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STUDIUL DINAMICII SUPRAFEȚELOR, PRODUCȚIILOR ȘI CONSUMULUI DE FRUCTE LA CULTURA MĂRULUI ÎN PERIOADA 2018-2022

STUDY OF THE DYNAMICS OF AREAS, PRODUCTIONS AND CONSUMPTION OF APPLE CULTIVATION IN THE PERIOD 2018-2022

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Abstract

Apple is one of the oldest and most widespread fruit crops in the world, valued for its delicious taste, and its nutritional value has been integrated into the diet of many people around the world. This study aims to analyze the evolution of cultivated areas, productions obtained and apple consumption, the data will be analyzed for the period 2018-2022, in order to determine the dynamics of these indicators. In order to achieve this objective, statistical data were used on the evolution of apple cultivated areas in different development regions, the dynamics of apple production, with emphasis on the fluctuations from year to year and on the differences between regions, but also the analysis of domestic consumption and export of apples, in the context of supply and demand on the local market. The results of this study provide a detailed insight into the performance of apple cultivation.

Cuvinte cheie: *cultura mărului, evoluție, cerere și ofertă*
Key words: *apple culture, evolution, supply and demand*

1. Introduction

Apple culture is one of the most widespread and important fruit crops around the world, playing a significant role in the food industry and the global economy. This crop covers a wide range of agricultural areas, from small family orchards to huge commercial plantations. Apple yields are influenced by numerous factors, including climatic conditions, crop management, and the agricultural technologies used. As for production, it can vary considerably depending on the apple species grown, the geographical region and specific farming practices. An adult apple tree can produce an average of 100 to 300 pounds of fruit in a year, depending on numerous factors. However, this number can fluctuate significantly and can be affected by factors such as weather conditions, disease, and proper orchard management.

The total number of trees in an apple orchard can also vary considerably, depending on the size and type of orchard. A small family orchard may have only a few dozen trees, while a commercial plantation may have hundreds of thousands or even millions of trees.

The consumption of apples is one of the highest among fruits, due to their versatility in the kitchen and their nutritional benefits. Consumers appreciate apples both for their flavorful taste and for their valuable intake of vitamins and antioxidants.

In conclusion, apple cultivation is a vital agricultural sector, with a significant importance in the global diet and in the world economy. Proper management of this crop is essential to ensure consistent and quality productions, meeting consumer demands and contributing to the prosperity of the agricultural industry.

2. Material and methods

The purpose of this study is to research apple cultivation, in the 2018-2022 analysis period and the economic efficiency of this crop in agricultural enterprises in Romania, by development regions through different methods, processes and techniques. In order to achieve the goal, the comparative method, the method of quantitative and qualitative analysis of data and used in the specialized literature were used.

Visualization of the results was done with high-quality imaging system Uvitec Cambridge Essential and UVITec14D analysis software.

3. Results and discussions

By conducting a brief analysis of the apple crop, the cultivated areas, total production, consumption were identified and evaluated. This crop analysis was carried out for the period 2018-2022, referring to the areas cultivated with apple in the previously specified period and the total productions, thus, they are summarized in figure 1.

In terms of the areas cultivated with apple trees and the number of trees per hectare varies considerably depending on the region of development, the agricultural techniques used and the economic objectives of the farmers. In the figure above, the highest value was recorded in the South-West Oltenia region (2,328,867 trees), and the lowest value was recorded in the Bucharest-Ilfov region (62,273 trees).

From the perspective of the dynamics of the number of apples, in the development regions, analyzing the current year at the base year, the highest value recorded is found in the North-East region 112.5%, followed by the South-West Oltenia and North-West region with values between 108.0% and 110.8%, and the lowest value in the dynamics of the number of trees is found in the South Muntenia region with a value of 97.2% (Table 2).

From figure 3, we note that the lowest yield was recorded in the Bucharest-Ilfov region with only 7.2 kg of apples, due to the fact that in this region the consumption of apples is very low, followed by the North-West, West and South-East Region, here the yield of apple production is between 19.2 kg and 19.6 kg, and the highest yield was recorded in the South Muntenia Region with 38 kg of apples.

