

**TRENDS AND RESULTS OF PROJECTS FUNDED UNDER
SUBMEASURE 4.1A IN FRUIT GROWING: CASE STUDY
IN THE SOUTH-WEST OLTENIA REGION (2016–2019)**

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ABSTRACT

This research examines the trends and outcomes of projects funded under sub-measure 4.1a – Investments in fruit farms – implemented in the South-West Oltenia region between 2016 and 2019. The research is based on a quantitative approach, using official statistical data on the number of approved projects, the total value of investments, and their distribution at the county level. The results show a steady increase in interest in accessing European funds, with significant differences between counties, influenced by agricultural potential and the level of information available to beneficiaries. The analysis reveals that most projects focused on modernizing existing orchards and purchasing high-performance technological equipment. The financial support provided contributed to increased productivity, improved production quality, and diversification of cultivated varieties. At the same time, the implementation of the projects stimulated employment in rural areas and supported the maintenance of traditional activities in fruit growing. At the same time, the study points to challenges such as excessive bureaucracy, lack of own co-financing for some farmers, and delays in the implementation of works. The conclusions emphasize the importance of strengthening administrative capacity and advisory support for beneficiaries in order to maximize the effects of funding programs. The research provides a useful database for decision-makers and can guide the formulation of public policies tailored to regional specificities. The study thus contributes to the literature on the impact of European funds on the development of the fruit growing sector in Romania.

INTRODUCTION

The fruit-growing sector is one of the traditional branches of Romanian agriculture, with significant potential for development due to favorable soil and climate conditions and the diversity of cultivated species. In the South-West Oltenia region, fruit growing has a long tradition, and its modernisation is a strategic objective for both farmers and national and European agricultural policies. The European Union's Common Agricultural Policy (CAP), through measures dedicated to agricultural investment, plays an important role in supporting this sector.

Sub-measure 4.1.a – Investments in fruit farms – within the National Rural Development Program (PNDR) aims to support the development and modernization of fruit farms through a set of actions designed to increase their competitiveness on the domestic and foreign markets. The key objectives of this sub-measure include improving product quality, diversifying production, and improving the overall performance of fruit farms. To this end, farmers are supported in adopting innovative

technologies and sustainable solutions to meet current market demands. (Felici F., Gramillano A., Floria A., Mazurencu–Marinescu Pele M., Nistor R. 2018)

Between 2015 and 2019, the South-West Oltenia region benefited from multiple projects financed through this sub-measure, aimed at rehabilitating old plantations, implementing modern irrigation systems, and purchasing advanced technological equipment. These investments aimed not only to increase yields per hectare, but also to improve fruit quality, responding to the increasingly stringent requirements of consumers and markets.

Statistical analysis of the projects implemented during this period provides a clear picture of how European funds were distributed and used at the level of the counties that make up the region. This perspective allows the identification of both areas with high absorption of funds and those where there is untapped potential.

It also reveals the impact of investments on local economic development, employment, and the sustainability of agricultural holdings. In the context of the transition to more efficient and sustainable agriculture, this study aims to highlight the major trends in the implementation of sub-measure 4.1a and to provide recommendations for optimizing future funding programs. Through this analysis, the paper contributes to informing the strategic decisions of the authorities and creating a favorable framework for the development of the fruit-growing sector in the South-West Oltenia region. In this context, the present study seeks to investigate the dynamics of the projects financed through Sub-measure 4.1a in the South-West Oltenia region. Specifically, the research aims to answer the following question: What were the main trends and outcomes of the projects funded under Sub-measure 4.1a – Investments in fruit farms – in the South-West Oltenia region during the period 2016–2019? In addition, a supplementary research question is addressed: to what extent does the distribution of Sub-measure 4.1a projects across counties reflect the local potential for fruit-growing development?

MATERIAL AND METHODS

The analysis was based on official statistical data provided by the Agency for Rural Investment Financing (AFIR) and the County Directorates for Agriculture in the South-West Oltenia region. The period analyzed covers 2016–2019, corresponding to the funding sessions for sub-measure 4.1a – Investments in fruit farms. The data collected included the number of projects approved and implemented, the total value of non-reimbursable funding, the total value of investments, and their distribution by county.

A quantitative analysis method was used to process the information, applying descriptive statistical indicators (averages, percentages, growth rates) to identify trends during the period studied. The comparison of results between counties was carried out by analyzing the relative differences and the weights of each county in the regional total. The data was visualized using charts and graphs created in Microsoft Excel and SPSS Statistics to highlight the variations and correlations more clearly.

National and European strategic documents on the development of the fruit-growing sector were also consulted in order to correlate the statistical data with the programmatic objectives of the Common Agricultural Policy. The methodology also included a qualitative component, consisting of interpreting the results in the socio-economic context of the region, based on the specialized literature. The validity of the data was verified by comparing information from multiple official sources, thus reducing the risk of errors.

This mixed quantitative and qualitative approach allowed for the formulation of relevant conclusions regarding the efficiency and impact of the implementation of sub-measure 4.1a in the South-West Oltenia region.

RESULTS AND DISCUSSIONS

The land structure in the South-West Oltenia region shows significant agricultural potential, but this is insufficiently exploited in terms of fruit growing. The low proportion of orchards and nurseries, accounting for only 1.36 % of the total area, justifies the need for targeted investments to expand and modernize this sector. In this context, sub-measure 4.1a becomes an essential tool for capitalizing on existing resources and stimulating the sustainable development of regional fruit growing. The South-West Oltenia region covers 2,921,169 hectares, representing 12.25 % of Romania's total area, which gives it significant agricultural potential.

