

Honey Market in Romania

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Abstract

In Romania, beekeeping is an important traditional occupation. Honey and other bee products produced in our country are appreciated both in Europe and around the world. Honey is a complex food, one of the healthiest: it contains vitamins, organic acids, minerals and enzymes from bees, thanks to which honey is considered a superfood. The main objectives of the research are to analyze: the evolution of the number of bee families; the evolution of honey production and consumption in Romania; the value of exports and imports of honey from Romania. Estimates will also be made on honey production and consumption. The data used in the research will be taken from national and international databases.

Key words: supply, production, consumption, foreign trade, honey.

J.E.L. classification: Q11, Q13, Q17.

1. Introduction

In Romania, the beekeeping was favored by a mild climate and a generous nature, a true apicultural paradise that ranges from March to October: bee plants varied, linden and acacia vast forests, many areas of fruit trees, oilseed rape and sunflower. Bees play an important role in our lives, and their services are free. On the other hand, due to the socio-economic and scientific role, apiculture is an activity contributing to the development of rural areas. Bees are pollinators and are essential for biodiversity conservation and for agricultural crops. (Moritz, 2010, pg. 227). Bee products are known and used, being appreciated throughout the world as a source of food but also for their therapeutic properties, honey being considered as a component of traditional medicine. (Gomez-Caravaca, 2006, pg.1221). The honey market is defined by two distinct products: table honey and industrial honey, used in the food, pharmaceutical and cosmetic industries. (MADR, 2015, pg. 2015).

2. Honey production in Romania

The honey supply is provided by the bee family in our country. The offer is extremely varied, starting with honey known and appreciated by acacia, rape, lime or polyphlora, to lesser known and used honey, such as wild cherry, blues or raspberry honey, and coriander or thyme honey, but and honeycombs with honey, pollen and royal jelly.

Table no.1 Evolution of bee families in Romania

Years	Number of families	%
2016	1437394	-
2015	1392846	3,19
2014	1350998	6,39
2013	1354218	6,14
2012	1254039	14,62
2011	1249610	15,02

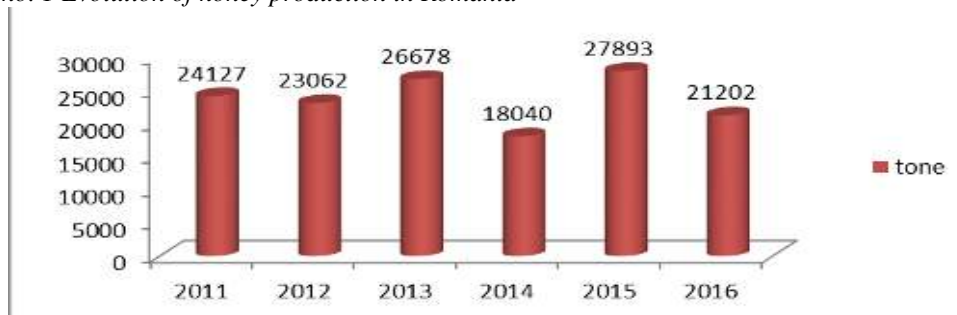
Source: Own contribution; <http://statistici.insse.ro/shop/>

The evolution of the number of bee families has been steadily increasing from 2011 to 2013, in 2012 the number of bee families increased by about 35% in the previous year, in 2013 the number of bee families increased by approximately 7.98 %, but in 2014 the number of bee families decreased by about 0.24% because many bee families did not survive in winter, in 2015 increased by about 3.09% and in 2016 increased by about 3.19%.

Compared to 2016, the evolution of bee numbers decreased in 2011 by approximately 15.02%, in 2012 it decreased by approximately 14.62%, in 2013 it decreased by approximately 6.14%, in 2014 by approximately 6.39%, and in 2015 the evolution of the number of bees decreased by about 3.19%.

The reference to honey production in 2012 decreased by about 4.42% compared to the previous year, although in 2012 the evolution of the bee family increased, but in 2012 the production of honey was affected by the bad weather conditions.

Figure no. 1 Evolution of honey production in Romania

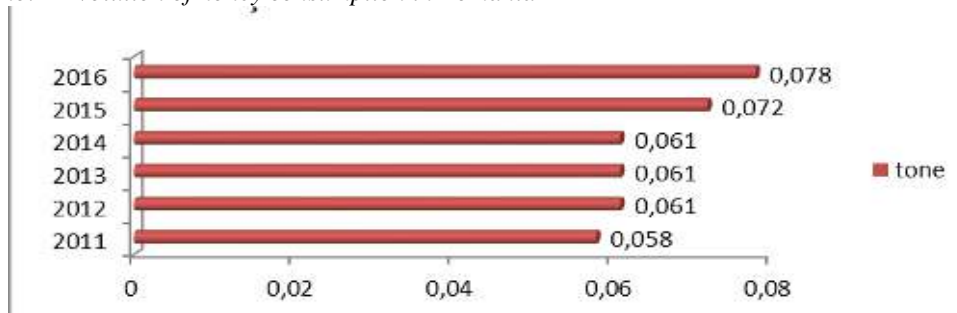


Source: Own processing on <http://statistici.insse.ro/shop/>

In 2013, the evolution of honey production increased by about 15.67%, but in 2014 it fell sharply by about 32.38% as it rained during the flowering of acacia and lime, in 2015 the evolution of the production of honey in Romania increased by approximately 54.61% thanks to melliferous potential and air and soil quality, and in 2016 honey production declined by about 23.99% due to honey production conditions.

