

EVOLUTIONS OF AREAS CULTIVATED WITH VINES AND OF THE GRAPE PRODUCTION IN ROMANIA

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Abstract: *The paper analyzes the evolution of the areas cultivated with vines and grape production in Romania, during the period 1961–2023, based on statistical data from official sources. The study aims to identify the main stages of development of the wine sector and highlight the changes that occurred under the influence of economic and institutional transformations. The results highlight a period of significant expansion between 1960 and 1989, marked by the constant increase in cultivated areas and the intensification of production, followed by a sharp reduction after 1990, determined by the transition to a market economy, the fragmentation of property and the decline in investments. After Romania's accession to the European Union, reconversion and modernization programs contributed to the reorientation of the sector towards quality and economic efficiency, even if the areas continued to decrease. The analysis reveals a trend of stabilization of the average production per hectare, due to the application of modern technologies and the use of high-performance varieties. Overall, the paper provides a clear picture of the transformations of Romanian viticulture, highlighting the transition from an extensive, volume-based model to an intensive and sustainable one, oriented towards performance and competitiveness.*

Key words: *vines, grape production, cultivated areas, viticultural reconversion, Romania*

INTRODUCTION

Viticulture is one of the oldest and most important branches of Romanian agriculture, with a tradition that stretches back several centuries and is closely linked to the cultural and economic identity of the rural area. Romania benefits from particularly favorable soil and climatic conditions for grape cultivation, ranking among the top European countries in terms of natural potential for the production of quality grapes and wines [2, 5, 6, 8, 12]. The varied relief, soil composition, climatic diversity and the presence of traditional varieties, such as Feteasca Neagră, Feteasca Regală or Grasa de Cotnari, confer specificity and uniqueness to Romanian wine products [1, 14].

Over time, viticulture has played an important role in the national economy, contributing both to rural employment and to the consolidation of agri-food exports. At the same time, it has been a factor of social cohesion, ensuring the continuity of traditions and the maintenance of rural communities. The evolution of the Romanian viticulture sector faithfully reflects the economic, social and institutional transformations that national agriculture has undergone in recent decades, being directly influenced by changes in political regimes, agricultural development strategies and the orientation of sales markets.

The purpose of this paper is to analyze, from a statistical and economic perspective, the dynamics of the areas cultivated with vines and grape production in Romania, during the period 1961–2023. The analysis aims to highlight the main stages of evolution of the wine sector, to identify the causes and consequences of the observed variations and to provide an economic interpretation of these transformations, in the context of the processes of modernization and adaptation to market requirements [3, 9, 12].

Between 1960 and 1989, Romanian viticulture experienced a period of extensive expansion, driven by centralized agricultural policies, massive investments in plantation

expansion, and an economic focus on exports. The area under vines increased steadily, and production reached record levels, making Romania one of the leading wine producers in Eastern Europe [6, 2, 18]. However, this development model, although successful in the short term, was based on a rigid structure, in which economic decisions were subordinated to planned objectives [7, 11].

After 1990, with the transition to a market economy, the wine sector experienced a period of sharp decline. Land fragmentation, reversions, lack of investment and falling domestic demand led to a significant reduction in cultivated areas. In parallel, many aging or unproductive plantations were abandoned, and the lack of a coherent support system limited the rapid relaunch of the sector. This was a difficult transition phase, in which the emphasis gradually shifted from quantity to quality, but without a clear short-term reconversion strategy [1, 16].

After Romania's accession to the European Union in 2007, the wine sector entered a new phase of transformation, driven by access to European funds for reconversion and restructuring. Through these programs, numerous plantations were modernized, valuable varieties were introduced, winemaking technologies were improved, and a new generation of market-oriented producers was developed. Although the total cultivated area continued to decrease slightly, the average productivity per hectare stabilized, and the quality of the products increased significantly [4, 10].

Currently, Romanian viticulture is in a process of consolidation, oriented towards sustainability, competitiveness and the valorization of local tradition in a European context. The analysis of the evolution of areas and grape production in the last six decades provides a complex picture of the structural and economic transformations that this sector has undergone. The present paper contributes to the understanding of these processes and provides a basis for the formulation of strategic directions regarding the sustainable development of Romanian viticulture, in relation to the current economic and climatic challenges [9, 13, 14].

This study addresses the following research question:

- (1). how did vineyard area, grape production, and yield evolve across the three periods (1961-1989, 1990-2006, 2007-2022)?
- (2). what was the magnitude of structural change between these periods?
- (3). what economic and policy drivers explain the observed trends?

