The honey market in Poland and the European Union

Joanna Pawłowska-Tyszko

Abstract

The beekeeping sector is an important branch of the EU and national agri-food sector, as evidenced by its economic, environmental, and social significance. The European Union has a strong honey market due to high demand, which is subject to dynamic changes. The aim of the study was to present the main determinants and trends in the honey market in Poland and the European Union, with particular emphasis on production, foreign trade, and self-sufficiency. The research showed that both the EU and national honey markets are characterised by low self-sufficiency, a high share of imports in supply, and low export specialisation of production. Trade exchange leads to the integration of the EU market with the international market, and the main import partners are China and Ukraine due to their price competitiveness. High levels of imports constitute strong competition and force the EU and national beekeeping sectors to undergo adjustment processes in response to changing market and regulatory conditions.

Keywords: honey foreign trade, honey market, self-sufficiency.

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Introduction

Beekeeping is one of the oldest, small-scale yet vital agricultural sectors, playing a key role in both the ecosystem and the economy. This sector has faced various environmental, biological, organisational, and technological issues for years. Challenges also arise from rising production costs (especially energy and feed), low purchase prices, and competition from imported honey. There are also growing concerns regarding the safety of consumed honey related to pesticide contamination from agriculture, the presence of harmful bacteria, or honey adulteration.

The European Union possesses a strong honey market due to high demand and a significant share in global trade, which is subject to dynamic changes driven by shifting consumer tastes and preferences, emerging honey consumption trends[1,2], or the increasing use of honey in various industries[3]. The structure of the honey market and its functioning directly influence the nature and volume of production, as well as price relations between various levels of the supply chain.

The aim of the study was to present the main determinants and trends in the honey market in Poland and the European Union, with particular emphasis on production, foreign trade, and self-sufficiency.

Material and research method

Data from FAOSTAT, reports from the Research Institute of Horticulture, Apiculture Division in Puławy, the European Commission, and market analyses by the Institute of Agricultural and Food Economics – National Research Institute (IERiGŻ PIB) were used for the analysis. The primary research period covered the years 2019–2023, which was dictated by data availability. To illustrate trends, long-term data covering the years 2003–2023 were employed.

1. S. Román, L. M. Sánchez-Siles, M. Siegris, *The importance of food naturalness for consumers: Results of a systematic review.* "Trends in Food Science & Technology" 2017, no. 67, p. 44–57, https://doi.org/10.1016/j.tifs.2017.06.010; F. Sgroi, F. Modica, *An experimental analysis of consumers' attitudes towards honey: The case of the Sicilian market*, "Future Foods" 2023, No. 7, p. 100223, https://doi.org/10.1016/j.fufo.2023.100223.
2. F. Sgroi, F. Modica, *An experimental analysis of consumers' attitudes towards honey: The case of the Sicilian market*, "Future Foods" 2023, No. 7, p. 100223. https://doi.org/10.1016/j.fufo.2023.100223.
3. P. Hirpara, P. Maharshi, V.D. Rameshbhai et al., *Honey: A Functional Food and Its Application in Food Products*, "Journal of Xidian University" 2023, Vol. 17(10), p. 764–782; S. Bogdanov, *Honey as Nutrient and Functional Food*, "Retrieved January" 2017, No. 8, p. 2024, https://www.beehexagon.net/app/download/11112014973/8HoneyNutrientFunctional.pdf?t=1609255034, access 13.10.2025.

Statistical-descriptive analysis was used to evaluate the collected material. The food self-sufficiency ratio (SSR_{food}), adopted by the Food and Agriculture Organization (FAO 2012), which accounts for domestic production and foreign trade, was used to measure food self-sufficiency. The ratio is the relation of domestic production to balance sheet consumption (1). Self-sufficiency in the market for a given good occurs if the ratio values (SSR_{food}) are greater than or equal to one ($SSR_{food} \geq 1$).

$$SSR_{food} = \frac{P_{food}}{D_{food}} * 100 \quad (1)$$

where: SSR_{food} – self-sufficiency ratio,
P_{food} – domestic production,
D_{food} – balance sheet consumption.

Balance sheet consumption (D_{food}) expresses production (P_{food}) adjusted by the foreign trade balance (TB_{food}). The foreign trade balance (TB_{food}) is the absolute difference between exports (Ex_{food}) and imports (Im_{food}) and allows for the assessment of the supply-demand situation in a given market (2). A positive foreign trade balance ($TB_{food} > 0$) indicates a surplus of a country's production over internal demand. Consequently, these surpluses can be sold on external markets, and the country is self-sufficient in the production of the given good.

$$TB_{food} = Ex_{food} - Im_{food} \quad (2)$$

where: Ex_{food} – exports,
Im_{food} – imports.

According to the FAO method, balance sheet consumption can be written as production increased by imports and decreased by exports, which is used in calculating the indicator SSR_{food} in numerous scientific studies referring to this issue (3)[4]. According to the new FAO method, domestic reserves (S_{food}) are also included in the formula (4). This method was described by, among others, J. Clapp (2017) and applied in studies by, among others, Ren et al. (2020)

4. F. Kapusta, *Bezpieczeństwo żywnościowe Polski i jej mieszkańców w okresie przedakcesyjnym i po akcesji do Unii Europejskiej*, "Ekonomia XXI wieku" 2016, nr 4(12); A. Baer-Nawrocka, A. Sadowski, *Food security and food self-sufficiency around the world: A typology of countries*, "PloS one" 2019, Vol.14(3), e0213448, https://doi.org/10.1371/journal.pone.0213448; T. Brankov, B. Matkovski, *Is a Food Shortage Coming to the Western Balkans?*, "Foods" 2022, Vol. 11(22), p. 3672, https://doi.org/10.3390/foods11223672; P. Cango, J. Ramos-Martín, F. Falconí, *Toward food sovereignty and self-sufficiency in Latin America and the Caribbean: opportunities for agricultural complementarity*, "Revista de Economia e Sociologia Rural" 2022, https://doi.org/10.1590/1806–9479.2021.251291; J. Clapp, *Food self-sufficiency: Making sense of it, and when it makes sense*, "Food Policy" 2017, Vol. 66, p. 88–96, ISSN 0306–9192, https://doi.org/10.1016/j.foodpol.2016.12.001.

$$D_{food} = P_{food} + Im_{food} - Ex_{food} \quad = P_{food} \pm TB_{food} \quad (3)$$

$$D_{food} = P_{food} + Im_{food} - Ex_{food} \pm \Delta S_{food} = P_{food} \pm TB_{food} \pm \Delta S_{food} \quad (4)$$

where: ΔS_{food} – change in stock levels.

In this study, due to limitations in the availability of statistical data regarding stocks, the indicator SSR_{food} was calculated according to the following formula (5). However, regardless of statistical data availability, the analysis of self-sufficiency over the long term justifies the adoption of this formula for calculations.

$$SSR_{food} = \frac{P_{food}}{P_{food} \pm TB_{food}} * 100 \quad (5)$$

Based on the data analysis, an assessment was made of the production situation and foreign trade in honey in Poland against the background of European Union countries. Descriptive and comparative methods were used to interpret the results. The study adopted a unified definition of honey without division into its types, in accordance with the Council Directive[5].