3. Honey consumption in Romania

Figure no. 2 Evolution of honey consumption in Romania



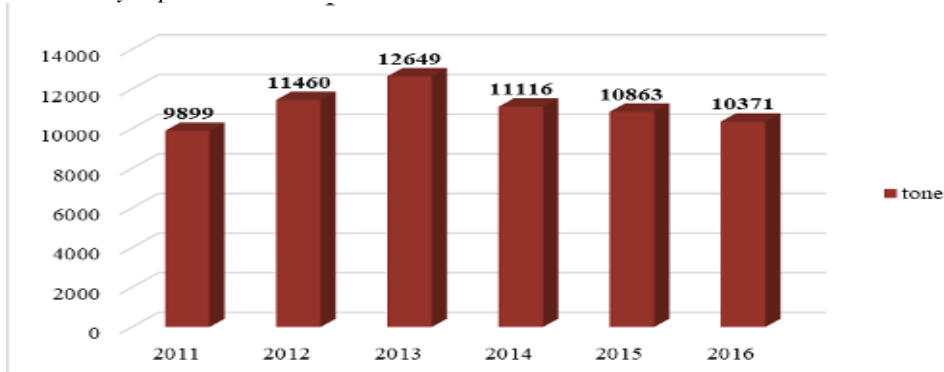
Source: Own processing on <http://statistici.insse.ro/shop/>

Honey consumption has steadily increased in Romania during 2011-2016 compared to 2011, in 2012 the consumption increased by about 5.1%, in the period 2012-2014 the honey consumption was constant, in 2015 it increased about 18.03%, and in 2016 honey consumption increased by about 8.33%. Consumption is increasing over a decade ago, but compared to the two kilograms consumed in Germany or 1.5 kilograms in the Netherlands and Belgium, in terms of honey consumption Romania is still on the last place.

4. Romania's honey trade with honey

In our research, we have introduced both the European Union and non-EU countries into the export category. Compared to other food products, honey is one of the most exported Romanian products.

Figure no. 3 Honey export



Source: <http://www.trademap.org/>

In the period 2011-2013, honey exports have steadily increased, in 2012 it has grown by about 15.15%, as honey is the only animal product that has been exported in substantial quantities to the European Union, in 2013 honey exports increased by about 10.37% because our honey is natural and quality and in the period 2014-2016 honey exports dropped steadily by about 12.12% in 2014, with about 2.28% in 2015 and about 4.53% in 2016 due to drought and depopulation of bee families.

With reference to the value of exports and imports, in order to determine average prices, both for export and import, we analyzed the main countries with the most significant contribution to Romania's honey trade.

Table no. 2 The value of honey exports (thousands of dollars)

Export	2011	2012	2013	2014	2015	2016
TOTAL	41230	44593	54572	53919	46020	41492
Germany	21522	21363	29537	26037	20911	14793
Italy	4319	4919	6769	9351	8877	4705
France	1691	2557	4560	5204	3448	3814
Japan	2243	2539	1571	2387	1240	3457
Poland	1950	1639	1904	1546	2281	3004
Spain	1156	2584	1867	1732	2615	2828
Denmark	0	124	0	0	3	1862
United Kingdom	3674	3212	3243	2236	1835	1547
Austria	2143	271	2689	2289	2087	1152
Israel	362	721	551	653	595	948
Belgium	623	0	41	6	682	876
Netherlands	1063	583	646	102	117	735
China	44	185	80	112	486	543