MATERIALS AND METHODS

For the purpose of this work, official statistical data on the area under vines and total grape production in Romania were used, for the period 1961–2023. The information comes from the international database Our World in Data, which annually centralizes data provided by the Food and Agriculture Organization of the United Nations (FAO) and Eurostat, providing a complete and coherent picture of developments in agriculture at a global level. The choice of this source was motivated by the high degree of accuracy, the continuity of the time series and the comparability of the data internationally. Thus, the statistical basis used allows for an in-depth analysis of the changes that have occurred in the Romanian wine sector over the course of over six decades [13].

The data was structured and analyzed in three main sets:

1. Total grape production (tons) – recorded annually during the period 1961–2023, reflecting the evolution of the total volume of production at the national level;
2. Total area cultivated with vines (hectares) – available for the period 1961–2022, representing the territorial extension of vineyard plantations;

3. Average production (tons/hectare) – calculated for the entire analyzed period, a yield indicator that expresses production efficiency in relation to the cultivated area.

The data analysis was carried out using descriptive and comparative statistical methods, aiming to highlight the main trends, fluctuations and correlations between the considered indicators. Central tendency indicators were calculated, such as the arithmetic mean, minimum and maximum values, as well as the percentage variations between the representative periods. At the same time, the ratio between production and cultivated area was monitored, in order to determine the dynamics of the yield over time and identify the stages of growth, stagnation or decline [15].

For a more rigorous interpretation, the analyzed period was divided into three distinct intervals, corresponding to the main economic and institutional stages in Romania's evolution:

- 1961–1989 – the phase of expansion and intensive development of vineyard plantations, supported by centralized agricultural policies and massive investments in the expansion of areas;

- 1990–2006 – the period of economic transition and structural decline, marked by land fragmentation, reduced investments and changes in property regimes;

- 2007–2023 – the stage of reconversion, modernization and stabilization after accession to the European Union, characterized by the application of restructuring programs and the orientation of production towards quality and sustainability.

Statistical analysis and graphical visualization tools were used to process the data, generating comparative tables and evolutionary graphs. These were used to highlight the relationships between cultivated area, total production and average productivity, but also to capture significant changes in the long-term viticultural structure.

The qualitative analysis was correlated with the interpretation of the historical and economic context of the respective periods. Thus, the major events that influenced Romanian agriculture were taken into account, such as the planned agricultural policy of the 1970s–1980s, the land reforms after 1990, the wine-growing reconversion programs implemented since 2007, and Romania's integration into the European common agricultural market [2, 11, 14].

This mixed approach, quantitative and qualitative, allows not only to observe the numerical evolution of the indicators, but also the complex interpretation of the economic, social and technological processes that have shaped the Romanian wine sector. The adopted methodology ensures an integrated perspective on the analyzed phenomenon, providing a solid basis for formulating conclusions and identifying future trends regarding the sustainable development of viticulture in Romania.

RESEARCH RESULTS

The analysis of the evolution of the areas cultivated with vines and grape production in Romania during the period 1961–2023 highlights profound transformations, determined by economic, political and technological factors. Statistical data show a general trend of decreasing vineyard areas, concomitant with a significant increase in yields per hectare, as a result of the modernization and reconversion processes carried out in the last two decades [3, 8, 15].

During the entire period under review, total grape production averaged approximately 1,100,000 tonnes annually. The highest production was recorded in 1982, reaching 2,192,242 tonnes, while the lowest value was recorded in 2005, with 505,849 tonnes. This sharp variation illustrates the dependence of the wine sector on climatic conditions and adopted agricultural policies [2, 9].

For a better understanding of these developments, the graph below illustrates the variations in total grape production in Romania, over the entire analyzed period:

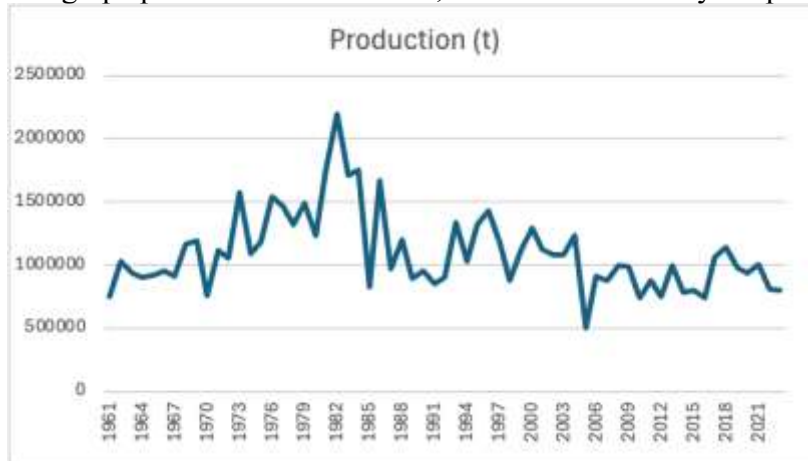


Figure 1. Evolution of total grape production in Romania (1961–2023)