The beekeeping sector and honey market – challenges

Analysing the subject literature concerning the beekeeping sector and the honey market, one can identify numerous factors conditioning its state and development on individual continents. As noted by A. Borowska[6], these factors include: climatic conditions, traditions, habits, a passion for beekeeping, as well as the degree of its development and specialisation itself. Moreover, she emphasises the importance of other socio-economic factors, resulting for instance from the level and structure of consumption[7] or – as noted by B. Madras-Majewska and J. Majewski[8] – determining production profitability.

5. Council Directive 2001/110/EC of 20 December 2001 relating to honey, OJ EU.L.2002.10.47 A, https://sip.lex.pl/akty-prawne/dzienniki-UE/dyrektywa-2001–110-we-odnoszaca-sie-do-miodu-67428080, access 13.10.2025.
6. A. Borowska, *Kształtowanie się światowego rynku miodu w latach 1961–2010*, "Roczniki Nauk Rolniczych" 2011, Seria G, nr 98(3), p. 160–175.
7. A. Borowska, *Kształtowanie się światowego rynku...*, op. cit.
8. B. Madras-Majewska, J. Majewski, *Opłacalność produkcji pszczelarskiej w Polsce*, Zeszyty Naukowe Szkoły Głównej Gospodarstwa Wiejskiego w Warszawie "Ekonomika i Organizacja Gospodarki Żywnościowej" 2004, z. 53, p. 175–185.

It is also worth noting that honey production constitutes an additional source of household income, thereby contributing to poverty reduction[9].

The beekeeping sector faces many challenges. The crisis associated with the COVID-19 pandemic, as well as the conflict in Ukraine, have only highlighted its role in the food chain and problems related to, among others, habitat loss, environmental pollution, climate change, bee diseases, rising production costs, or current honey surpluses in European Union (EU) countries in the face of competition from imports. There is also growing pressure to scale operations while simultaneously complying with changing European Union regulations regarding food safety. In the face of these challenges, the beekeeping sector in the EU is developing dynamically; the number of beekeepers and bee colonies is rising, and the production volume is also increasing. In 2023, approximately 245 thousand tonnes of honey were produced in the EU, compared to less than 200 thousand tonnes in 2014, covering, however, only about 60% of demand. Union Member States are heavily dependent on imports, with China and Ukraine alone accounting for about 65% of total honey imports. The quality of imported honey from third countries is widely questioned, despite it being subject to numerous requirements of national and EU bodies regarding compliance with quality standards. The main allegation cited is the non-compliance of imported honey from third countries with the Honey Directive[10].

A serious challenge for the European honey market also lies in international trade agreements, which are significant for economic development but also pose a risk of changing competitive conditions – for producers, consumers, and the natural environment alike. The Mercosur agreement and the trade arrangement regarding tariff-rate quotas (TRQs) on imports from Ukraine pose such threats[11]. Under the projected EU-Mercosur trade agreement, partial liberalisation of bilateral honey trade with the countries of this bloc is envisaged. The process involves the EU granting Mercosur a duty-free quota for honey, which will be gradually increased – from 7.5 thousand tonnes upon the agreement's entry into force to 45 thousand tonnes after six years. On the Mercosur side, the full abolition of duties on honey imports from EU countries is to occur from the moment the agreement enters into force. Under the trade agreement between the EU and Ukraine, an increase in tariff quotas for honey from

9. R. Kumar, O. Prakash Agrawal, Y.A. Hajam, *Honey A Miraculous Product of Nature*, Taylor & Francis, CRS Press, 2022.
10. Council Directive 2001/110/EC of 20 December 2001 relating to honey, OJ EU L 10 of 12.01.2002, Read more in the LEX Legal Information System: https://sip.lex.pl/akty-prawne/dzienniki-UE/dyrektywa-2001–110-we-odnoszaca-sie-do-miodu-67428080, access 13.10.2025.
11. P. Szajner, J. Pawłowska-Tyszko, W. Łopaciuk et al., *Sustainable concentration in the Polish food industry in the context of the EU-MERCOSUR trade agreement,* "Sustainability" 2025, No. 17(12), p. 5640, https://doi.org/10.3390/su17125640.

6 thousand tonnes to 35 thousand tonnes is proposed. However, these are at a lower level than the duty-free quantities that were permitted under the automatic safeguard mechanism functioning within the ATM measures in the period from June 2024 to June 2025[12]. If imports from Ukraine to the EU increase within the enhanced quotas to a level that threatens market stability, the draft agreement provides for the possibility of temporarily withdrawing additional preferences and returning to the currently applicable quota levels. To trigger this protective mechanism, it is sufficient to establish market disturbances even at the level of individual states, rather than the entire EU. The draft agreement also envisages improving conditions for access to the Ukrainian market. The main problem highlighted in the context of implementing these agreements is the issue of the quality of honey introduced to the European market from the aforementioned directions, which results from production standards regarding health safety and climate protection that are less restrictive in MERCOSUR countries, as well as in Ukraine, than in the EU. Increased imports may also limit the development of domestic apiaries, which in turn may adversely affect the country's food security. Concerns that trade liberalisation may lead to risks for consumer health and safety are justified, requiring appropriate regulations regarding product quality, as indicated by E. Gozlan and S. Marette[13].

Given the above conditions, and particularly the large share of honey imports in the market structure, it is justified to examine its food self-sufficiency. Interest in improving the level of food self-sufficiency usually rises following experiences of major crises – this is indicated by the policies of many states after the food price crisis of 2007–2008. The level of self-sufficiency also becomes a topic of discussion during periods of production surpluses, which has been visible recently in the honey market.

As the European market develops, issues of food safety, traceability, and quality assurance are no longer optional but are becoming essential to maintain competitiveness and access to high-value markets. Therefore, an important element in the entire supply chain is the promotion of local honey in all distribution channels and consumer education at both the EU level and in individual countries.

12. ATM threshold volumes in 2024 amounted to 44.4 thousand tonnes of honey, but in the period 1.01.2025–5.06.2025 already 18.5 thousand tonnes.
13. F. Lin, X. Li, N. Jia et al., *The impact of Russia-Ukraine conflict on global food security*, "Global Food Security" 2022, No. 36, p. 100661.

