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Researches regarding the consumption of grapes and wine in Romania

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RESEARCHES REGARDING THE CONSUMPTION OF GRAPES AND WINE IN ROMANIA

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Abstract: *Viticulture in Romania is a traditional activity, harmoniously developed as a result of the extremely favourable natural conditions that grapevine encounters throughout the country. Viticulture has always taken an important spot in the agricultural economy on a national level as well as worldwide, being appreciated from several points of view like: social (nutrition sources: grapes, wine, traditional products that come from them) and economic (viticulture products capitalization, internal commerce, international commerce). Education, viticulture tourism and socio-economic development in the last years have left their mark upon the consumption of grapes and grapes products by Romanian consumers. The consumption and choosing of products has become a more and more documented activity for Romanians. The purpose of this study is to follow the evolution of grapes and wine consumption in Romania with the help of statistic indicators. By analyzing future perspectives regarding consumption on a national level it is expected that by 2025 the average annual grapes consumption will surpass 23 kg/inhabitant, if it maintains the same tendency from the analyzed period. In order to develop this sector, a series of financial aids and support measures have been extended in order for the farmers to benefit from.*

Key words: *grapes, wine, wine products, consumption*

JEL ranking: Q 10, Q 11, Q18

INTRODUCTION

Viticulture represents an agricultural activity that is usually more profitable on the surface than annual crops. The red and white grapes varieties are being cultivated for raw consumption and for wine, juice and raisins production.

The productivity and the quality of the grapes rests on soil fertility and the nutritional status of the plants. Grapes are placed among the main fruits that are consumed globally, with a production of approximately 75 mil. tons every year, from which 50% are used to produce wine. (Bărbulescu O., 2017)

Romania places among the main viticulture countries in the world. It's ranked 11th globally and 5th in the EU when it comes to surface. (Mereanu D., 2010).

In the Romanian agriculture the grapevine and wine sector represents an important percent through its contribution to the country's economy. (Bucur GM, 2014).

The factors that contribute to the viticulture development are the favourable conditions that the grapevine finds on the country's territory as well as the climate and the soil. (Soare I., 2010).

The viticulture plantations are grouped territorially by viticulture regions, viticulture areas, viticulture centres, vineyards and viticulture fields according to the Vineyard and Wine Law nr. 2004/2002.

Romania's viticulture regions are: Muntenia Hills, Banat Hills, Oltenia Hills, Moldova Hills, Transilvania Plateau, Crișana and Maramureș Hills, Dobrogea Ledge.

Being a sector of interest, there have been made many studies in this domain. The researchers and farmers are motivated to reproduce new varieties that are being used in viticulture so that they can stand disasters that viticulture is faced with: epidemics, global warming but also the changes in

the consumer's demands. Bărbulescu O., 2017, has highlighted the fact that promoting the national viticulture sector on the outer market is essential for its development, especially by using inland grapevine varieties (Turek Rahoveanu A., 2010). It can be taken advantage of this fact through the tourism potential of specific areas, Romania having a series of wineries with diversified ranges of wines. (Macici, 1996)

MATERIAL AND METHOD

The current study makes an analysis of the average grapes and wine consumption per inhabitant. Within, one can also find a series of forecasts for this sector at a national level by presenting its evolutions and tendencies.

The data that is being used in the study are being processed with the help of different statistic indicators: arithmetic mean, standard deviation, variation coefficient and annual rate, those being determined with the help from the following formulas:

- arithmetic mean: $\bar{X} = \frac{\sum_{i=1}^n x_i}{n}$, where x_i - observed values; n- observed values number

- standard deviation: $S = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{N-1}}$, where x_i - observed values; N- observed values number, \bar{x} – observed values average

-variation coefficient: $CV = \frac{S}{\bar{X}}$, where S – standard deviation, \bar{X} - arithmetic mean

- average annual rate: $R = [\text{radical of the order } n-1 \text{ from } (x_n / x_0)] - 1 * 100$, where x_n, x_0 – current year-past year value.

Using the *FORECAST* function, made possible to present predictions of human consumption of grapes, wine and wine products at a national level.

