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Why Polish apples are present on the Romanian markets?

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WHY POLISH APPLES ARE PRESENT ON THE ROMANIAN MARKETS?

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Abstract: *With millions of tons harvested annually, the apple is the third fruit consumed in the world, after oranges and bananas. In 1989, Romania had 79,000 ha of apple trees, but in 2017 the situation was different, with about 55,000 ha planted, occupying the second place in the EU after Poland, the leader of the apple cultivated area and production. The speed of rejuvenation of plantations is low in Romania. Of the total area cultivated with apple trees, 70% of plantations are old, and it is obviously that production is both quantitative and qualitative low. The present study aims to analyze the apple market at the European Union level and, implicitly, at the level of Romania. To achieve this, the 2013-2017 period was taken as the basis of study and indicators such as total production, cultivated area and average yield per hectare were taken into account. Thus, at the level of the European Union, Poland is the undisputed leader in apple production, together with Italy and France, providing about 60% of the total production recorded in the 28 countries. At the same time, the analysis also focuses on price developments in the first five apple-producing countries, and the lowest price is recorded in Poland in 2013 of only 20 cents / kg, which explains to a certain extent the presence on the Romanian market of Polish apples.*

Keywords: *apples, apple production, producers, cultivated areas*

JEL Classification: *Q13, Q17*

INTRODUCTION

Over the last 20 years, the Common Agricultural Policy, has reduced the regulation of agricultural markets, allowing market forces to guide the production [7].

Romania has a long tradition of growing fruit trees, which also have an important role in agriculture. Apples and plums are by far the first place in terms of surface and production [5].

It is important to know that 37.5% of apple-producing countries belong to Europe. The main producers in the European Union are: Poland, France, Italy, Germany, Spain, Hungary, Romania.

With regard to Romania, the main favorable factors that lead to a remarkable production of apples are given by the favorable climate, the quality of the soils, the qualities of apple, the apple tree experts and, last but not least, the cultivation tradition. From this point of view, we need to keep in mind that global warming creates great worries among specialists and population, regarding the climate future of the planet [3].

At the same time, the high nutritional value of fruits, especially apples, and the long period of time that they can cover, cause high consumption among the population [2].

According to the data of the European Institute of Statistics, Romania had an area cultivated with 55.5 thousand hectares (almost 10% of the total area cultivated in the EU) in 2016, being the second EU cultivator after Poland, which, had a triple surface.

In production, however, the situation is almost dramatic: while Poland obtained 3.6 million tons in 2016, about a quarter of total EU28 production, Romania achieved almost half a million, standing at the seven in the top.

Worldwide, according to the FAO, Asian countries are the largest apple growers (42.42% of total production), followed by Europe with 22.89% of world production, and North America by 9.42% .

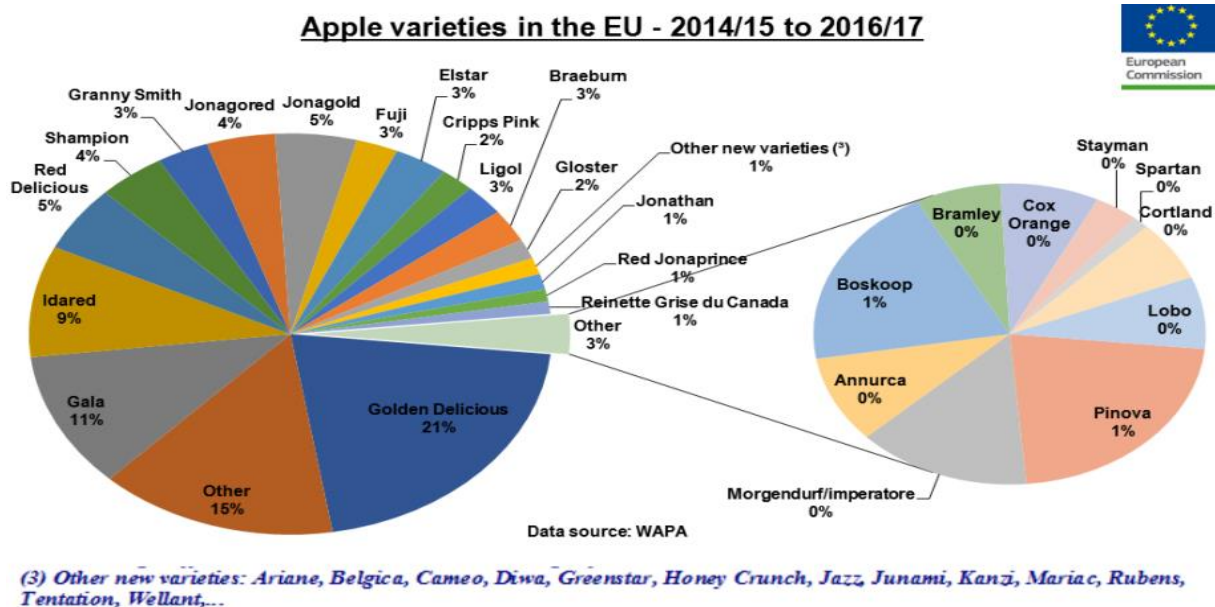
Apples are ranked first in the fruit, with a production of 12.5 million tons harvested in 2016, equivalent to almost 25 kilograms per capita in the EU. Poland again ranked first, accounting