In the 2018-2022 analysis period, the year with the lowest consumption of apples was in 2020, with a value of 29.1 kg, followed by 2018, where there were 31.7 kg of apples, and the highest consumption was recorded in 2019 with 34.5 kg of apples, it can be said that, people are not encouraged and do not know well enough the benefits of this fruit, for a higher consumption.

The import and export of apples from Romania reflects both the challenges and the opportunities of the national agricultural market. Romania has a significant potential in apple production, due to favorable climatic conditions and fertile soils, but the sector faces various problems that affect competitiveness on the international market. The import and export of apples are essential for balancing the Romanian market, but in order to maximize the benefits, a concerted effort is needed from the authorities, producers and other actors in the agricultural sector.

The trade balance for the product category – apple shows a deficit trade balance. At the level of the analyzed period (2018-2022), the trade balance deficit increased, reaching -71243 thousand euros in 2022, from -70704 thousand euro in 2018, highlighting an increase of 539 thousand euros, as can be seen in the figure above. Also, inadequate management of pests and diseases can lead to significant losses in production, but the lack of knowledge and modern cultivation technologies further aggravates these problems, thus contributing to a poor balance in apple cultivation.

4. Conclusions

The areas cultivated with apple trees are varied, covering a wide range of lands, from small family orchards to extensive commercial plantations. These areas are widely distributed around the world, depending on climatic conditions and the specific requirements of the crop. The analysis revealed a considerable diversity in terms of the areas cultivated with apple, comprising both small, family-managed orchards and extensive commercial plantations.

This diversity reflects the adaptability of apple cultivation to different climatic conditions and local requirements. Apple yields are influenced by a number of factors, including climatic conditions, agricultural management, and the technologies used.

Although the average production of an apple tree can vary, on average, between 100 and 300 kilograms per year, these figures are susceptible to significant variations depending on different factors. Apple production is substantially affected by a number of factors, including weather conditions, farming practices and soil type.

Although the average production per tree may vary, it is obvious that their performance is influenced by proper crop management.

The total number of trees in an apple orchard can be very diverse, from a few dozen in the case of a family orchard to hundreds of thousands or even millions in the case of a commercial plantation. The size and type of the orchard directly influence this number.

The consumption of apples is high, both due to their popularity among consumers and their versatility in the kitchen. Apples are valued not only for their flavorful taste, but also for their nutritional benefits, being considered a valuable source of vitamins and antioxidants.

Overall, apple growing is an important agricultural sector with a significant presence around the world.

Effective management of this crop is crucial to ensure consistent and quality production, meeting consumer demands and contributing to the stability and prosperity of the agricultural industry.

Therefore, these conclusions underline the importance and diversity of apple cultivation in world agriculture, as well as the need for proper management to ensure consistent yields and the satisfaction of consumer demands.

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Tables and Figures

Table 1. Import and export of apples from Romania

Specification	2018		2019		2020		2021		2022	
	Value thousand euros	Quantity tons	Value thousand euros	Quantity tons	Value thousand euros	Quantity tons	Value thousand euros	Quantity tons	Value thousand euros	Quantity tons
Export	1,952	9,709	1,196	6,260	1,104	5,286	434	1,342	492	1,199
Import	72,656	127,279	64,622	141,448	85,468	137,721	80,871	140,517	71,735	125,259

Table 2. Dynamics of the number of trees

Region	2019/2018 %	2020/2018 %	2021/2018 %	2022/2018 %
NORTH-WEST	99.3	96.8	95.3	108.0
CENTER	99.1	96.4	100.3	100.0
NORTH-EAST	45.4	44.9	54.9	112.5
SOUTH-EAST	97.3	97.9	96.1	98.4
SOUTH-MUNTENIA	99.1	102.,2	101.2	97.2
BUCURESTI - ILFOV	102.3	106.6	110.4	107.4
SUD-VEST OLTENIA	97.7	123.2	114.4	110.8
WEST	97.7	98.0	112.6	106.8
TOTAL	82.5	83.7	87.0	105.4