Source: <http://www.trademap.org/>

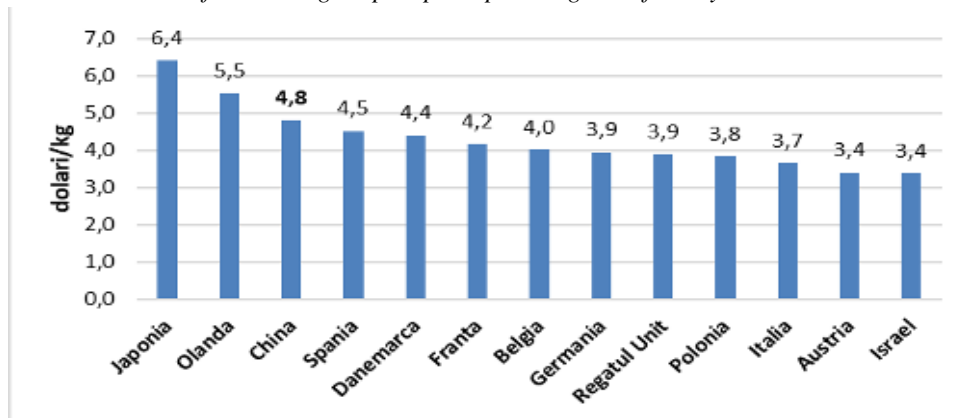
In 2016, the total amount of honey exports in Romania was about 41.5 million dollars. Depending on the value exported to each country, a ranking of 2016 was made.

The first country to import most from Romania's point of view is Germany, its import has fallen over the past 6 years, reaching 20.8 million dollars in 14.8 million dollars. The second place, according to the value of honey imported from Romania, is Italy with 4.7 million dollars in the last analyzed year. This is followed by France, which imported from Romania 3.8 million dollars of honey. Towards the end of the ranking is Belgium (876 thousand dollars), the Netherlands (735 thousand dollars), and in 2016, with a significant increase from the beginning of the analyzed period (more than 12 times), the last place taken the analysis is China, which imported honey from

Romania worth about half a million dollars.

Depending on the value and quantity of honey exported from Romania, it was possible to establish the average export price for each of the above mentioned countries.

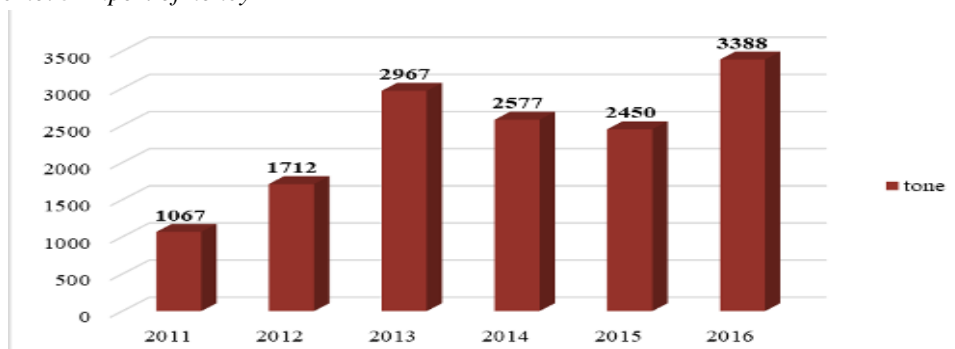
Figure no. 4 Evolution of the average export price per kilogram of honey



Source: <http://www.trademap.org/>

From the analysis of the data presented in Figure 4, Romania obtains the best price on the Japanese market, an average price per kilogram (in 2016) of \$ 6.4. n the second place, according to the price of honey, the Netherlands ranked, it imported in 2016 honey from Romania at the price of \$ 5.5 per kilogram. Surprisingly or not, China is ranked third in terms of honey (high) price, this country buys honey at an average price of \$ 4.8 per kilo, which implies a superior quality of Romanian honey.

Figure no. 5 Import of honey



Source: <http://www.trademap.org/>

In 2011-2013, honey imports have steadily grown, increasing by about 16.04% in 2012 compared to the previous year, in 2013 increased by about 26.7% as it was a capricious period in terms of climate and the massive import of low-quality honey was at prices well below the market average, which disadvantaged the Romanian beekeeper, during the period 2014-2015 honey imports dropped constantly by about 13.15% in 2014 and by about 4.89% in 2015 because the production of honey in our country was higher than in previous years and in 2016 the import of honey increased by about 38.28% because the production of domestic honey decreased this year because of the weather conditions unfavorable to the production.

On the other hand, referring to the value of honey imports in Romania, the situation changes completely and this is presented in the following table:

Table no. 3 Value of honey imports (thousands of dollars)

Import	2011	2012	2013	2014	2015	2016
TOTAL	3656	5144	5546	8302	6183	8992
Poland	297	522	841	2559	2345	2553
Republic of Moldova	0	0	421	1303	697	2354
China	518	1066	648	1125	1114	1072
Ukraine	0	0	0	135	199	366
Spain	119	526	9	647	202	515
Hungary	105	1036	50	8	31	583
United Kingdom	369	18	47	1011	156	386