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for 28.7% of total production, followed by Italy with 19.6% and France with 14.5% of total production [16].

European Union countries are constantly producing over 14 million tons of apples. Outside the EU, significant areas are grown in Moldova, Ukraine, Russia and Turkey. As for the main varieties of apple cultivated in Europe, the most popular is Golden Delicious with a grown in a proportion of 21%, followed by the Gala variety grown at 11%, Idared 9%, Red Delicious 5% and Jonagold 5%

Figura 1. Apples varieties harvested in Europe between 2014-2017










Sursa: European Comission, (2018) [12].

Regarding Romania, there are around 60 varieties of apples, comprising both varieties created within the research units in the country as well as varieties imported from abroad which have been tested and proved to be adapted to pedoclimatic conditions, and depending on the baking and preserving season, they may be summer, winter or autumn. Among the Romanian apple varieties, we distinguish the old, traditional varieties and the newly created varieties obtained from the hybridizations.

Figure 2. The main apple varieties harvested in Romania



Sursa: ***http://www.gradinamea.ro/Marul_3295_548_1.html

-  **Jonathan** is an winter variety originary from United States, with red and juicy pulp, appreciated for flavor, sweetness, but slightly acidic taste.
-  **Idared** is also an American winter variety very productive, with large yellowish-green fruits, which keep their fresh state for a long time.
-  **Generos** is a Romanian variety of winter, with large and aromatic fruits, yellowish-green, with a reddish tinge.
-  **Florina** is a Romanian autumn-winter variety, productive, with large fruits, appreciated for the its purple color and its pleasent taste.
-  **Romus 3** is a summer autochthonous variety with red fruits and sweet and juicy pulp. It produces abundant fruit from one year to another.
-  **Granny Smith** is an Austrian variety, large-fruited, with a very intense green colour, andfirm, succulent and acidified pulp.
-  **Golden Delicious** is a winter variety originary from the Unites States,medium sidez, yellowish-green fruit, with white, juicy, slightly sweet and slightly acidized pulp [8].

MATERIAL AND METHOD

Documentation, analysis and data processing are the main research methods used. These methods are based on synthesis, analogy and comparative analysis. Once the information has been identified, known and interpreted, the next step was the detailed documentation of the field of interest.

The data used in this study were provided by Faostat, the European Institute of Statistics, the Ministry of Agriculture and Rural Development, and the National Institute of Statistics of Romania.

Documentation and study, as part of the analysis activity, are key research methods, enabling analysis to identify the first knowledge and information. Documentation also involves analyzing legislation, but also comparing the different sources studied.

RESULTS AND DISCUSSIONS

The apple culture is so widespread, on the one hand, because of the food value and therapeutic value of the fruit, and on the other hand, for the high economic value. Apples have special biological features, being among the few fruits that keep their freshness for a long time and can be transported over long distances and consumed at any time of the year.

The undeniable leader in apple production is Poland, along with Italy and France, providing about 60% of total production, a fairly high percentage compared to the other 25 states in the European Union.