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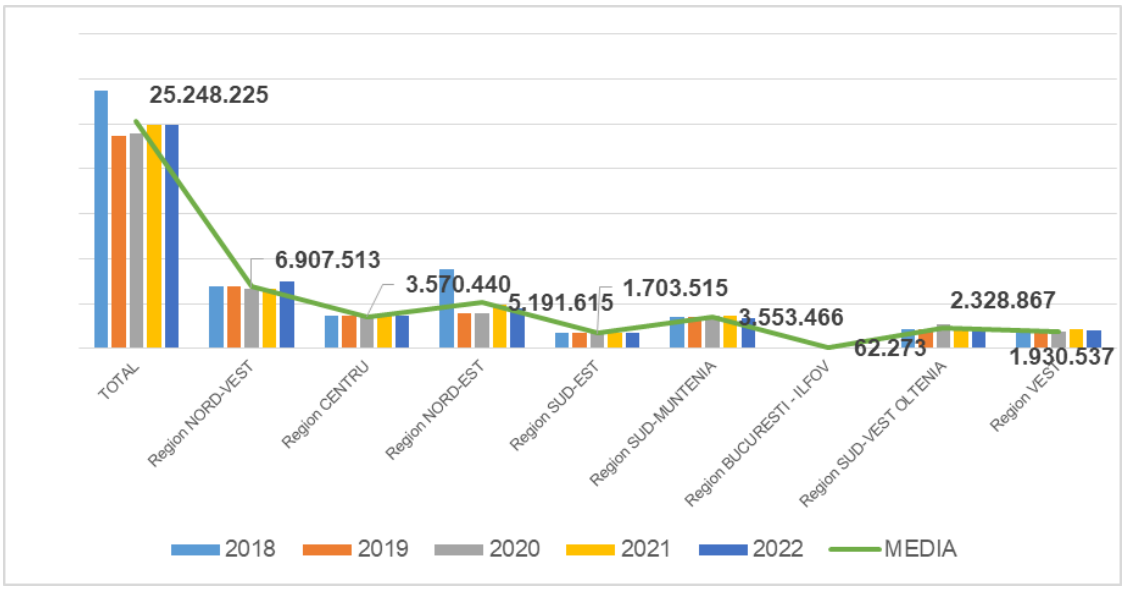

Fig. 1. Dynamics of the number of trees
(Source: www.eurostat.ro)