The *FORECAST* predictions a value based on existing values along a linear tendency. *FORECAST* calculates predictions of future value using linear regression and can be used to predict numeric values like sales, inventory, expenses, measurements etc.

In statistics, linear regression is an approach in order to shape the relation between a dependent variable (y value) and an independent variable (x value).

FORECAST uses this approach to calculate the value y for a certain value x based on existing x and y values. In other words, for a given x value, *FORECAST* returns an estimated value based on the linear regression relation between x values and y values.

RESULTS AND DISCUSSIONS

Globally, grapes and grapes products are very appreciated by consumers. Production growth and grapes sale implicitly globally has been supported by the increased demand generated by changes in consumer behaviour as well as the improvement in viticulture technologies, but also regarding the transport and storage of grapes. (Soare E., 2019).

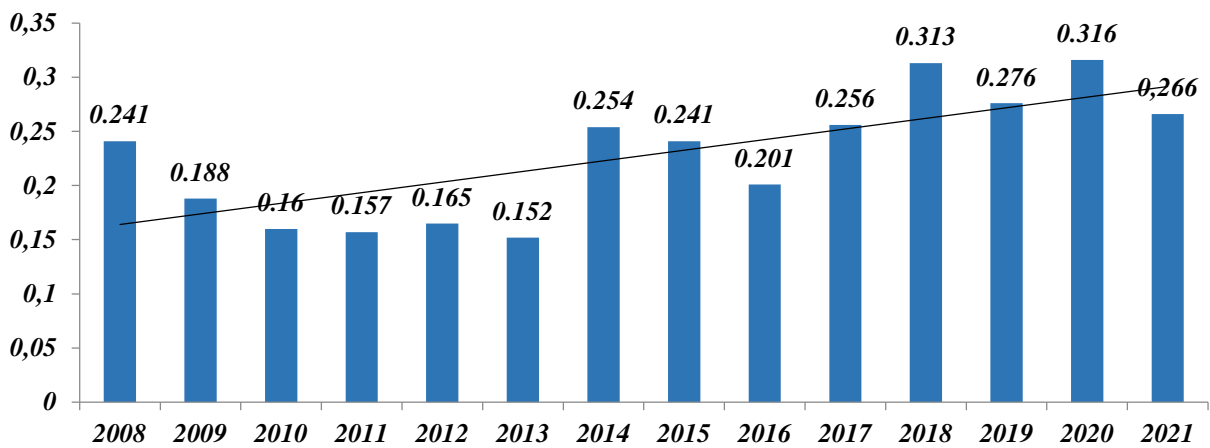


Figure nr.1. The quantity of grapes purchased by a household – monthly average per individual between 2008-2021 (kg)

In the analyzed period of time, it has been registered an increase of the average quantity of grapes purchased by a household by 10%, from 0.241 kg in 2007 to 0.266 kg in 2020. (Figure nr. 1.)

Table nr. 1. Annual average consumption per inhabitant for the main grape products and drinks between 2008-2020

Main alimentary products and drinks	2008	2010	2012	2014	2016	2018	2020	Media	Standard deviation	Variation coefficient (%)	Annual growth rate (%)
Grapes - kg	7.6	5.4	6.3	6.2	6.9	8.5	7.9	6.88	0.91	13.28	2.82
Wine and wine products - litres	25.8	22.2	21.1	22.6	18	23.8	21.1	22.17	2.09	9.43	-1.02

Source: processed data from INSSE

After analyzing the statistic indicators calculated for the quantity of grapes purchased by a household, it was noted a high value of the variation coefficient (13.28%) which indicates a large variation of the series of data and a positive annual growth rate (2.82%), which suggests an increase of the purchased quantity during the analyzed period. (Table nr.1)