Although Romania ranks second after Poland, in terms of the cultivated area, when it comes to production, our country is not so good, holding only 349,000 tons of apples in 2017 compared to 2870,000 tons owned by Poland. It should be noted that at the European level the production of apples fell during the period 2013-2017, the lowest being recorded in Romania, where the decrease was about 32% and in Poland about 10%.

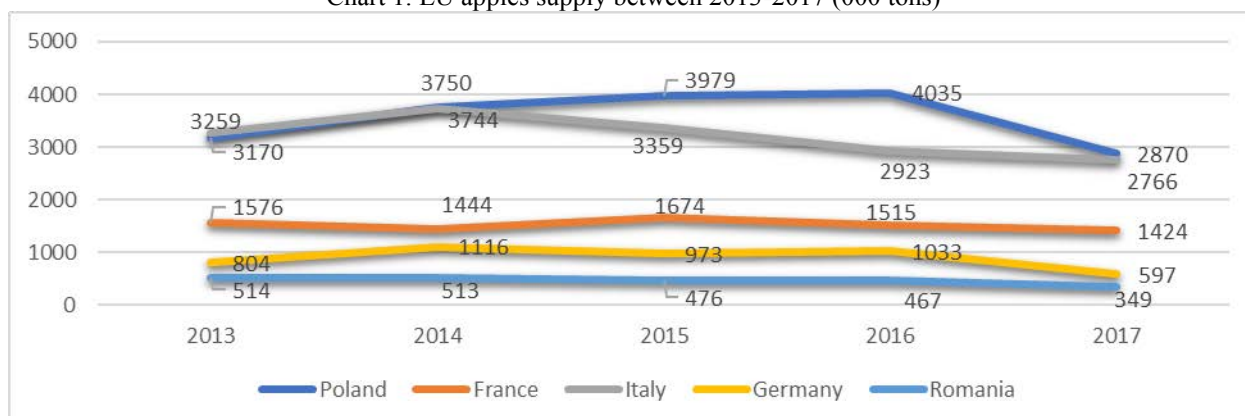
Table 1. EU28 apples supply between 2013-2017

| Country | 2013 | 2014 | 2015 | 2016 | 2017 | 2017/2013 |
|--------------------------|-------|-------|-------|-------|------|-----------|
| Other EU28 states | 10748 | 11548 | 11461 | 11274 | 9013 | 83.86% |
| Poland | 3170 | 3750 | 3979 | 4035 | 2870 | 90.54% |
| France | 1576 | 1444 | 1674 | 1515 | 1424 | 90.36% |
| Italy | 3259 | 3744 | 3359 | 2923 | 2766 | 84.87% |

| | | | | | | |
|----------------|-----|------|-----|------|-----|--------|
| Germany | 804 | 1116 | 973 | 1033 | 597 | 74.25% |
| Romania | 514 | 513 | 476 | 467 | 349 | 67.90% |

Source: Processed data provided by Eurostat (2018).

Chart 1. EU apples supply between 2013-2017 (000 tons)



Source: Projection according to data provided by Eurostat, (2018).