Evolution during the period 1961–1989

The period 1961–1989 is characterized by a sharp expansion of vineyard plantations and a constant increase in production. The cultivated areas reached their maximum value in 1969, with 346,744 hectares, due to massive investments in the expansion of land intended for vines and the development of wine-growing combines. During this stage, total production experienced an upward trend, culminating in 1982, when the average yield reached 8.61 tons/hectare – the highest level in the entire period analyzed [4,10, 12]

This growth was determined by the orientation of agricultural policies towards increasing exports, state support through mechanization programs, and the use of irrigation systems and varieties adapted to pedoclimatic conditions.

The evolution of the area cultivated with vines during this period is presented in the following figure:

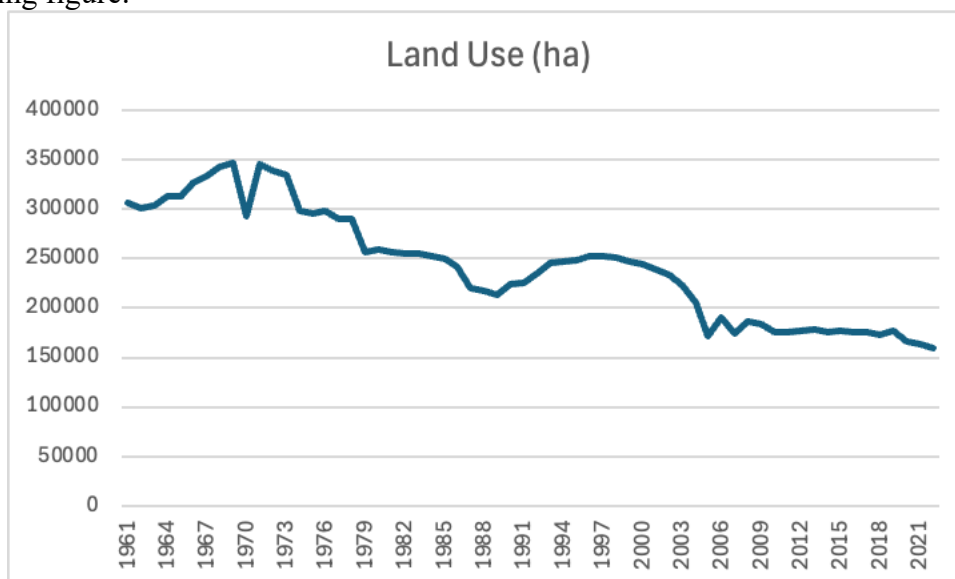


Figure 2. Evolution of the area cultivated with vines in Romania (1961–2022)

Evolution during the period 1990–2006

After 1990, with the transition to a market economy, Romanian viticulture went through a period of significant decline. Land fragmentation, lack of investment and property restructuring led to a constant decrease in cultivated areas. During this period, total production decreased considerably, reaching a historical minimum of 505,849 tons in 2005 [2, 5, 16].

Also, average yields became unstable, influenced by the lack of technological resources and the decrease in economic interest in small-scale wine farms. This stage can be considered one of structural transition, in which the emphasis gradually shifted from quantity to quality, but without a coherent reconversion strategy.

Evolution in the period 2007–2023

Romania's accession to the European Union in 2007 marked the beginning of a broad process of reconversion and modernization of vineyard plantations. Through financial support programs, numerous areas were replanted with high-performance varieties, and cultivation technologies were updated.

Although the total cultivated area continued to decrease, reaching a minimum of 159,740 hectares in 2022, average production remained at a high and stable level, due to the use of modern winemaking methods and the focus on higher quality products.

At this stage, yields stabilized between 5 and 6 tons/hectare, reflecting the efficiency of new agricultural practices and the sector's adaptation to the requirements of the European single market.

