

SCIENTIFIC JOURNAL

**HIGHER ECONOMIC - SOCIAL SCHOOL IN
OSTROLEKA**

3/2023(50)

Łomza, 2023

Ireneusz Żuchowski¹, Tadeusz Olszewski²

International Academy of Applied Sciences in Lomza

¹ORCID ID: <https://orcid.org/0000-0002-3998-1892>

²ORCID ID: <https://orcid.org/0000-0002-7837-7081>

THE HONEY MARKET IN POLAND IN THE YEARS 2016-2021

Introduction

In 2021 the global honey market was valued at just over eight billion dollars. In 2021, there were about 101.6 million hives worldwide, compared to about 80 million hives in 2010. (www 1).

Beekeeping, as an economic and social activity, plays a vital role in rural development, well beyond its production function (Vronsky 2020)

The importance of bees as an element of the environment cannot be overestimated, but so can their impact on the volume of agricultural production and the products they produce.

The European Union supports the honey market in member states, which is dictated, among other things, by the need to develop rural areas where apiary farming is mainly carried out. Other rationales include the maintenance of biodiversity in multifunctional and sustainable production development, which is conducive to, among other things, organic honey production within the EU (Borowska 2011).

The main product is honey, which allows professional and amateur apiaries to generate income. Under Polish conditions, amateur apiaries predominate, which are an additional source of income for those running them.

Of almost all natural foods, bee honey is one of the most unique in terms of its importance to humans and its production history (Popovych 2018).

The importance of the honey market is due to another important aspect, namely that it is a product with health benefits.

The sensory and nutritional properties of honey are due to the high content of sugars and the presence of other substances, i.e. antioxidants, vitamins, enzymes, bio-elements or bee hormones (Dzugań, Ruszel, Tomczyk, 2018)

Therefore, knowing the situation in this market, especially from the supply side, is essential and allows us to assess the trends that dominate it. An important aspect influencing consumer behaviour is honey adulteration. Consumers aware of this practice seek honey of domestic origin and are more likely to buy directly from beekeepers (Šedík et al., 2018). Studies indicate that

making consumers aware of honey adulteration makes them willing to pay a higher price for a local product (Ritten et al., 2019)

Many factors determine the state and development of beekeeping in individual countries. Among these are such considerations as traditions, habits, and love of beekeeping, as well as the degree of its development and specialisation. In addition, socio-economic factors are essential, arising from the level and structure of consumption and determining profitability. Undoubtedly, strong relationships exist between the level of production in a given year and the atmospheric conditions prevailing during plant vegetation and nectar or pollen collection (Borowska 2011).

An average Pole eats about 0.6 kg of honey per year. This product's consumption level has doubled over the past 20 years. However, this is still much less than in countries with a higher income level and a more robust tradition of consuming bee products, such as Greece (about 3 kg/person/year), Austria or Germany (about 2 kg) or France, Spain and Belgium, where about 1 kg of honey/person/year is consumed. In comparison, honey consumption in the United States is estimated at 3 kg (Jędrusek-Golińska et al. 1, 2023).

Material and methods

Data published annually in the report The Beekeeping Sector in Poland was used to analyse selected parameters characterising the honey market. The period of analysis was assumed to be 2016-2021—the research aimed to find out the trends occurring in this market.

Research results

In Poland, there were more than 66,000 beekeepers in 2016. Since that year, a steady increase in their number has been observed. This number has increased by almost 25 thousand and will reach over 91 thousand in 2021. The increase in the number of people involved in beekeeping during the period under review is due to several factors, such as:

- an increase in domestic and international demand for honey,
- increased awareness of the health benefits of bee products,
- the fashion for owning a hive,
- opportunity for additional income,
- increased awareness of the natural and economic importance of bees,
- public campaigns to promote bees and their importance.

This trend must be continued for many years, which gives hope that the market for honey and bee products will also continue to develop based on domestic products.