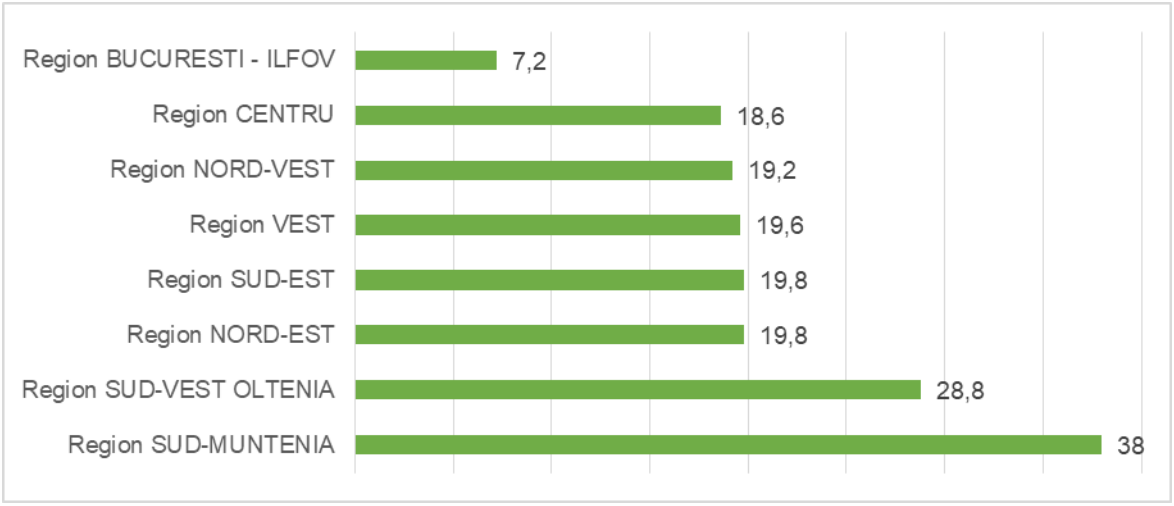

Fig. 2. Average production

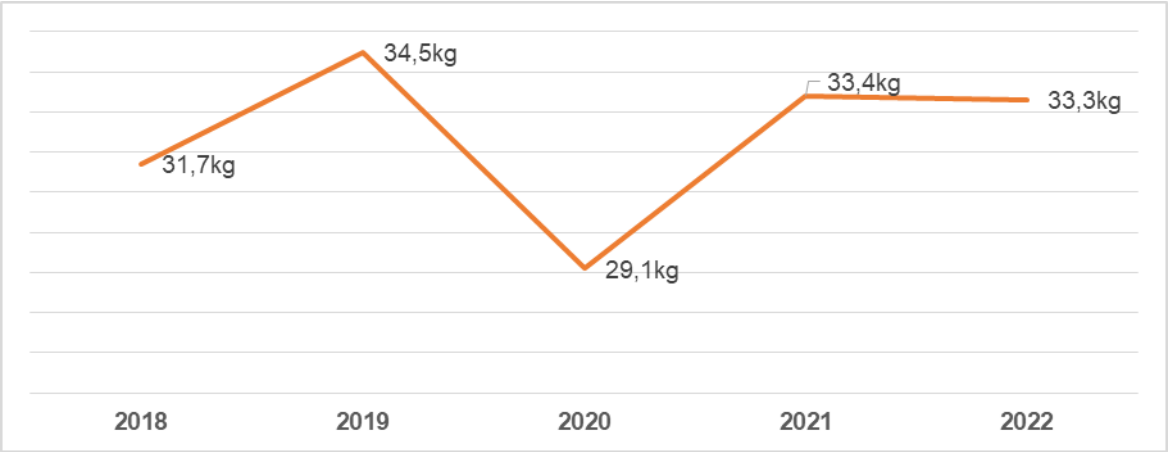

Fig. 3. Apple consumption per capita

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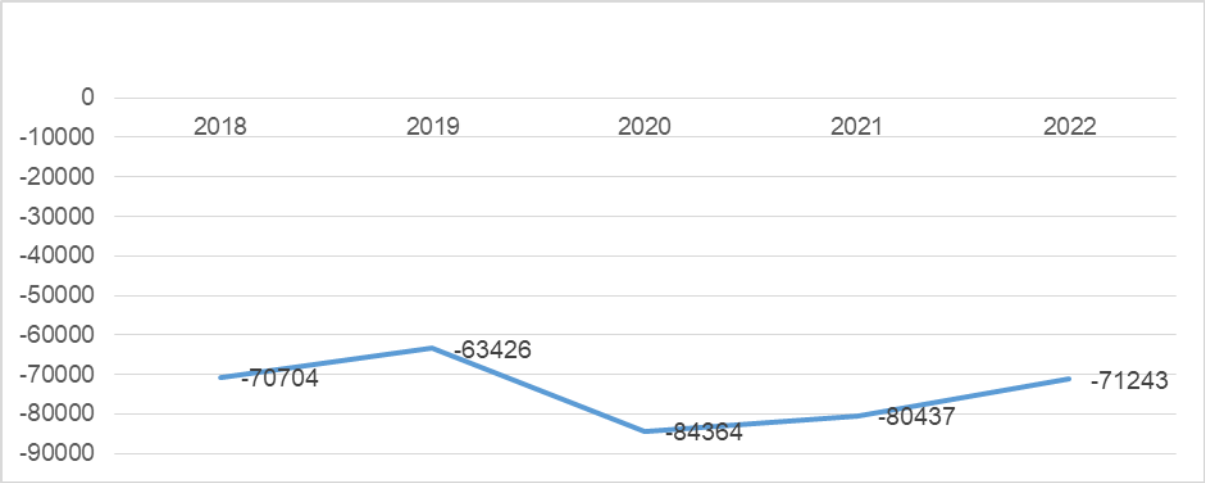

Fig. 4. Trade balance of apple in Romania (thousand euro)