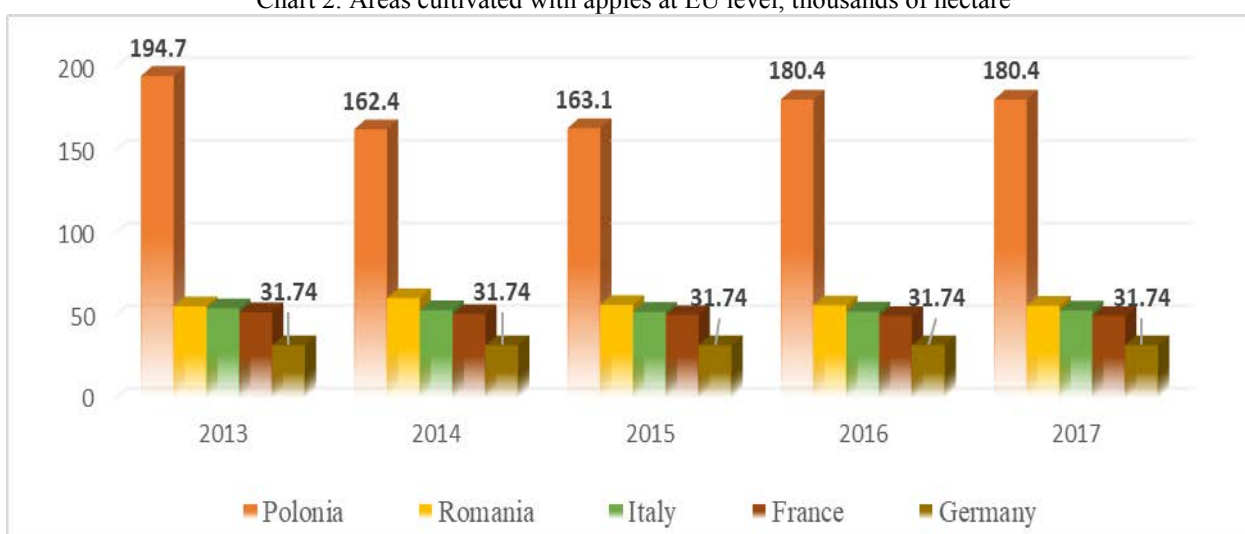
At EU28 level, Poland, Romania, Italy, France and Germany are the first countries with the largest area cultivated by apple trees. The country with the largest cultivated area is Poland, with 180.4 thousand hectares, followed by Romania with an area of 55.68 thousand hectares, Italy with 52.78 thousand hectares, France with 49.62 thousand hectares, the last of the five being Germany, with 31.74 thousand hectares cultivated. Between 2013 and 2017, Romania and Germany maintained their grown-up areas, unlike Poland, which recorded the largest decline of 7%. For Italy and France, the decrease was 2.5% and respectively 4%.

Table 2. Areas cultivated with apples at EU level28 between 2013-2017, thousands of hectares

| | Country | 2013 | 2014 | 2015 | 2016 | 2017 | 2017/2013 |
|----------|----------------|-------------|-------------|-------------|-------------|-------------|------------------|
| 1 | Polonia | 194.7 | 162.4 | 163.1 | 180.4 | 180.4 | 92.66% |
| 2 | Romania | 55.37 | 60.28 | 56.13 | 55.88 | 55.68 | 100.56% |
| 3 | Italy | 54.13 | 53.01 | 52 | 52.16 | 52.78 | 97.51% |
| 4 | France | 51.79 | 50.68 | 50.17 | 49.65 | 49.62 | 95.81% |
| 5 | Germany | 31.74 | 31.74 | 31.74 | 31.74 | 31.74 | 100 |

Source: Processed data provided by Eurostat (2018)

Chart 2. Areas cultivated with apples at EU level, thousands of hectare



Source: Projection according to data provided by Eurostat, (2018).

Regarding the ratio between the production and the cultivated area, it is noted that in 2017 Italy ranks the top, producing 52.41 tons of apples per cultivated hectare, followed by France with 28.70 tons/ha and Germany with a production of 18.81 tons/ha.

In 2013, the average yield per hectare was much higher in all five countries analyzed, Italy had a production of 60 tons, France of 30 and Germany of 25 tons. At the same time, Romania, the country with the second crop cultivated with apples, produced in 2013 an average of 9.3 tons per hectare, and in 2017 it only produces 6.3 tons. The reason for this discrepancy is due to the fact that 70% of the plantations are old, thus automatically producing a low production (Table 3).

Table 3. Evolution of average apple production per hectare in the EU28

| Country | 2013 | 2014 | 2015 | 2016 | 2017 | 2017/2013 |
|---------|-------|-------|-------|-------|-------|-----------|
| Italy | 60.21 | 70.63 | 64.60 | 56.04 | 52.41 | 87.04% |
| France | 30.43 | 28.49 | 33.37 | 30.51 | 28.70 | 94.31% |
| Germany | 25.33 | 35.16 | 30.66 | 32.55 | 18.81 | 74.25% |
| Polonia | 16.28 | 23.09 | 24.40 | 22.37 | 15.91 | 97.71% |
| Romania | 9.28 | 8.51 | 8.48 | 8.36 | 6.27 | 67.52% |

Source: Processed data provided by Eurostat (2018).