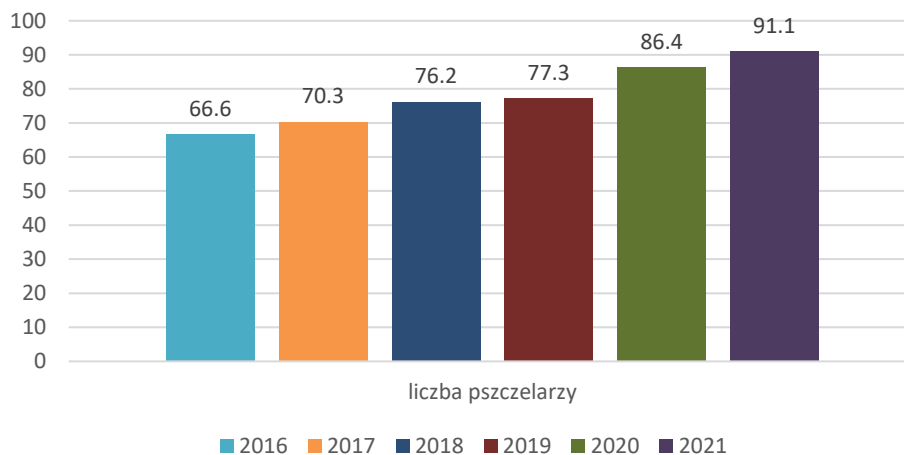


Fig. 1. Number of beekeepers in Poland 2016-2021 (thousands)

Source: compiled based on: *Beekeeping sector in Poland in 2016, 2017, 2018, 2019, 2020, 2021*

As in the case of the number of beekeepers, there has been a steady upward trend in the number of bee families in Poland. In the period under review, the number of bee families increased by as many as 500,000. However, such a significant increase in bee families does not translate into an increase in honey production.

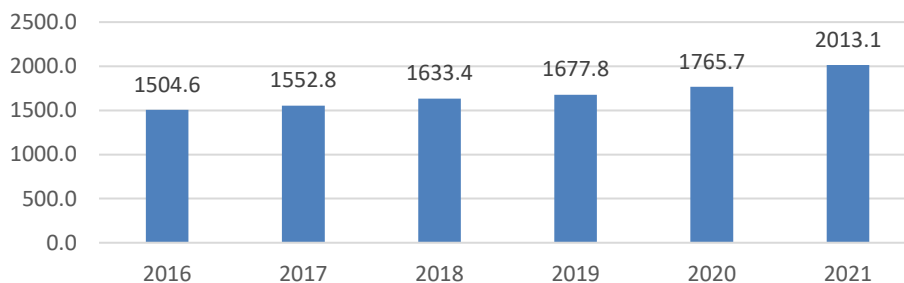


Fig. 2. Number of bee colonies in Poland 2016-2021 (thousands)

Source: compiled from: *Beekeeping sector in Poland in 2016, 2017, 2018, 2019, 2020, 2021, Beekeeping in Poland is doing well, but the needs of the domestic market are greater,* 09-10-2023 <https://www.farmer.en/production-zwierzece/pszczelarstwo/pszczelarstwo-w-polsce-ma-sie-dobrze-but-needs-of-the-nation-market-sa-wieksze,136942.html#:~:text=-%20Na%20przestrzeni%20lat%20pszczelarstwo%20w%20Polsce%20rozwija%20C5%82o,-%20poinformowa%20C5%82%20zast%20C4%99pca%20dyrektora%20generalnego%20KO WR%20Marcin%20Wro%20C5%84ski>. (accessed 27.07.2023)

Amateur apiaries dominate in Poland. In 2016, there were only 323 professional apiaries in Poland. This number has also steadily increased in the analysed period, and 2021, it will reach 443. Over 122,000 bee colonies, about 6% of all colonies in Poland, are kept in professional apiaries. The average size of a professional apiary is just under 280 colonies (2021). In the analysed period, this indicator fluctuated slightly. It may indicate that this activity is not very attractive if it is to be the only source of income.