To illustrate these transformations and the dynamics of yield per hectare, the following figure is presented:

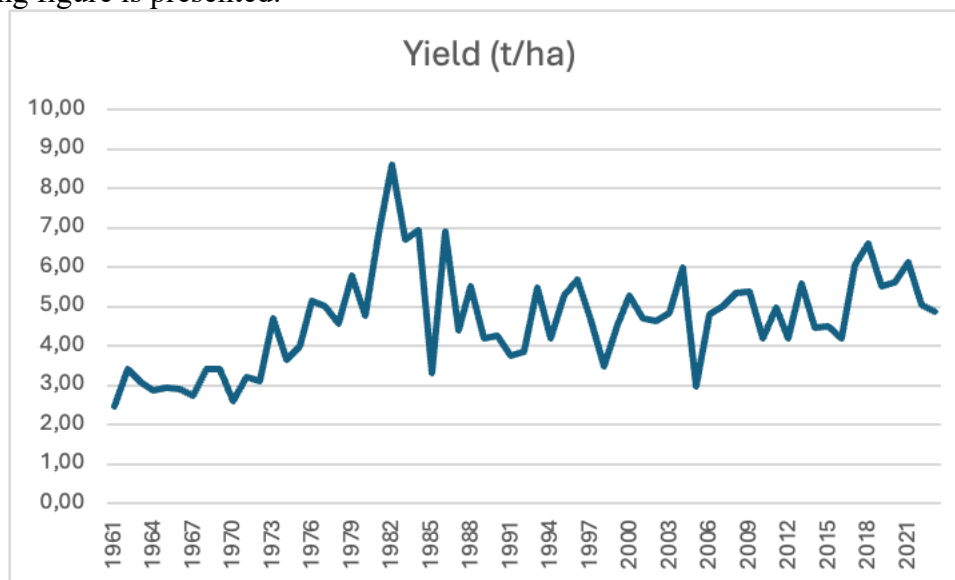


Figure 3. Evolution of average grape production in Romania (1961–2023)

Correlation analysis between area, production and yield

The comparative analysis of the three indicators – cultivated area, total production and average yield – highlights an inversely proportional relationship between land expansion and productivity achieved. While cultivated areas have decreased by over 50% between 1969 and 2022, average production per hectare has almost doubled, confirming the orientation of the Romanian wine sector towards efficiency, modernization and sustainability [15].

To provide a syntetich overview of the main quantitative characteristics of the analyzed:

Table 1.

Summarize the evolution of vineyard area, grape production and yield in Romania 1961-2023

Periods	Vineyard area (ha)	Grapes production (t)	Yield (t/ha)	Remarks
1961-1989	up to 346,744 (maximum in 1969)	Up to 1,192,242 (maximum in 1982)	8.61 (peak value)	Expansion period
1990-2006	Continuous decline	Down to 505,849 (minimum in 2005)	Unstable low	Structural transition
2006-2023	Down to 159,740 (2022)	Moderate and stable	5-6	Reconversion and modernization
Maximum	346,744	2,192,242	8.61	1969/1982
Minimum	159,740	505,849	2.42	2002/2022

The summarized data clearly illustrate the structural shift from an extensive production model to a more intensive and efficiency-oriented one.

CONCLUSIONS

The analysis of the evolution of areas cultivated with vines and grape production in Romania, during the period 1961–2023, highlights the major transformations that the national wine sector has undergone, in close correlation with the political, economic and institutional context of each historical stage.

The research results show that the period 1961–1989 was characterized by a constant increase in vineyard areas and total grape production, supported by centralized agricultural policies, investments in agricultural infrastructure and export orientation. This stage marked the peak of the development of Romanian viticulture, both in terms of territorial expansion and production volume.

After 1990, with the transition to a market economy, viticulture experienced a period of structural decline, caused by the fragmentation of land ownership, lack of investment and loss of institutional cohesion. The reduction in cultivated areas and the decrease in total production were accompanied by a sharp instability of yields, reflecting the difficulties of adapting to the new economic conditions.

The post-accession period to the European Union (2007–2023) marks a stage of relaunching the wine sector, through the implementation of reconversion and modernization programs financed by European funds. These measures contributed to increasing productivity, orienting production towards quality and aligning Romanian viticulture with community standards. Although the cultivated areas continued to decrease, yields per hectare increased, confirming the efficiency of investments and the technological adaptation of producers.

Overall, the analysis of the period 1961–2023 demonstrates a profound structural transformation of Romanian viticulture, from an extensive, quantity-based model to an intensive one, focused on quality and competitiveness. The wine sector has become increasingly integrated into the European rural economy, with significant development potential through the valorization of local resources, the diversification of production and the promotion of products with geographical indications.

In the future, the consolidation of Romanian viticulture depends on maintaining investments in reconversion, adapting to climate change and supporting small and medium-sized producers. By continuing modernization policies and promoting sustainability, Romania has the capacity to consolidate its position on the European wine market, capitalizing on the winemaking tradition and the special agricultural potential of its regions.

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