In Romania, apple culture is specific to hilly areas, where there are many fruit trees. Among the counties recognized for the cultivation of the apple are Argeş, Dâmboviţa, Valcea, Prahova, Buzău, Suceava, Iaşi, Maramureş, Bistriţa, Sălaj and Mureş.

Of the total area of Romanian orchards, one-third is occupied by apple orchards, thus ranked second, after the plum orchards.

Both of the world varieties and Romanian varieties are grown, divided into three groups: summer, autumn and winter varieties.

Among the varieties grown on the territory of Romania, we find the varieties of Romus, Generos, Delia, Cardinal, Idared, Jonathan, Golden Delicious, Florina, Starkrimson, Pionier, Foyos de Voineşti, Jonagold, Fuji [9].

EU production is estimated at the lowest level in 2007, down 20% to 10.0 million tons. At the level of Romania, apple production has declined in the last decade due to the reduction of the area covered with apple orchards and the number of trees grown [1].

For this reason, the production of apples is not enough to cover the needs of consumers, which justifies the import of apples [4].

July high temperatures, severe freezing in April 2017, and the flowering of trees in early March have significantly affected production throughout the European Union, especially the top producers in Poland and Italy.

Reduced consumption is expected to cause significant trade shifts as exports will drop by 45% to 820 million tons and imports are expected to fall by nearly 20% to 500,000 tons [11].

If we analyze prices, the changes from year to year, depending on the country's production, depending on imports and exports, and last but not least, depending on the salaries in each country.

Table 4. Apple prices €/100kg on September 2013 versus September 2017

| | |
|---------|---|
| EU | <ul style="list-style-type: none"> • 2013 -> 66 euro/100kg • 2017 -> 55 euro/100kg |
| Germany | <ul style="list-style-type: none"> • 2013 -> 47 euro/100kg • 2017 -> 45 euro/100kg |
| France | <ul style="list-style-type: none"> • 2013 -> 103 euro/100kg • 2017 -> 74 euro/100kg |
| Italy | <ul style="list-style-type: none"> • 2013 -> 81 euro/100kg • 2017 -> 65 euro/100kg |
| Poland | <ul style="list-style-type: none"> • 2013 -> 20 euro/100kg • 2017 -> 39 euro/100kg |
| Romania | <ul style="list-style-type: none"> • 2013 -> 52 euro/100kg • 2017 -> 40 euro/100kg |

Source: European Comission, (2018). [13]

Thus, we note that Germany is the only country that has not recorded a notable price difference over the two years as a basis for analysis.

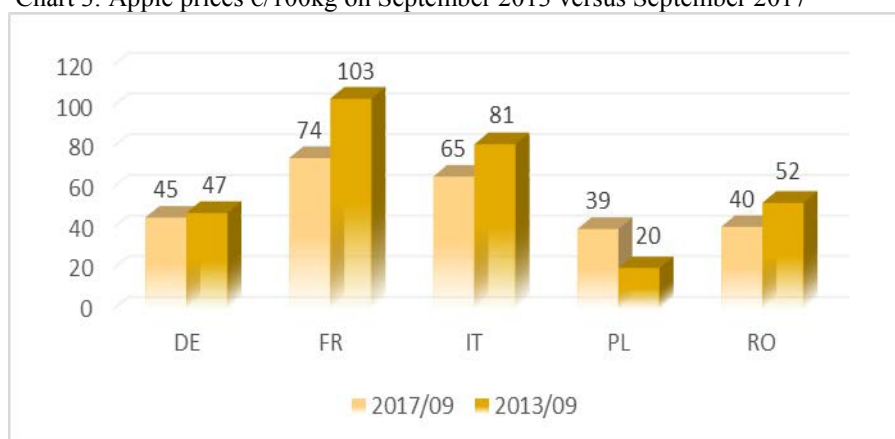
The highest discrepancies are recorded in France where, from 103 euro/100 kg in 2013, a price of 74 euro/100 kg is reached, but also Poland, which in the period 2013-2017 has doubled the apples sales price from 20 cents/kg to 40 cents, and Poland is the country with the lowest values.