Global honey production

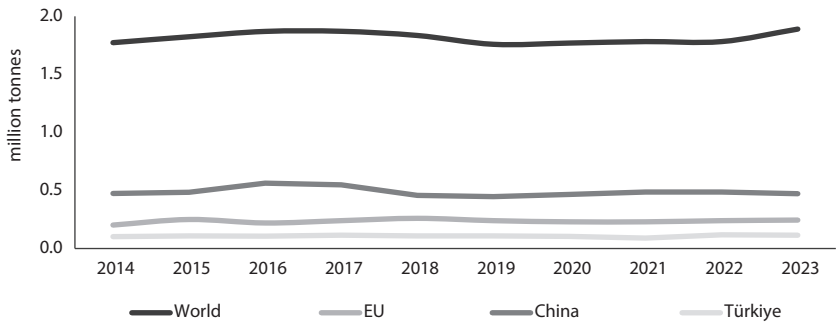
Global honey production in 2023 amounted to approx. 2 million tonnes and increased by approx. 13% over a ten-year period[14]. The largest global producer is China, with production of approx. 472 thousand tonnes in 2023 (25% of global production), which remained at a stable level over the analysed decade. The exceptions were the years 2016 and 2017, when production exceeded the level of 540 thousand tonnes (Figure 1). It is worth emphasising, however, that the average honey consumption in China in 2023 was low – ranging around 0.22 kg per capita, less than, for example, in Japan (0.36 kg) or in EU Member States. Nevertheless, it should be expected that the consumption of this product, which is considered a higher quality product, will grow due to the improvement in the living standards of Chinese residents[15]. Prospects for the development of honey production in China are also growing, resulting from, among other things, increased interest in establishing apiaries. This is favoured by, inter alia, beneficial environmental conditions, improved productivity resulting from the use of enhanced beekeeping techniques[16], or growing consumer awareness.

The lists of major global honey producers who have maintained their high position for years also include: Türkiye (115 thousand tonnes in 2023), Iran (80 thousand tonnes), Argentina (73 thousand tonnes), and Ukraine (58 thousand tonnes), Figure 1. Over the last decade, these countries increased their combined honey production volume by approx. 4.1%. The largest increases were recorded by India (14.3%) and Türkiye (11.7%), while honey production fell in Ukraine and Argentina (by 12.8% and 3.4% respectively). While the drop in honey production in Ukraine may be the result of military actions conducted on its territory and can be considered incidental, in Argentina this trend is deepening, as indicated by the research of A. Borowska[17]. This may be of significant importance for the entering into force of the EU-Mercosur agreement (Brazil, Argentina, Paraguay, and Uruguay) and the trade arrangement regarding TRQs on imports from Ukraine. European Union countries are the second-largest honey producer in the world, with a share of 13%, covering, however, merely approx. 64% of their demand.

14. FAOSTAT database, 2025.
15. M. Zeng, W.Y. Yan, Z.J. Zeng, *Analysis of Consumers' Willingness to Pay for Honey in China*, "Sustainability" 2023, No. 15, p. 1500, https://doi.org/10.3390/su15021500.
16. A. Borowska, *Zmiany w produkcji i handlu zagranicznym miodem w Polsce na tle krajów Unii Europejskiej i świata*, Zeszyty Naukowe Szkoły Głównej Gospodarstwa Wiejskiego w Warszawie "Problemy Rolnictwa Światowego" 2022, t. 22(XXXVII), z. 4, p. 5–25, DOI: 10.22630/PRS.2022.22.4.13.
17. A. Borowska, *Zmiany w produkcji i handlu* …, op. cit. p. 12.

Poland ranked 15th in the global rankings of honey producers[18].

Figure 1. Global honey production in the years 2014–2023



Source: Own elaboration based on FAOSTAT data, https://www.fao.org/faostat/en/#home, access 13.10.2025.

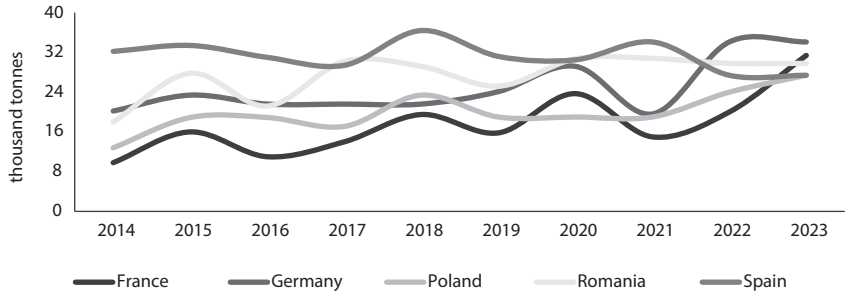
Honey production and trade in Poland and European Union countries

European honey production in 2023 amounted to approx. 245 thousand tonnes and increased by approx. 21% relative to 2014[19]. This relatively high growth was influenced by recent years of good harvests, particularly in 2019, 2020, and 2022. The largest EU honey producer in 2023 was Germany with production at the level of 34 thousand tonnes, constituting 14% of EU production, followed by France (31.4 thousand tonnes), Romania (29.8 thousand tonnes), Spain (27.4 thousand tonnes), and Poland (27.4 thousand tonnes), which shares the fourth position with Spain in the ranking of EU honey producers (Figure 2). Despite the significant increase in total production in the European Union in the analysed period, at the level of individual countries, it shows strong variation. Among the five main EU producers, all countries except Spain (a decrease of 15%) showed increases, with the largest – more than three-fold and two-fold increases – being in Spain and Poland respectively (Table 1). The data in Figure 2 indicate that honey production in the countries that are the largest EU honey

18. European Commission, *Agriculture and rural development*, *Honey market overview* (Autumn 2024), www.agriculture.ec.europa.eu/farming/animal-products/honey_en, access 13.10.2025; FAOSTAT database, 2023 https://www.fao.org/faostat/en/#home, access 13.10.2025.
19. FAOSTAT database, 2025; https://www.fao.org/faostat/en/#home, access 13.10.2025.

producers is unstable and territorially varied, which results not only from climatic conditions and weather variability but also from the specificity of apiary management (high fragmentation of production, varying levels of apiary development). This variability of production does not guarantee the maintenance of food security in the EU honey market. Hence, many Community countries import honey from other parts of the world to satisfy internal demand reported on the market.

Figure 2. Production of selected honey producers in the EU in the years 2014–2023



Source: Own elaboration based on FAOSTAT data, https://www.fao.org/faostat/en/#home, access 13.10.2025.

In the EU in 2023, there were approx. 600 thousand beekeepers who possessed approx. 20 million bee colonies, the number of which increased by approx. 45% over the last decade. This significant increase in the number of bee colonies demonstrates the sector's large development potential. Data contained in Table 1 show that among the five leading producers, the largest number of bee colonies is held by beekeepers from Spain and Romania, with the number in these countries being three times higher than the EU average, which is approx. 26 bee colonies (Table 1). In most EU countries, small amateur apiaries predominate. Barely 3% of professional beekeepers in the EU possess 40% of bee colonies, which contain more than 150 hives. The average yield from one bee colony is 12.2 kg, which is comparable to that achieved by beekeepers in Poland and Romania. The highest yield is achieved by German beekeepers, who, against the background of the compared countries, nevertheless operate the smallest apiaries.

Table 1. Characteristics of the beekeeping sector in the European Union in 2023

Country	Average apiary size	Yield (kg/bee colony)	Production changes (base year 2014) (%)	Consumption	Self-sufficiency
Germany	6.7	34.1	168.8	80.3	42.5
Romania	74.2	12.4	164.9	24.2	123.1
Spain	76.8	9.8	85.2	31.0	88.5
Poland	25.8	11.6	213.6	40.4	67.8
France	28.6	17.5	318.2	58.2	53.9
Others	23.8	9.8	87.4	147.2	64.7
Total EU	25.6	12.2	121.3	381.3	64.3

Source: Own elaboration based on data: European Commission, Agriculture and rural development, Honey market overview (Autumn 2024), www.agriculture.ec.europa.eu/farming/animal-products/honey_en; access 13.10.2025.

