production of basic food products in Azerbaijan, per capita (in kg)

Years	Grain	Potato	Vege- table	Garden Plants for Food	Sugar beet (for industrial processing)	Fruits and berries	Ho- ney
2005	248	129	135	43	4	75	0.191
2006	239	118	140	43	20	78	0.187
2007	228	121	143	49	16	79	0.184
2008	281	124	141	47	22	82	0.182
2009	332	111	134	47	21	81	0.179
2010	218	107	133	49	28	82	0.177
2011	265	104	134	53	28	85	0.175
2012	298	106	133	47	19	88	0.173
2013	310	107	133	46	20	92	0.171
2014	247	87	126	47	18	90	0.169
2015	174	86	131	50	19	91	0.172
2016	188	92	129	47	32	90	0.275
2017	183	92	142	47	41	96	0.366
2018	205	90	152	40	28	101	0.553
2019	348	101	173	45	111	92	0.579

Source: Compiled using the materials of the State Statistics Committee of Agriculture of Azerbaijan Baku – 2020

The Azerbaijan Beekeepers Association, which has been operating in the country since 2016, has already started developing a program for the development of beekeeping in Karabakh. In the past, beekeeping was more developed in Kalbajar and Lachin. We believe that by the new economic zoning, beekeeping can be developed in two directions in the Karabakh and East Zangazur economic regions:

- mountain beekeeping;
- Aran beekeeping.

Vegetation and natural-climatic conditions in these areas are favorable for the placement of apiaries. For the development of nomadic beekeeping, which is one of the main factors for honey production, it is expedient to organize a complex of mountain and lowland beekeeping, to establish large specialized beekeeping farms based on science.

If we look at the statistics, it turns out that in the recent past, the amount of honey obtained from each bee family in the beekeeping farms in the Karabakh zone was 30–35 kg. At the same time, the quality of honey produced in these areas differed from

that in other areas. A large number of bee families have been relocated to the liberated Kalbajar and Lachin pastures. There is no doubt that productivity is high here, as the areas are outside public places, transport, and other places.

I think that it is possible to organize beekeeping in Karabakh on an industrial basis by monitoring these areas and first assessing the possibility of using the Lachin and Kalbajar pastures, identifying risks, and, accordingly, the relocation of more farms to these pastures in the coming years. Given that Karabakh is also suitable for tourism. Providing ecologically pure honey to foreign citizens coming for tourism purposes would create a basis for further expansion of beekeeping in these areas.

Due to the implementation of these measures, it is possible to increase the annual production of honey in Azerbaijan to 10,000 tons. If we take into account that the domestic demand is 5,000 tons, it means that it will be possible to export about 5,000 tons of products. This means that the country's budget will receive additional currency.

If we look at the statistics of honey production in the world today, we can see that although the coronavirus pandemic, which began in 2020, has negatively affected the development of beekeeping, the demand for honey, a healthy natural product, has increased in most parts of the world. As a result, honey exports in 2020 will be 15% more valuable than in 2019. volume increased by 18% [9].

In 2020, the issue of honey production in the world was uncertain. The obtained statistics suggest a 15–20% increase in honey production and exports. The average world export price of honey was \$3,000 per ton. During this period, the world market demand for high-quality guaranteed honey, primarily New Zealand manuka honey, which is characterized by scientifically proven bactericidal properties, increased significantly.

The UN COMTRADE and the International Trade Center published summary data on the world honey trade in 2020 in May 2021. The statistics of these two international statistical centers are used to study the structure of the world honey market, based on information sent to them by the Ministries of Trade, Economic Development, Agriculture, and other ministries and departments of the UN member states.

In 2020, the value of honey exports in the world amounted to 2288 million dollars, and the volume was 765 thousand tons (in 2019–1984 million dollars and 639 thousand tons, respectively). During this period, 179 countries exported honey.

The 10 countries that export the most points in 2020 are New Zealand, China, Argentina, Germany, Ukraine, Spain, Brazil, Hungary, India, and Vietnam. At the same time, the 10 countries that imported the most points were the United States, Germany, Japan, Poland, France, Spain, Belgium, Saudi Arabia, Italy, and the Netherlands.