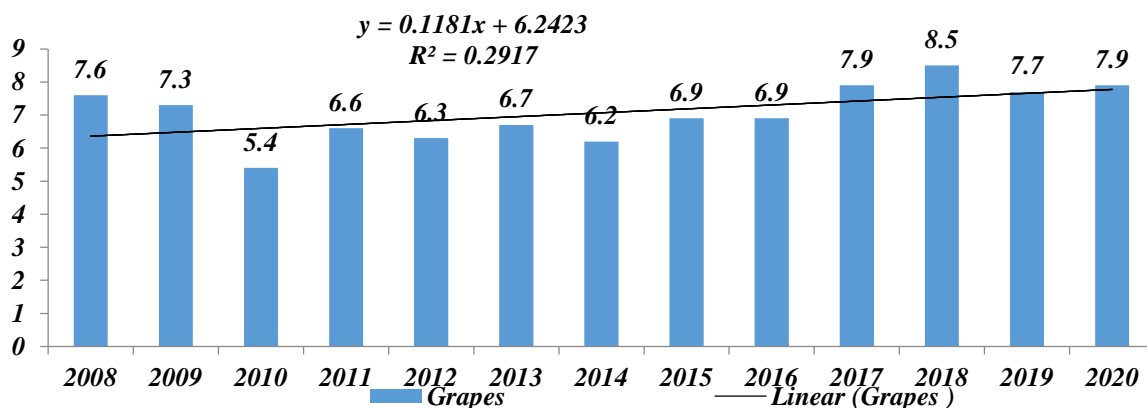


Figure nr.2. Evolution of the average annual grapes consumption per inhabitant between 2008-2020

During the analyzed period, the average annual grapes consumption registered an average of 6.88 kg, oscillating between 5.4 kg in 2010 and 8.5 kg in 2018, the evolution tendency being an ascending one. From calculating linear regression it results that, the value of average consumption of grapes has increased with an average of approx. 0.118 kg per year.

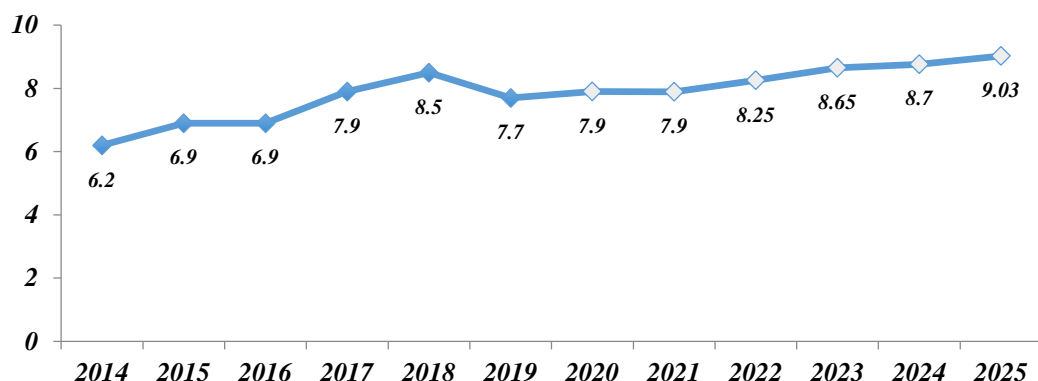


Figure nr. 3. Tendency for annual average consumption of grapes per inhabitant (kg/inhabitant)

According to estimations made using the forecast function, it's expected that by 2025 the annual average grapes consumption to surpass 9 kg/inhabitant, if the analyzed tendency stays the same. Between 2008-2020, annual average grapes consumption per inhabitant showed a positive evolution tendency highlighting an increase by 0.4% in 2020 (7.9 kg/inhabitant) compared to 2008 (7.6 kg/inhabitant).