Apart from Romania, consumption exceeds the value of production in all analysed countries, meaning, however, that the quantity of honey produced is insufficient to satisfy domestic as well as EU demand (production satisfies only approx. 64% of demand). Hence, the importance of honey in international trade is systematically growing. It constitutes a significant potential export market for honey suppliers from other geographical areas, particularly China, Ukraine, Argentina, and Mexico[20]. However, honey supplied to the European market must meet a range of sanitary and quality requirements, which results, among other things, from its method of production. In the European Union, it is classified as a product of animal origin. For this reason too – in order to maintain an appropriate level of safety on the honey market in the European Union, and especially in international trade – stricter regulations regarding hygiene and food safety are introduced than in other parts of the world.

According to Copa-Cogeca[21] data, the intra-EU honey market is divided into different categories:

1) countries exporting their production to other Member States (Hungary, Bulgaria, Romania);

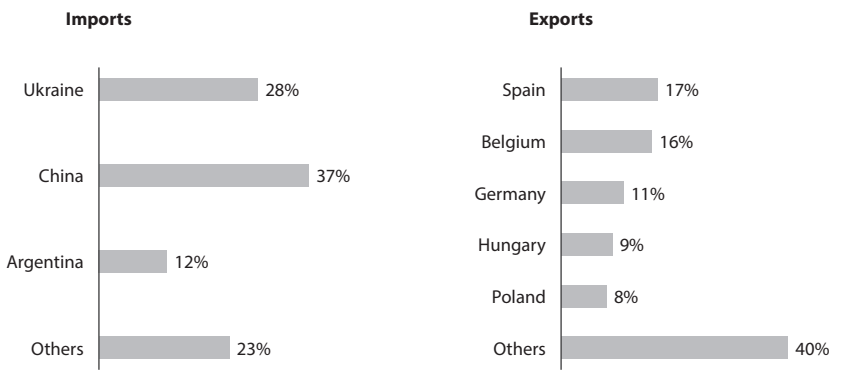
20. K. Jaśkiewicz, T. Szczęsna, *Quality and safety assessment of honey imported from Ukraine to Poland: physicochemical and residue analysis*, "Journal of Apicultural Science" 2025, Vol. 69(1), https://doi.org/10.2478/JAS-2025-0003; V. Paiano, A. Breidbach, C. Lörchner et al., *Detection of Honey Adulteration by Liquid Chromatography – High-Resolution Mass Spectrometry: Results from an EU Coordinated Action*, "Separations" 2025, Vol. 12(2), p. 47, https://doi.org/10.3390/separations12020047; FAOSTAT database 2025, access 13.10.2025.
21. *Action Plan to Rectify the Alarming Situation*, Copa-Cogeca Position Paper on the European Honey Market, Brussels, February 2020.

2) countries not exporting their production, re-exporting imported honey from other Member States or countries to Member States (Germany, Belgium);
3) countries exporting their production and re-exporting imported honey from other Member States or third countries to Member States (Spain, Portugal, Poland).

According to the authors of the report[22], such a situation leads to destabilisation of the honey market due to a high level of speculation, indicating that in the last decade, a fall in wholesale honey prices in a given country was accompanied by an increase in honey purchases in intra-EU trade. This also implies a series of problems related to maintaining the profitability of the European beekeeping sector, preserving the numbers of bee colonies, ensuring income and jobs in rural areas, as well as pollination and biodiversity.

In 2023, approx. 300 thousand tonnes of honey were introduced to the EU market, of which approx. 55% originated from third countries, i.e., 163 thousand tonnes. From these countries, the largest quantities of honey introduced to the EU market in 2023 were by: China (60 thousand tonnes), Ukraine (45 thousand tonnes), Argentina (20 thousand tonnes), and Mexico (10 thousand tonnes), as well as countries with a share below 3% – Cuba, Vietnam, Brazil, and Chile. It is worth adding that in 2023 China exported a total of 152.6 thousand tonnes of honey valued at 254.2 million USD, and the largest recipients were: the UK (39 thousand tonnes), Japan (28.7 thousand tonnes), Belgium (22.7 thousand tonnes), Poland (13 thousand tonnes), and Spain (7 thousand tonnes), Figure 3. Honey imports in the EU over the last decade increased by approx. 12.4%, while relative to 2022 – they decreased by 14%[23].

Figure 3. Honey trade in the EU in 2023

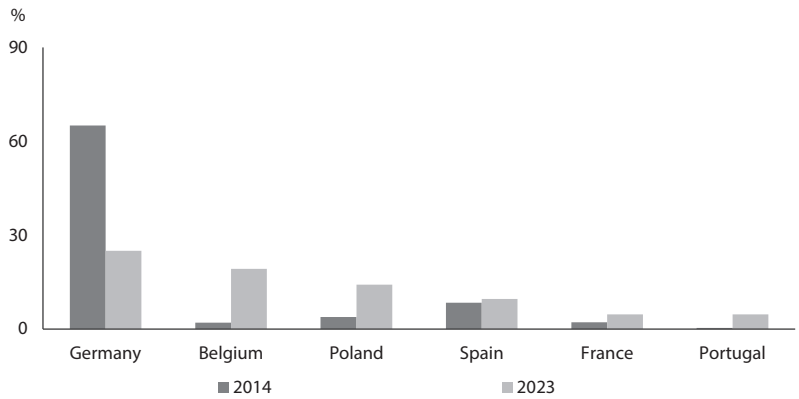


Source: Own elaboration based on FAOSTAT data, https://www.fao.org/faostat/en/#home, access 13.10.2025.

22. *Action Plan to Rectify the Alarming Situation*, Copa-Cogeca Position Paper on the European Honey Market, Brussels, February 2020.
23. FAOSTAT, https://www.fao.org/faostat/en/#home, access 13.10.2025.

Also deserving of attention is the analysis of the largest EU importers of honey from third countries. These countries include: Germany (41 thousand tonnes), which introduced 14% of all imports to the EU market; Belgium, which is a small producer (in 2023 it produced merely 3 thousand tonnes) but is the second-largest importer of non-EU honey (31.4 thousand tonnes); Poland (23.3 thousand tonnes); followed by Spain, France, Portugal, or the Netherlands. It is also worth noting that the structure of non-EU honey imports has changed over the last 10 years. While the share of imports to Germany decreased from 74.4% to 25%, countries such as Poland and Belgium significantly increased imports of non-EU honey – from a level of 3.8% to 14.2% and from 3.6% to 19.2% respectively (Figure 4). This change has significant consequences for the prices of imported honey in the importer's country.

Figure 4. Structure of imports from third countries in selected EU countries



Source: Own elaboration based on FAOSTAT data, https://www.fao.org/faostat/en/#home, access 13.10.2025.