Table 1. Characteristics of professional beekeeping in Poland 2016-2021

Specification	2016	2017	2018	2019	2020	2021
Number of professional apiaries	323	335	293	302	323	443
Number of bee colonies in professional apiaries	85730	88959	77068	84000	86161	122714
% of bee colonies in professional apiaries compared to other	5,7	5,7	4,7	4,8	4,9	6,1
The average size of professional apiary	265,4	265,5	263	280	266,8	277

Source: compiled from: *Beekeeping sector in Poland in 2016, 2017, 2018, 2019, 2020, 2021, Beekeeping in Poland is doing well, but the needs of the domestic market are greater*, 09-10-2023 <https://www.farmer.en/production-zwierze/pszczelarstwo/pszczelarstwo-w-polsce-ma-sie-dobrze-but-needs-of-the-national-market-sa-wieksze,136942.html#:~:text=%20Na%20przestrzeni%20lat%20pszczelarstwo%20w%20Polsce%20rozwija%20C5%82o%20poinformowa%20zast%20C4%99pca%20dyrektora%20generalnego%20KOWR%20Marcin%20Wro%20C5%84ski>. (accessed 27.07.2023)

The age structure of beekeepers in Poland has been similar throughout the analysed period. Unfortunately, young people, i.e. those under 35, account for only about 12% of beekeepers in Poland. Over 60 per cent of beekeepers are aged 51 or over. The proportion of beekeepers aged 51 to 65 fell slightly over the period under consideration, but those aged 36 to 50 increased.

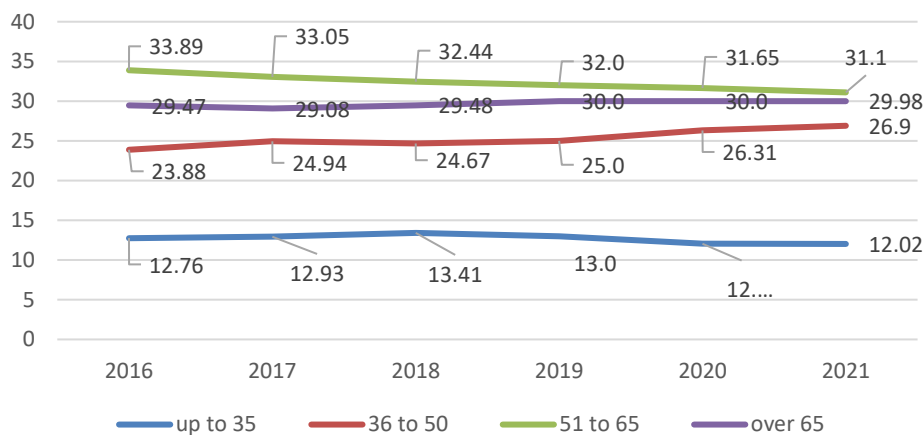


Fig. 3. Age structure of beekeepers (%)

Source: compiled from: *Beekeeping sector in Poland in 2016, 2017, 2018, 2019, 2020, 2021, Beekeeping in Poland is doing well, but the needs of the domestic market are greater,* 09-10-2023 <https://www.farmer.eu/production-zwierzeca/pszczelarstwo/pszczelarstwo-w-polsce-ma-sie-dobrze-but-needs-of-the-national-market-sa-wieksze,136942.html#:~:text=%20Na%20przestrzeni%20lat%20pszczelarstwo%20w%20Polsce%20rozwija%20C5%82o%20poinformowa%20zast%20C4%99pca%20dyrektora%20generalnego%20KOWR%20Marcin%20Wro%20C5%84ski>. (accessed 27.07.2023)

Despite an increase in beekeepers and bee colonies, honey production in Poland in 2021 was lower than in 2016 by 6,000 tonnes. Over the period analysed, production fluctuates significantly from year to year. Factors beyond the control of beekeepers influence this. These include :

- weather conditions prevailing during the growing season,
- the course of the weather, particularly during the flowering period of the plants and the collection of nectar and pollen,
- winter weather and consequent losses of bee colonies
- losses of colonies due to diseases, e.g. varroa. Changes in production volume show how difficult it is under Polish conditions to keep production at a high level each year. It may be one of the factors affecting the number of professional apiaries in the country.