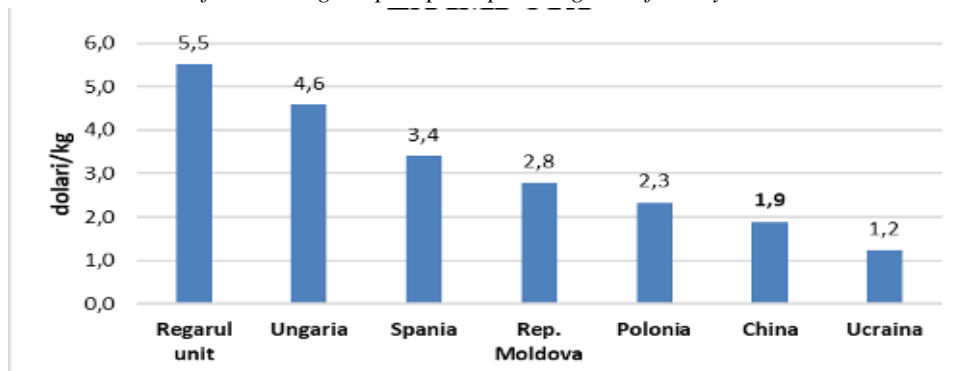
Source: <http://www.trademap.org/>

Romania being a large producer of honey (among the first in Europe), registered an import value less than about 4.5 times the value of exports, but the value of imports increased in the analyzed period, on average by 23.6%.

Poland is a country that exports honey, in terms of value, in Romania, it exported honey worth 2.55 million dollars in 2016, the value increased considerably during the analyzed period. On the second place, the country exporting honey worth 2.35 million dollars is the Republic of Moldova, which is coming to us on the recent market, but in the years 2011 and 2012 it did not export honey to Romania, and the increase was sudden. The third place, with exports of honey brought to Romania, is China with \$ 1.07 million, with a slight decrease compared to 2013 and 2014. Countries that export honey to Romania are: Hungary (\$ 583 thousand), Spain (\$ 515 thousand) and Ukraine (\$ 366 thousand).

Regarding the average import prices, these were calculated by reporting the value of honey imports from Romania to their volume, the price classification with which imported products are imported is shown in Figure 6:

Figure no. 6 Evolution of the average import price per kilogram of honey



Source: <http://www.trademap.org/>

With regard to honey purchased from other countries, it can be seen that the most expensive honey is in the United Kingdom, in 2016, it recorded a price of \$ 5.5 per kilogram. From Hungary it is bought at the price of \$ 4.6 per kilo, being the second price in the ranking, and from Spain is bought at the average price of \$ 3.4 / kg. As you can see, towards the end of the ranking is Ukraine with \$ 1.2 per kilogram and China with \$ 1.9 per kilogram of honey, this price may be a reason why there is public discussion about the honey brought from this area, being of doubtful quality.

5. Forecasting production and consumption

Using the average dynamic index method (Vatui, 2009, p. 247), the value of production and consumption will be calculated for the following years, respectively 2017-2019. This method of estimating the trend has the following formula:

Average Dynamic Index:

$$\bar{I} = \sqrt[n-1]{\frac{y_n}{y_1}}$$

Adjustment formula:

$$\hat{y}_t = y_1 \cdot \bar{I}^{t-1}, \quad t = \overline{1, n}$$

Where, I = the average dynamic index; n = time period (number of years); yn = current year value; y1 = base year value; yt = predicted value.

By applying the above-mentioned formulas have been predictions for the next period of the honey production and its use.

Regarding production, the average dynamics index was set at 0.974484.

$$\bar{I}_q = \sqrt[5]{\frac{21202}{24127}} = 0,974484$$

In terms of consumption, the average dynamic index was set at 1,061.

$$\bar{I}_c = \sqrt[5]{\frac{78}{58}} = 1,061$$

Table no. 4 Forecasts on honey production and consumption

Years	2011	2012	2013	2014	2015	2016	2017	2018	2019
Production (t)	24127	23062	26678	18040	27893	21202	20661,01	20133,83	19620,09
Consumption (kg/an/loc)	58	61	61	61	72	78	82,76	87,81	93,16

Source: Own calculations

As can be seen from the calculation of the two indices of dynamics, the one related to the production is subunit, thus the estimated production tends to decrease, from 21.2 thousand tons in the year 2016 to 19.6 thousand tons, this being production estimated in 2019. With regard to the consumption index, it is overtaking, so consumption will continue to increase from 78 kilograms per year per capita registered in 2016 to over 90 kilograms estimated in 2019.

6. Conclusions

Although the bee population has increased year on year except for 2014, honey production has not followed the same trend, oscillating from year to year in a downward trend due to honey production hazards, and Consumption has steadily increased, but it is low compared to other countries.

Romanian honey is one of the most exported products, obtaining the best price on the market in Japan in 2016, and the highest import took place in the same year because domestic honey production has decreased due to drought and depopulation of bee families , the highest import price being in the United Kingdom, which is \$ 5.5 per kilogram.

With the help of the average dynamics index, it was possible to predict the level of production and consumption for the next period, the production will show a decreasing trend, and consumption will increase.

7. References

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