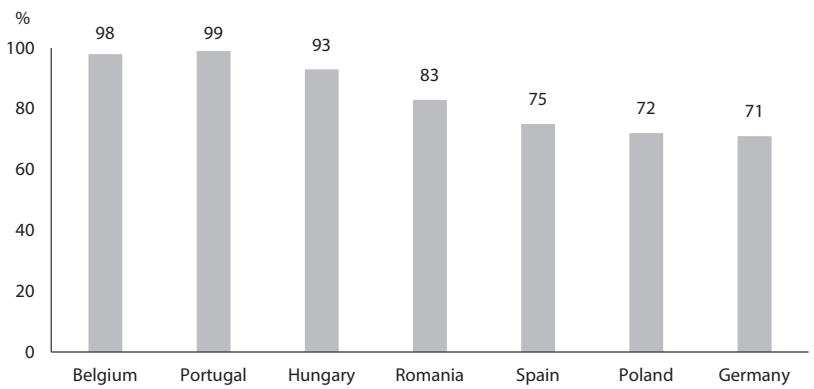
One of the largest honey suppliers to the EU is Ukraine. Honey imports from this country over the last decade have more than doubled; in 2023 they amounted to 45.8 thousand tonnes[24]. In 2022, the outbreak of war in Ukraine caused a significant slowdown in imports from Ukraine; relative to 2021, they were lower by 14.4%. Most honey from this country in the studied period went to Germany, Poland, France, Spain, and Greece. If we look at the Mercosur countries, approx. 24 thousand tonnes of honey were imported from this bloc in 2023, with a noticeable increase of over 70% in imports from these countries compared to 2014. Most honey from Mercosur countries was imported by Germany, Spain, and Belgium. Poland in 2023 imported

24. FAOSTAT, https://www.fao.org/faostat/en/#home, access, 13.10.2025.

merely 46 tonnes of honey from Argentina. It is also worth emphasising that imports from these countries decreased in 2023.

Similar tendencies can be observed in exports, although relative to 2014 they increased by 8.7%, and relative to 2022 they decreased by 0.8%. In 2023, 164 thousand tonnes of honey were exported from the EU market; the larger part of this product, approx. 123 thousand tonnes (25%), was delivered to the internal market, including to Belgium, Portugal, Hungary, Romania, Spain, Poland, or Germany (Figure 5). The main recipients from third countries were the United Kingdom, the United States, Saudi Arabia, and Switzerland. The largest EU exporters were Spain (27.8 thousand tonnes, of which 21.7 thousand tonnes to the EU), Belgium (27.2 thousand tonnes, of which 26.7 thousand tonnes to the EU), Germany (18.5 thousand tonnes, of which 13.1 thousand tonnes to the EU), Hungary (14.7 thousand tonnes, of which 13.7 thousand tonnes to the EU), and Poland (14 thousand tonnes, of which 10.1 thousand tonnes to the EU), Figure 3. These countries exhibit high export activity, which indicates their large production capacities and/or favourable trade conditions.

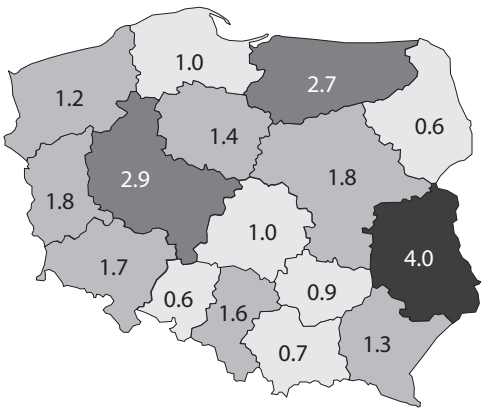
Figure 5. Share of exports to EU member countries in 2023



Source: Own elaboration based on FAOSTAT data, https://www.fao.org/faostat/en/#home, access 13.10.2025.

The situation of the beekeeping sector and the related honey market in Poland does not differ from the general trends that emerged in the studied period in the EU. In 2023, the volume of honey production in Poland amounted to 27.4 thousand tonnes, with the largest quantities produced by beekeepers from the Lubelskie Voivodeship (4 thousand tonnes), followed by Wielkopolskie (2.9 thousand tonnes) and Warmińsko-Mazurskie (2.7 thousand tonnes), Picture 1.

Picrure 1. Honey production by voivodeship in 2023



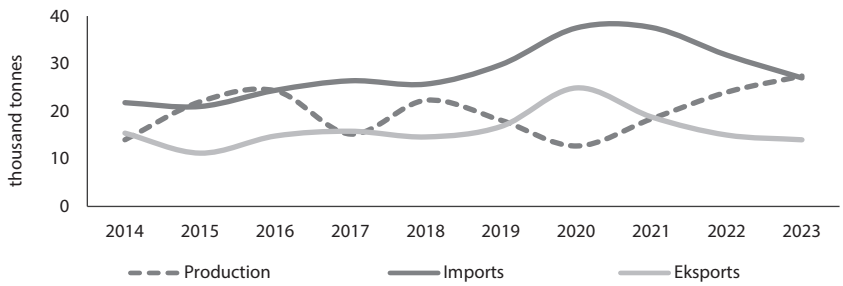
Source: Own elaboration based on data: P. Semkiw, Stan pszczelarstwa w Polsce w 2023 r., INHORT, Puławy 2023, https://www.inhort.pl/wp-content/uploads/2024/07/11.3 _Raport_stan_pszczelarstwa_2023.pdf, access 13.10.2025.

According to veterinary registers, in 2023 beekeeping was practiced by over 97 thousand beekeepers, who managed approx. 2.4 million bee colonies[25], constituting 12% of colonies in the EU. It is worth noting that relative to 2014, the number of bee colonies increased by 85%, and the number of beekeepers by 68%. A particularly noticeable increase in the number of bee colonies fell in the years 2020–2023[26], which resulted from the increase in demand for honey and EU beekeeping support programmes encouraging and supporting the development of beekeeping activity. In the last three years, however, a slowdown in the upward trend has been observed – both in the number of beekeepers and bee colonies. As reported by P. Semkiw, smaller increments are observed in 2024 compared to the last 3 years[27]. This slowdown may be the industry's reaction to economic problems, but the still growing number of beekeepers and bee colonies testifies to the sector's persisting potential. The average apiary size in Poland is 24 bee colonies, with the largest apiaries – above 30 bee colonies – located in the voivodeships: Warmińsko-Mazurskie (41 colonies), Zachodniopomorskie (31 colonies), and Lubelskie (30 colonies). Almost 63 thousand people run small,

25. P. Semkiw, *Stan pszczelarstwa w Polsce w 2023 r.*, InHort, Puławy 2023, https://www.inhort.pl/wp-content/uploads/2024/07/11.3_Raport_stan_pszczelarstwa_2023.pdf, access 13.10.2025.
26. In 2023, over 2.35 million bee colonies were registered in Poland, while 2–2.5 million colonies are needed for full pollination.
27. P. Semkiw, *Stan pszczelarstwa w Polsce w 2024 roku*, InHort, Puławy 2024, https://www.inhort.pl/wp-content/uploads/2025/01/8.2_2024_Raport_stan_pszczelarstwa.pdf, access 13.10.2025.