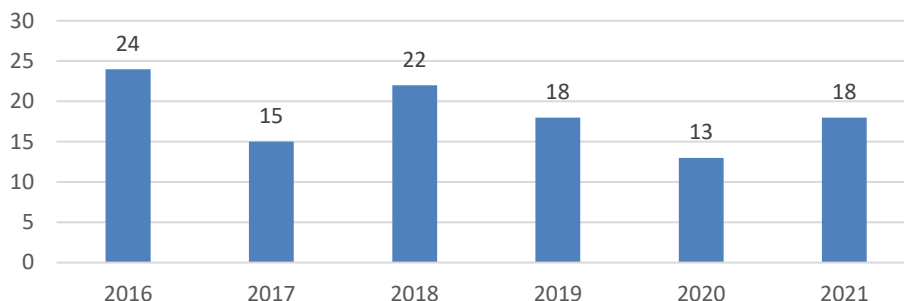


Fig. 4. Honey production in Poland in 2016-2021 (thousand tonnes)

Source: compiled from: *The beekeeping sector in Poland in 2016, 2017, 2018, 2019, 2020, 2021, Beekeeping in Poland is doing well, but the needs of the domestic market are greater*, 09-10-2023 <https://www.farmer.pl/produkcja-zwierzeca/pszczelarstwo/pszczelarstwo-w-polsce-ma-sie-dobrze-ale-potrzeby-krajowego-ryнку-sa-wieksze,136942.html#:~:text=%20Na%20przeźrzeni%20lat%20pszczelarstwo%20w%20Polsce%20rozwij%C5%82o,-%20poinformowa%C5%82%20zast%C4%99pca%20dyrektora%20generalnego%20KO WR%20Marcin%20Wro%C5%84ski> (dostęp: 27.11.2023), Woźniak B., *Honey market in Poland and worldwide* <https://isbiznes.pl/2022/11/19/jak-wyglada-rynek-miodu/> (accessed 27.07.2023),

The honey trade balance was negative every year between 2016 and 2022. An increase in both honey exports and imports was recorded during the analysed period. The most significant amount of honey was exported in 2020. It was almost 25,000 tonnes. In the same year, a record-breaking import of honey to Poland was recorded, amounting to almost 37.5 thousand tonnes. Honey from Poland is mainly exported to EU countries. However, the main markets from which they are imported to Poland are Ukraine and China.

Table 2. Honey imports and exports in Poland between 2016 and 2021 (tonnes)

Data	2016	2017	2018	2019	2020	2021
Imports	26449	25600	25726	29802	37453	38000
Exports	14000	15200	14705	16837	24891	14441

Source: compiled from: *The beekeeping sector in Poland in 2016, 2017, 2018, 2019, 2020, 2021, Beekeeping in Poland is doing well, but the needs of the domestic market are greater*, 09-10-2023 <https://www.farmer.pl/produkcja-zwierzeca/pszczelarstwo/pszczelarstwo-w-polsce-ma-sie-dobrze-ale-potrzeby-krajowego-ryнку-sa-wieksze,136942.html#:~:text=%20Na%20przeźrzeni%20lat%20pszczelarstwo%20w%20Polsce%20rozwij%C5%82o>

[%20poinformowa%C5%82%20zast%C4%99pca%20dyrektora%20generalnego%20KOWR%20Marcin%20Wro%C5%84ski](#) (dostęp: 27.12.2023), Woźniak B., Honey market in Poland and worldwide <https://isbiznes.pl/2022/11/19/jak-wyglada-rynek-miodu/> (accessed 27.07.2023),

World honey production fluctuated considerably during the analysed period, just like in Poland. Production in 2016 was over 1820 thousand tonnes; in 2018, it was as high as over 1882 thousand tonnes. In the following years, production decreased, and in 2021, it amounted to 1771 thousand tonnes.