During this period, Romania recorded price declines, from 52 cents/kg in 2013 to 40 cents/kg in 2017.

However, the price discrepancies recorded by the two countries, especially in 2013, when a pound of apples in Poland was 32 cents cheaper than in Romania, explains why apples were being imported in very large quantities from Poland to Romania.

At the same time, at the level of 2016, Romania made massive imports from: Italy (EUR 8.5 million), Germany (EUR 3.3 million), Hungary (EUR 1.6 million) and Austria (EUR 1.5 million) [6].

Chart 3. Apple prices €/100kg on September 2013 versus September 2017



Source: Projection according to data provided by European Comission (2018).

CONCLUSION

In the period 2013-2017, apple production in the European Union was down. Also, cultivated area has declined in most EU countries.

At the European level, Poland is a leader and, together with France and Italy, represents somewhere at 60% of EU-produced production²⁸.

In terms of average yield per hectare, Italy is the undisputed leader with a production of about 53 tons/ha. Poland, the big producer has an average production of 16 tons/ha while Romania has the lowest production of only 6 tons per hectare.

The evolution of the price per kilogram of apples was mainly descending, in most European countries the price declining in 4 of the five countries: Germany, France, Italy and Romania.

At the level of Poland, the price was rising and in 2013-2017 it doubled from 20 cents/kg in 2013 to around 40 cents/kg in 2017, while in 2013 the price/kg in Romania was 52 cents, a strong argument that can support the presence on the Romanian market of apples imported mainly from Poland.

REFERENCES

1. Bâltoc, O., (2015). Cele mai dulci soiuri de mere care se cultivă în România, http://adevarul.ro/life-style/stil-de-viata/cele-mai-dulci-soiuri-mere-cultiva-romania-1_5548b45bcfbe376e35ded948/index.html;
2. Burcea M., Gidea M., (2017). Researches on qualitative and quantitative analysis, on duration of storage in various varieties of apples;
3. Mocuța D. N., (2017), Influence of the climate changes on the human life quality in rural areas, *Revista de Chimie*, Vol. 68, No. 6;
4. Niculae, I., Costaichie, G.M., (2016), Study on the influence of import and export of fruit in Romania on economic indicators;
5. Popescu A. (2017). Concentration of apple production in Romania in the period 2007-2016.
6. Soare E., Chiurciu I.A., (2018). Trends in the production and marketing of apples in Romania;
7. Tudor V., (2018), Analysis of the valuation activity on vegetables and fruits chains for their improvement, 33rd International Scientific Conference on Economic and Social Development – Managerial Issues in Modern Business- Warsaw, 26-27 September;
8. ***Cele mai bune sortimente de mere cultivate în România, (2018) <http://fermierulargesean.ro/cele-mai-bune-soiuri-de-mere-cultivate-in-romania/>;
9. ***Cultura mărului:cum se înființează și se menține o livadă sănătoasă, (2018). https://m.agro.basf.ro/agroportal/mro/ro/mnews/mps_news_agro_field/cultura-marului-reguli-infiintare-mentinere-livada-sanatoasa-352960.html;
10. ***European Comission, (2018). https://ec.europa.eu/agriculture/markets-and-prices/price-monitoring/monthly-prices_en;
11. ***Fresh Apples, Grapes, and Pears: World Markets and Trade, United States Department of Agriculture (2018). <https://apps.fas.usda.gov/psdonline/circulars/fruit.pdf>;
12. ***Apple varieties, (2018). https://ec.europa.eu/agriculture/sites/agriculture/files/dashboards/apple-dashboard_en.pdf;
13. ***European Comission, (2018). https://ec.europa.eu/commission/index_ro;
14. ***Eurostat (2018), <https://ec.europa.eu/eurostat>;
15. ***Photo provided by http://www.gradinamea.ro/Marul_3295_548_1.html;
16. ***Spania, Italia și Polonia-principali producători de fructe și legumedin UE, (2017), <https://www1.agerpres.ro/economie/2017/07/28/spania-italia-si-polonia-principalii-producatori-de-fructe-si-legume-din-ue-13-13-26>.