hobby apiaries, not exceeding 20 bee colonies. Farms with a medium scale of enterprise (21–50 hives) are held by approx. 24 thousand beekeepers. Slightly larger beekeeping production (from 51 hives to 80 hives) is carried out by 7.6 thousand people. There are 2.1 thousand beekeepers whose apiaries are classified as special branches of agricultural production (DSPR, above 80 hives). Honey production in Poland is variable, as in most EU countries. Since 2014, we have observed relatively large fluctuations (from 15.4 tonnes to 27.4 thousand tonnes in 2023)[28]. Over the decade, the production volume increased by approx. 75%. This variability is conditioned by external factors, particularly environmental pressure (climate change, depletion of forage, monocultures), but also by the number of apiaries and external support. Particular production increases were recorded in the years 2020–2023, when it more than doubled from the level of 12.7 thousand tonnes to 27.4 thousand tonnes respectively (Figure 6). In 2023, Poland was the fourth honey producer in the European Union, and its share in the sector's production amounted to 11%. Growing honey production in Poland in recent years resulted from, among other things, favourable weather conditions, the rising number of bee colonies, and benefits achieved under support programmes[29]. Milder winters and relatively good weather favouring the flowering and nectar secretion of plants enabled bees to have a longer harvesting period. The availability of melliferous plants also increased, influenced by support programmes encouraging a change in crop structure towards the development of melliferous plant plantings.

Figure 6. Honey production and trade in Poland in the years 2014–2023



Source: Own elaboration based on FAOSTAT data, https://www.fao.org/faostat/en/#home, access 13.10.2025.

28. FAOSTAT 2014–2023, https://www.fao.org/faostat/en/#home, access 13.10.2025.
29. H. Smolarz, *Pszczelarstwo jako element bioróżnorodności bezpieczeństwa żywnościowego Polski*, XI Ogólnopolska konferencja "Bezpieczna pszczoła, bezpieczny pszczelarz, bezpieczne pszczelarstwo", IERiGŻ PIB, Warszawa, 16 October 2025.

Poland is the third-largest EU importer of non-EU honey, sourcing nearly 90% of this raw material from outside the EU. And while honey production in Poland showed great variability in the years 2014–2023, honey imports clearly increased until 2021 (from the level of 22 thousand tonnes in 2014 to 38 thousand tonnes in 2021). Since 2022, the volume of honey imports to Poland has slightly decreased. Poland is a net honey importer. A particular increase in imports occurred in the years 2020–2021 (by approx. 26% relative to 2019), which should be linked to increased demand for honey in connection with the outbreak of the COVID-19 pandemic. In subsequent years, a drop in imports was recorded, which in 2023 reached the level of 27 thousand tonnes and was lower relative to 2021 by 28%, and to 2022 – by 15%. The outbreak of war in Ukraine, which until 2022 was its main supplier, also had a significant impact on honey imports to Poland. In 2022, due to smaller export surpluses, imports of raw material from Ukraine decreased from the level of 14 thousand tonnes in 2021 to 11 thousand tonnes in 2022. At the same time, the position of leader in imports was taken over by China, which in the years 2022–2023 supplied approx. 50% more honey to the Polish market than Ukraine (Table 2). It is worth adding that these two suppliers provide approx. 88% of all imports to the Polish market. Since 2014, total imports clearly exceed the value of domestic production, indicating an increase in demand for honey on the domestic and foreign market (Figure 1). In 2023, honey imports to Poland slowed down somewhat; they were 15% lower than in 2022 and amounted to 27.2 thousand tonnes. A further decrease is also observed in 2024, although this drop is small and amounts to 2.3%.

Table 2. Honey balance in Poland and self-sufficiency ratio in the years 2014–2023

Specification	2014	2019	2020	2021	2022	2023
	(thousand tonnes)					
Production	14.1	16.8	12.7	18.4	24.0	27.4
Imports	22.7	29.8	37.5	37.6	31.8	27.2
of which			21.7	13.7	10.7	9.6
Ukraine	9.7	11.5	8.7	13.4	16.3	14.2
China	10.2	8.2				
Exports	15.4	16.8	24.9	18.8	15.0	14.0
Supply	21.4	29.8	25.3	37.2	40.8	40.4
Self-sufficiency (%)	65.9	56.4	50.2	49.5	58.8	67.8

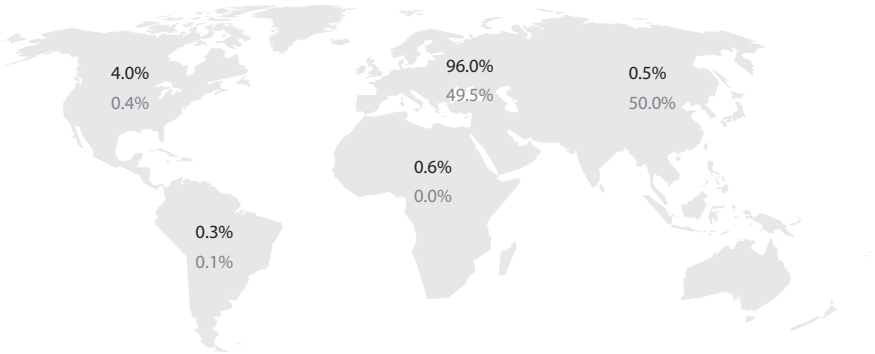
Source: Own elaboration based on FAOSTAT data, https://www.fao.org/faostat/en/#home, access 13.10.2025.

Considering honey imports to Poland, one cannot overlook the Mercosur countries. In recent years, the volume of honey imported by Poland from Mercosur countries was relatively small in relation to total honey imports to Poland. In the years 2022–2023, between 10 tonnes and 49 tonnes of honey were imported to Poland from this direction (according to country of origin), which constituted merely 1–2% of total domestic imports. Most honey was imported from Argentina, and small quantities were brought from Brazil. No honey imports to Poland were recorded from the remaining countries in the analysed period. Preliminary Statistics Poland (GUS) data indicate that honey imports from Mercosur countries to Poland are slowing down somewhat; in the first half of 2025 imports amounted to nearly 43 tonnes, compared to 37 tonnes in the corresponding period of 2024. These data indicate that one should not expect a major threat from Mercosur countries on the honey market; moreover, these countries will also have to meet the requirements demanded by the EU for introducing honey into the territory of Community countries, which may limit its inflow to Poland and other EU countries.

A downward trend is also observed in foreign sales, which reached the highest level of 25 thousand tonnes in 2020. Since 2021, there has been a clear drop in exports to the level of 14 thousand tonnes in 2023. Over the entire studied period, exports decreased by approx. 9%. The value of Polish exports until 2019 was comparable to domestic production. The exception was 2020, where as a result of the COVID-19 pandemic, the general demand for honey increased, and exports reached the highest volume in the entire analysed period and were twice as high as domestic production. Subsequent years saw a decline in exports, with its value in 2023 oscillating at the level of 14 thousand tonnes and being comparable to the level before the outbreak of the COVID-19 pandemic (Table 3).

Poland exports honey to 50 countries worldwide. However, the structure is highly concentrated – ten leading countries hold an 85% share, and twenty – over 98%. The larger part of this product went to the European market. The largest recipients of honey from Poland were: Germany, Italy, Spain, Greece, and France. We import honey from 39 countries. Five leading importers concentrate over 92% of all imports to Poland, of which China and Ukraine account for 84% of all imports to Poland. If we look at the world map, Poland concentrates its foreign trade mainly on the European and Asian markets (Picture 2, Table 3).