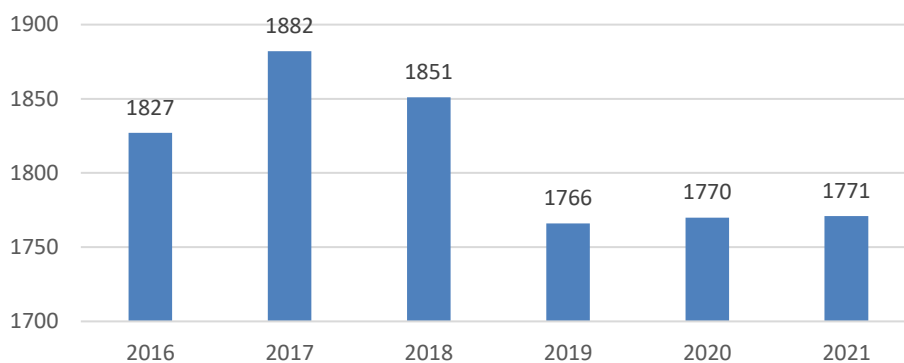


Fig. 5. World honey production 2016-2021 (in thousands of tonnes)

Source: compiled from: *The beekeeping sector in Poland in 2016, 2017, 2018, 2019, 2020, 2021, Beekeeping in Poland is doing well, but the needs of the domestic market are greater*, 09-10-2023 <https://www.farmer.pl/produkcja-zwierzeca/pszczelarstwo/pszczelarstwo-w-polsce-ma-sie-dobrze-ale-potrzeby-krajowego-ryнку-sa-wieksze,136942.html#:~:text=%20Na%20przestrzeni%20lat%20pszczelarstwo%20w%20Polsce%20rozwija%C5%82o,-%20poinformowa%C5%82%20zast%C4%99pca%20dyrektora%20generalnego%20KOWR%20Marcin%20Wro%C5%84ski> (dostęp: 27.07.2023), Woźniak B., Honey market in Poland and worldwide <https://isbiznes.pl/2022/11/19/jak-wyglada-rynek-miodu/> (accessed 27.12.2023), *Production volume of natural honey worldwide from 2000 to 2021*, <https://www.statista.com/statistics/755215/natural-honey-production-volume-worldwide/> (accessed 27.07.2023),

China is the world's largest producer of honey. They produce more than 450 000 tonnes of this product. EU countries produce about half of China's output. Turkey produces more than 100,000 tons of honey per year. Most honey comes from Asia. Honey from Asia accounts for almost 42% of world production. In second place is Europe. More than 23.2% of honey is produced on this continent.

The Americas produce 22% of honey. Africa produces 10.9%, and Australia and Oceania produce 2.1% of the world's honey production.

Table 3. The world's largest honey producers in 2016-2020 (thousands of tonnes)

Country	2016	2017	2018	2019	2020
China	563	548	457	447	458
EU	238	248	240	231	218
Turkey	106	114	108	109	104
Canada	95	96	95	80	38
Argentina	68	76	79	79	74
USA	73	68	70	71	67
Iran	68	71	76	75	78
Russia	70	65	65	64	66
Ukraine	59	66	71	70	68
India	65	67	68	67	62
Mexico	55	51	64	62	54
Brazil	40	42	42	46	51
Other	371	370	416	365	432

Source: Woźniak B., *Rynek miodu w Polsce i na świecie*

<https://isbiznes.pl/2022/11/19/jak-wyglada-rynek-miodu/> (accessed 27.07.2023),

Production volume of natural honey worldwide from 2000 to 2021,

<https://www.statista.com/statistics/755215/natural-honey-production-volume-worldwide/> (accessed 27.07.2023),

Conclusions

The number of beekeepers, bee families and professional apiaries is increasing in Poland. However, this does not translate into an increase in honey production. Furthermore, Poland imports more honey than it exports. Imports can be significant competition for Polish beekeepers. They also must deal with factors beyond their control, particularly climate and weather patterns. The upward trend in the number of beekeepers and apiaries allows an optimistic view of the future of the honey market.