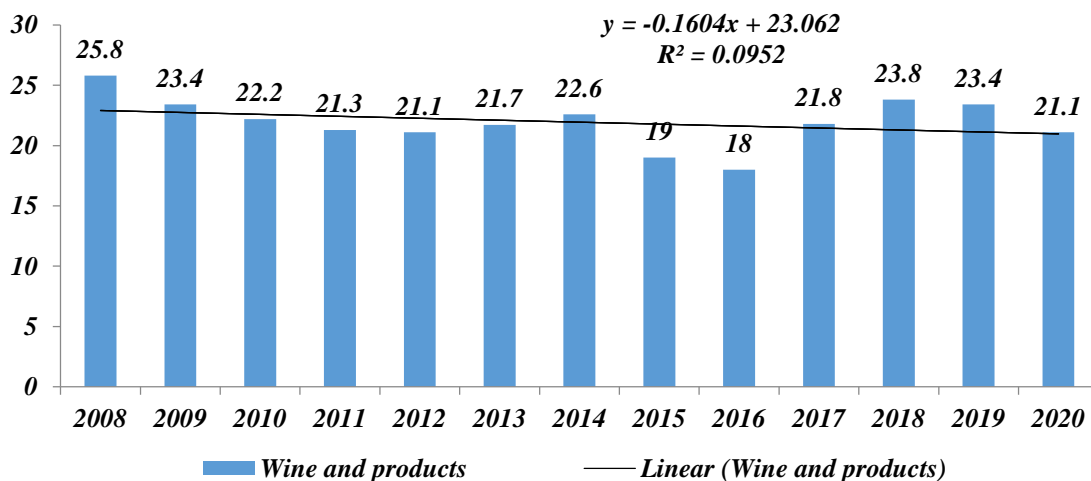


Figure nr. 4. Evolution of annual average consumption of wine and wine products per inhabitant between 2008-2020

Regarding the average consumption of wine and wine products, one can see a negative evolution tendency, during the analyzed period it has been registered a decrease of 4.7 litres in 2020 compared to 2008. (Table 1)

The tendency for wine and wine products average consumption is relatively constant, according to estimations it will reach in 2025 the value of 23.50 litre/inhabitant.

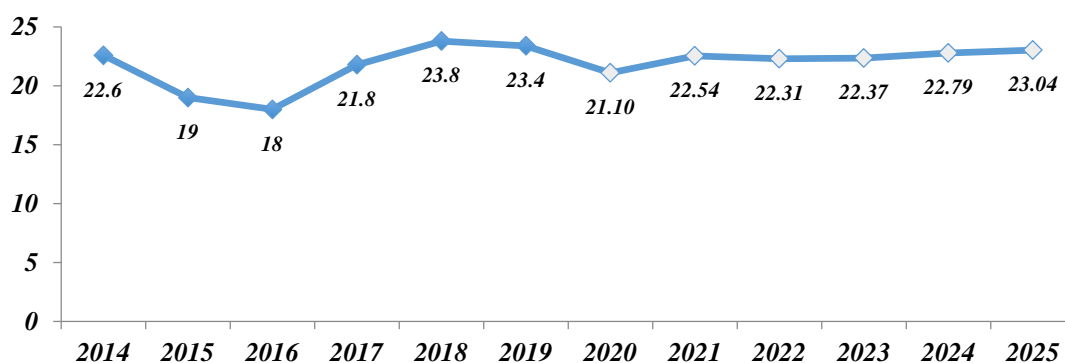


Figure nr. 5. Tendency of annual average consumption of wine and wine products per inhabitant (litres/inhabitant)

According to a study conducted by Revino.ro and CrameRomânia.ro in the first part of 2020 it was noticed that Romanians insist upon producing wineries and grapes varieties as well as on the colour of the wine (red, white or rose) and on the moment of consuming when deciding to consume wine. As per the same study it was noted the Romanian consumers preference for varieties: Black Maiden, Cabernet Sauvignon, Merlot and Sauvignon Blanc. The Black Maiden is topping the preferences, because it's one of the most known and appreciated inland varieties, having great potential internationally. (www.oiv.2019).

CONCLUSIONS

The increase of the annual average consumption of grapes per inhabitant was due to many factors like: the increase of population income and awareness of the fact that, grape consumption has a direct contribution on the health of the body due to its nourishing properties.

In Romania, a country in which the consumption of quality wine increases yearly, the number of new wineries that open yearly is growing with 3-5 units. And consumers are shaping better and better their preferences and tend to have well informed choices.

The forecasts made based on statistic data have shown a long term increase tendency of consumption of grapes, wine and wine products so that we can say that the viticulture sector is one for the future. In order for Romania to keep its place among the big grapes/wine producers, consistent investments are required in the viticulture sector.

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