Picture 2. Directions of honey trade in Poland in 2023



Legend: Black colour – exports, grey colour – imports.
Source: Own elaboration based on FAOSTAT data, https://www.fao.org/faostat/en/#home, access 13.10.2025.

Table 3. Geographical structure of Polish honey imports and exports in 2023

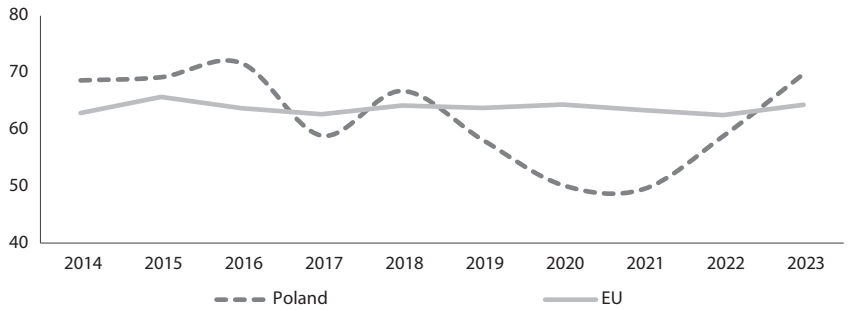
Imports	Volume (thousand tonnes)	Share in total imports (%)	Exports	Volume (thousand tonnes)	Share in total exports (%)
China	13.1	47.8	Germany	2.7	19.3
Ukraine	9.4	34.3	Italy	1.9	13.4
Lithuania	1.0	3.6	Spain	1.4	10
Belgium	0.9	3.3	Greece	1.3	9.3
Romania	0.4	1.5	France	1.0	7.1
Germany	0.4	1.5	Bulgaria	0.9	6.4
Bulgaria	0.4	1.5	Belgium	0.8	5.7
Spain	0.3	1.1	Romania	0.8	5.7
Türkiye	0.2	0.7	Lithuania	0.6	4.3
Netherlands	0.1	0.4	United Kingdom	0.6	4.4
Others	1.2	4.4	Others	2.0	14.3

Source: Own elaboration based on FAOSTAT data, https://www.fao.org/faostat/en/#home, 13.10.2025.

In Poland in the analysed period, production and demand for honey show high variability, and production is smaller than domestic consumption, which justifies imports. In the years 2014–2023, domestic production was approx. twice as small as balance sheet consumption (Table 4). SSR_{food} indicators on the honey market varied, which resulted from the variability of production and the foreign trade balance.

In the EU, this indicator remained at a relatively constant level (63–66%). In Poland since 2021, in connection with favourable honey production conditions and an improvement in the foreign trade balance, the self-sufficiency ratio increased from 49.5% in 2021 to 67.5% in 2023. Analysis of the self-sufficiency ratio in the long term (2014–2023) confirms that Poland and the EU do not achieve self-sufficiency in terms of honey. Considering changes in stock levels at 5–10% of domestic consumption, self-sufficiency in individual years still showed small fluctuations and amounted to 52–75%. The difference in indicator values in analytical approaches amounts to 3–7 percentage points.

Figure 7. Food self-sufficiency ratio in the years 2014–2023



Source: Own elaboration based on FAOSTAT data 2025.

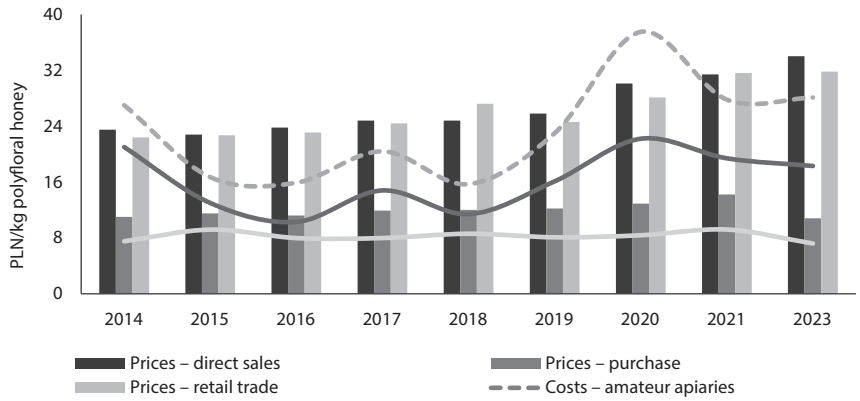
The supply chain in the beekeeping sector, similarly to the entire food sector, connects three important sectors of the economy, i.e., agriculture, agri-food processing, and distribution. In Poland, honey is sold through three channels, namely wholesale purchase; through short distribution channels, e.g., direct sales (SB) or retail agricultural trade (RHD); as well as through retail trade (shop sales). As previously mentioned, Polish apiaries are mostly hobby apiaries. For this reason – in the case of hobby apiaries – it is difficult to speak of stable distribution chains or predictable deliveries. Hence, one of the most popular forms of product distribution in the beekeeping industry is their sale through so-called short supply chains (SB, RHD, sole proprietorship (JDG), shop sales). Within direct sales, a beekeeper can sell any quantity of honey from their own apiary, as well as other bee products. However, this requires obtaining approval from the veterinary inspection. Retail agricultural trade allows for the sale of up to 2,400 kg of honey annually. Unlike direct sales, under RHD one can sell processed products as well as food products. Registering a company (JDG) gives the possibility of selling honey and other bee products without quantitative

limits. However, this form involves the necessity of keeping accounts and meeting legal requirements for business activity. Within retail trade, the beekeeper sells honey directly to end consumers, for example via social media, at local events, health food fairs, or harvest festivals.

Despite the many advantages of various sales forms, sales do not take place without problems, the greatest of which is ensuring appropriate quality and scale of production, which translates into honey prices. The lowest prices are obtained in wholesale purchase. In the analysed period, they oscillated at the level of PLN 11–14 for polyfloral honey. Price analysis within this distribution channel allows one to notice that average purchase prices in 2023 are significantly lower in relation to the value from the previous year or two years ago (10.8 PLN/kg in 2023 against 14.2 PLN/kg in 2022 and 12.9 PLN/kg in 2021). In direct sales from apiaries, spring honeys cost on average 34 PLN/kg and were higher relative to previous years by 8% relative to 2022, and relative to 2014 – by 45%. In retail turnover (shop sales), polyfloral honey was sold for 32 PLN/kg. And this price also increased. It must be emphasised here that honey originating from wholesale purchase (excluding the exported quantity) is subject to sale within retail trade. A comparison of prices between these markets draws attention to the high level of gross retail margin[30]. However, it should be noted that these calculations do not account for producer costs, which influence the reduction of the margin (Figure 8). Conducting beekeeping activity involves costs. Calculated per one kg of honey, they amount to approx. PLN 28 in the case of amateur apiaries and PLN 18 in the case of commercial apiaries[31]. For comparison, the average purchase cost of honey originating from imports is approx. PLN 7–9.