Research should be continued into the specific motivations of those starting in beekeeping and increasing the number of colonies in their apiaries. In addition, it would be essential to conduct research among owners of professional apiaries to identify constraints, barriers and problems in this group of beekeepers. It would make it possible to make recommendations on the scope and type of support for such activities.

References

1. Borowska A., State and prospects for the development of beekeeping in Poland with particular reference to regional honey, *Problems of World Agriculture/Problems of World Agriculture* 11.1827-2016-147548, 2011.
2. Beekeeping sector in Poland in 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, Institute of Horticulture, Department of Beekeeping in Puławy
3. Beekeeping in Poland is doing well, but the needs of the domestic market are greater, <https://www.farmer.pl/produkcja-zwierzeca/pszczelarstwo/pszczelarstwo-w-polsce-ma-sie-dobrze-ale-potrzeby-krajowego-ryнку-sa-wieksze,136942.html#:~:text=%20Na%20over%20years%20beekeeping%20in%20Poland%20is%20,-%20informed%20by%20C4%99pca%20director%20general%20of%20KO WR%20Marcin%20Wro%20C5%84ski>. (accessed 27.11.2023)
4. Wozniak B., Honey market in Poland and worldwide <https://isbiznes.pl/2022/11/19/jak-wyglada-rynek-miodu/> (accessed 27.11.2023), 2022
5. Dzugań, M., Ruszel A., Tomczyk M., Quality of imported honeys available on the Podkarpackie market. *Food Science Technology Quality* 25.4 (2018).
6. Borowska, Agnieszka. Shaping of the world honey market in 1961-2010, *ROCZNIKI NAUK ROLNICZYCH, SERIA G-Economy* Vol. 98-No. 3, 2011.
7. Popovych A., Application of a gravity model to the analysis of international bee honey trade." *Problems of World Agriculture/Problems of World Agriculture* 18.1827-2019-124 2018.
8. Vronsky, Marcin. "Buy honey and bee products consciously-support the national apiary economy." *Beekeeper of the Year* 6th ed: 42., 2020 http://akademiapszczelarstwa.edu.pl/UserFiles/Sektor%20pszczelarski%20w%20dobie%20kryzysu%20epidemicznego%20E2%80%93%20wyzwania%20i%20zagro%C5%BCenia_15.10.2020.pdf#page=43 (dostęp: 27.11.2023)
9. Jędrusek-Golińska, A., Szymandera-Buszką, K., Hęś, M., Jurasz, M. (2023). The economic and health-promoting importance of honey. *Zagadnienia Doradztwa Rolniczego*, 112(2), 2023.
10. Šedík, P., Horska, E., Skowron-Grabowska, B., & Illés, C. B. Generation marketing in strategic marketing management: case study of honey market. *Polish Journal of Management Studies*, 18(1), 2018.
11. Ritten J., C., Thunström, L., Ehmke, M., Beiermann, J., & McLeod, D. International honey laundering and consumer willingness to pay a premium for local honey: an experimental study. *Australian Journal of Agricultural and Resource Economics*, 63(4), 2019.
12. www1 <https://www.statista.com/topics/5090/honey-market-worldwide/#topicOverview> (accessed 27.07.2023)

Abstract

The honey market is vital due to many aspects. The article discusses selected figures characterising Poland's honey market, especially from the supply side. The analysis of data from 2016-2021 indicates an increase in beekeepers and bee colonies. However, this does not translate into increased production, mainly dependent on climatic conditions. An important feature is the small number of professional apiaries. In addition, there is solid foreign competition, as evidenced by the prevalence of honey imports over exports.

Keywords: honey market, production, honey imports

JEL Classification: M21