There is a big difference between the prices of high and low scores. The average price of a ton of New Zealand honey was \$22,927, and the average price of Vietnamese honey was \$1,351, which is 17 times more.

In 2020, Russia exported 2,802 tons of honey (–2401 tons in 2019) and ranked 34th among countries exporting honey. Accordingly, the value of Russian exports was \$5.034.000 (in 2019 – \$5.565.000). The main exporters of honey in the world, as in previous years, were the United States, Germany, and Japan.

According to statistics, in 2020, all the world's leading honey importers will increase their purchases from abroad. In 2020, Russia imported 215 tons of honey worth \$838.000 (slightly more than in 2019) and ranked 77th and 74th in the world rankings on these two indicators, respectively [9].

The countries of the world have different positions in the field of beekeeping. Today, the People's Republic of China ranks first in the development of beekeeping. Beekeeping is highly developed in Turkey. They have a high level of knowledge for beekeepers, the organization of the necessary infrastructure, and state support in this area.

Today, Latin America is one of the continents lagging in the development of beekeeping in the world. This is mainly due to the low level of demand for puppies in the country. Most of the honey produced in the country is exported to other countries. The amount of honey received from each bee family does not exceed 15 kg.

In world beekeeping, North America has maintained its leadership in modern beekeeping to this day. This is because bee species imported from Europe to America have an advantage in the honey collection. On average, each American receives 0.5 kg of honey per year.

If we look at the figures, we can see that compared to the progressive world beekeeping, the amount of honey obtained from each bee family in our country is even less than in Latin America (15 kg), which lags in the development of beekeeping. Although there has been a sharp increase in the number of bee colonies in our country in recent years, productivity has been low.

At the same time, the volume of exports is significantly lower than in other countries. I think that for the development of beekeeping in our country it is necessary to conduct in-depth research in this area and use the best practices of world beekeeping.

Thus, it can be concluded from the research that to increase the production of honey, the main product of beekeeping, using the favorable soil and climatic conditions for the development of beekeeping in our country:

- economic management mechanisms in this area should be improved;
- Modernization of rural life in the regions, taking into account the fact that beekeeping farms are located mainly in rural areas;
- an adaptation of infrastructure serving this field to modern requirements;
- Improving the material security of beekeeping;
- Establishment of beekeeping farms under agro-parks;
- Establishment of specialized beekeeping farms and development of professional beekeeping in our republic;

- merging of small apiaries in the form of a joint-stock company by pooling their funds;

- Increasing productivity due to the development of nomadic beekeeping, etc.

The Presidential Decree on the development of beekeeping in 2018 and the purposeful reforms carried out in the development of beekeeping in the country have created conditions for the development of this sector, increasing interest in beekeeping and the transformation of quality Azerbaijani honey into a major export product. At present, honey production is successfully carried out in ABAD containers, one of the largest projects in the country. One of the important conditions for the export of honey is its elegant packaging and high quality.

We believe that to ensure the necessary development in beekeeping and turn it into a competitive and profitable field, the application of existing advanced beekeeping practices and technologies must be implemented in our country. It is also necessary to create a legal framework for staffing in beekeeping, improving breeding, preserving our valuable local bee gene pool, increasing production, and expanding the use of beekeeping products.

Considering the country's beekeeping as a strategic sector of the agricultural sector, it is necessary to implement a program beekeeping project that combines planned complex measures through a systematic approach, ensuring the solution of the above-mentioned problems with short and long-term specific goals [7].

According to statistics, there were 596,700 bee families in 32,340 farms in the country in 2020, which means that each farm consists of an average of 18 bee families. As a result, we conclude that the majority of beekeeping farms operating in this area are small. This means that the owners of this farm are not very professional beekeepers. As can be seen from the statistics, the average productivity of each bee family is about 10–12 kilograms. Therefore, the creation of large farms by bringing together small beekeeping farms and the management of these farms by experienced beekeepers, increasing productivity through the development of nomadic beekeeping would create a basis for increasing honey production in our country.

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