30. P. Semkiw, *Stan pszczelarstwa w Polsce w 2023 r.*, InHort, Puławy 2023, https://www.inhort.pl/wp-content/uploads/2024/07/11.3_Raport_stan_pszczelarstwa_2023.pdf, access 13.10.2025.
31. Ibidem.

Figure 8. Production costs and sales prices within various supply channels in the years 2014–2023



Source: Elaboration based on data: P. Semkiw, Stan pszczelarstwa w Polsce w latach 2014–2023, INHORT, Puławy 2023.

If we look at the above situation from the perspective of consumer expectations, the growth of their demand and purchasing preferences, it can be noted that the honey market will continue to develop. Results of the "Polish Countryside and Agriculture 2024" study confirm a consumer trend referring to growing consumer patriotism, which should be utilised when promoting honey and bee products from own apiaries, acquired within short supply channels. Over 76% of respondents declare preferences for purchasing Polish products[32]. However, taking into account all distribution channels, the global honey market in supermarkets/hypermarkets reached a value of over 4.4 billion USD in 2024, and it is predicted that by 2034 it will record a compound annual growth rate (CAGR) at the level of 4.4%[33]. Supermarkets and hypermarkets dominate the honey industry due to wide reach and convenience for consumers. These types of retail formats offer a wide range of honey products, including well-known brands and private label products, meeting diverse consumer preferences. The presence of extensive distribution networks enables easy access to honey in urban and rural areas. In Poland, in the list of entities registered in accordance with Regulation (EC) No 852/2004 dealing with the packaging of honey and bee products,

32. H. Smolarz, *Pszczelarstwo jako element bioróżnorodności bezpieczeństwa żywnościowego Polski*, XI Ogólnopolska konferencja "Bezpieczna pszczoła, bezpieczny pszczelarz, bezpieczne pszczelarstwo", IERiGŻ PIB, Warszawa, 16 October 2025.
33. *Honey Market Size – By Type, By Application, and By Distribution Channel, Forecast, 2025–2034*, Global Market Insight, March 2025.

there are 109 companies, including eight companies with a significant share in the supermarket market[34].

Summary

1. The systematic increase in the number of bee colonies and growing interest in running apiary farms does not translate into long-term growth of honey production in Poland and in the EU. This production is significantly dependent on weather conditions, the length of the growing season, a stable forage base, and the health condition of bees. This is indicated by, among others, harvests of varietal honeys, which are regionally varied and dependent on the forage base and weather conditions.
2. The honey industry in the EU shows great development potential, and its value will continue to grow in the coming years, as confirmed by forecasts as well as analysed market trends. Considering growing consumer demand and large health benefits, it is expected that the market will continue to develop.
3. The development of the EU and domestic honey market is possible on the basis of production growth as well as the development of honey trade. Poland is one of the leading honey producers in the EU and, due to re-exports, also occupies a significant place in trade on the EU market.
4. Honey production in the EU and Poland does not cover growing internal demand, the self-sufficiency of which shapes up at an average level of approx. 60%. Poland and the EU do not achieve self-sufficiency due to unfavourable production conditions (inter alia, short growing season, decreasing biodiversity, overlapping flowering periods of many plants). The growing dependence of Poland and the EU on imports is also a consequence of small natural resources, price-cost competitiveness of imports, changes in consumer preferences (health-promoting food), and growing consumption.
5. Imports supplement raw material shortages, and self-sufficiency – understood as becoming independent of imports – affects domestic producers positively, mainly, but lowers the level of food security due to supply pressure and price increases for consumers. This particularly hits the poorest, who are most strongly affected by Engel's law.

34. J. Pawłowska-Tyszko, *Produkcja i handel zagraniczny miodem w Polsce na tle krajów Unii Europejskiej*, "Przemysł Spożywczy", t. 79, nr 5, Wydawnictwo SIGMA-NOT.

6. In achieving self-sufficiency, without limiting imports, helpful measures may include, inter alia: support for local producers, investments in new technologies, targeted subsidies for the development of high-yield commercial apiaries, payments for pollination (especially for small hobby apiaries). It is worth considering creating conditions for the formation of producer groups for this sector.
7. The problem of food self-sufficiency on the honey market cannot be viewed only through the prism of trade exchange. Food self-sufficiency in the beekeeping sector should be considered much more broadly, for the development of this sector is crucial for ensuring food security through plant pollination and the production of high-value agricultural products; hence, the issue of food self-sufficiency in honey production should be treated broadly, including therein benefits for agriculture.
8. The European Union faces a challenge related to the liberalisation of honey imports from Mercosur countries and Ukraine. However, considering strong competition from Ukraine and Mercosur grouping countries (good agro-climatic conditions, scale of production, and competitive price), control of the quality of honey introduced to the Polish market should be strengthened. Such a solution may be justified, considering imports from China, which is widely recognised as honey of low quality.

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Rozporządzenie delegowane Komisji (UE) 2022/2292 z 6 września 2022 r. uzupełniające rozporządzenie Parlamentu Europejskiego i Rady (UE) 2017/625 w odniesieniu do wymogów dotyczących wprowadzania do Unii przesyłek zwierząt, od których lub z których pozyskuje się żywność, i określonych towarów przeznaczonych do spożycia przez ludzi.

Rozporządzenie delegowane Komisji (UE) 2023/905 z 27 lutego 2023 r. uzupełniające rozporządzenie Parlamentu Europejskiego i Rady (UE) 2019/6 w odniesieniu do stosowania zakazu stosowania niektórych przeciwdrobnoustrojowych produktów leczniczych u zwierząt lub w produktach pochodzenia zwierzęcego wywożonych z państw trzecich do Unii.

Rozporządzenie Komisji (UE) 2023/915 z 25 kwietnia 2023 r. w sprawie najwyższych dopuszczalnych poziomów niektórych zanieczyszczeń w żywności oraz uchylające rozporządzenie (WE) nr 1881/2006.

Rozporządzenie (WE) nr 852/2004 Parlamentu Europejskiego i Rady z 29 kwietnia 2004 r. w sprawie higieny środków spożywczych.

Rozporządzenie Parlamentu Europejskiego i Rady (UE) nr 1169/2011 z 25 października 2011 r. w sprawie przekazywania konsumentom informacji na temat żywności.

Rozporządzenie (WE) nr 396/2005 Parlamentu Europejskiego i Rady z 23 lutego 2005 r. w sprawie najwyższych dopuszczalnych poziomów pozostałości pestycydów w żywności i paszy pochodzenia roślinnego i zwierzęcego oraz na ich powierzchni, zmieniające dyrektywę Rady 91/414/EWG.

Rozporządzenie wykonawcze Komisji (UE) 2025/636 z 25 marca 2025 r. zmieniające załączniki III i V do rozporządzenia wykonawczego (UE) 2020/2235 w odniesieniu do wzorów świadectw zdrowia zwierząt, wzorów świadectw urzędowych, wzorów świadectw zdrowia zwierząt/ świadectw urzędowych i poświadczenia prywatnego do celów wprowadzania do Unii lub tranzytu przez terytorium Unii do państwa trzeciego przesyłek niektórych kategorii zwierząt i towarów przeznaczonych do spożycia przez ludzi.

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received: 13.10.2025
accepted: 03.12.2025