With 61.50 % of its territory used for agricultural purposes, the region has a favorable framework for the development of the fruit growing sector, but this potential is insufficiently exploited. Arable land dominates the agricultural structure (42.86 %), while orchards and nurseries account for only 1.36 %, reflecting a modest starting point for projects financed under sub-measure 4.1a.

The low distribution of fruit plantations justifies the need for investments in modernization, conversion, and expansion, aspects directly targeted by this measure. Areas with pastures (12.94 %) and hayfields (3.05 %) show potential for land use diversification, including through the integration of fruit crops in marginal areas. Vineyards and vine nurseries occupy 1.30 % of the territory, which suggests that, unlike viticulture, fruit growing has a similar potential for expansion based on funding programs.

Non-agricultural land (38.50 %), of which forests account for 29.46 %, constitutes both a physical limitation to expansion and a resource for the development of integrated value chains (e.g., berries, perennials). The existing infrastructure (3.01 % buildings, 1.61 % transport routes) can facilitate the implementation of projects by ensuring better access to markets and processing centers.

Degraded land (1.87 %) can be brought back into productive use through financially supported conversion projects, including for fruit crops adapted to difficult conditions. Overall, the land structure in South-West Oltenia supports the idea that sub-measure 4.1a plays a key role in increasing the share of fruit growing and strengthening the economic performance of the sector.

In terms of trends, analysis of data for the period 2016–2019, according with the Figure 1, shows a steady increase in the number of projects funded under sub-measure 4.1a in the South-West Oltenia Region, reflecting farmers' growing interest in investing in the fruit growing sector.

In 2016, the South-West Oltenia region recorded 12 projects, representing a modest but important start to the program in the area. The geographical distribution in this first year shows a balanced concentration of projects in the counties of Olt and Vâlcea, each with four projects (33.33 %), while Dolj County benefited from a single project (8.34 %). Mehedinți County attracted three projects (25 %), and Gorj County did not register any investment under this measure.

OLT	VÂLCEA	GORJ	DOLJ	MEHEDINȚI
33,33 %;	33,33 %;	0%	8,34 %	25 %

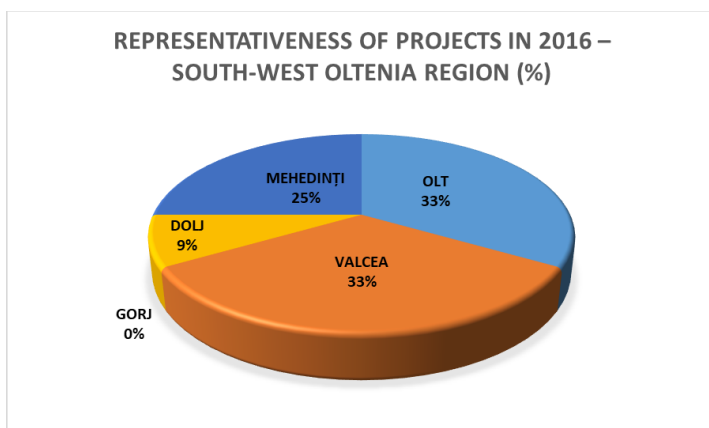


Figure 1. Representativeness of projects in 2016 – South-West Oltenia region (%)

The year 2017, as shown in Figure 2, marks a doubling of the number of projects in the region, reaching 24, which confirms an increase in awareness and access to available funds. The regional leader was Olt County, with seven projects (29.17 %), followed by Dolj and Gorj, with five projects each (20.83 %). Mehedinți attracted four projects (16.67 %), and Vâlcea three projects (12.50 %). The increase compared to 2016 indicates significant progress in mobilizing local producers and adapting to the program's requirements.

OLT	VÂLCEA	GORJ	DOLJ	MEHEDINȚI
29,17 %;	12,50 %;	20,83 %	20,83 %	16,67 %

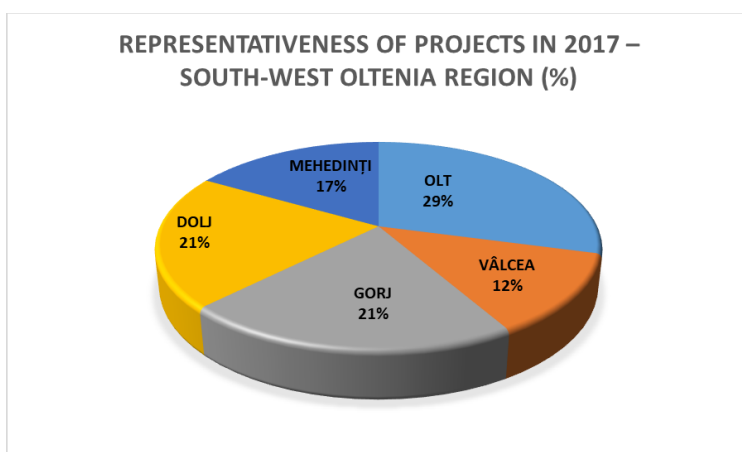


Figure 2. Representativeness of projects in 2017 – South-West Oltenia region (%)

In 2018, as shown in Figure 3, the number of projects submitted in the region increased to 33, maintaining the upward trend. Dolj County stood out as the county with the most projects (12, or 35.3 % of the regional total), followed by Olt County with nine projects (26.5 %). Gorj and Mehedinți counties attracted five projects each (14.7 %), and Vâlcea county registered three projects (8.8 %). This distribution

shows an expansion of interest throughout the region, but also a consolidation of the position of Dolj and Olt counties as the main hubs of fruit growing development.

OLT	VÂLCEA	GORJ	DOLJ	MEHEDINȚI
26,50 %;	8,80 %;	14,70 %	35,30 %	14,70 %

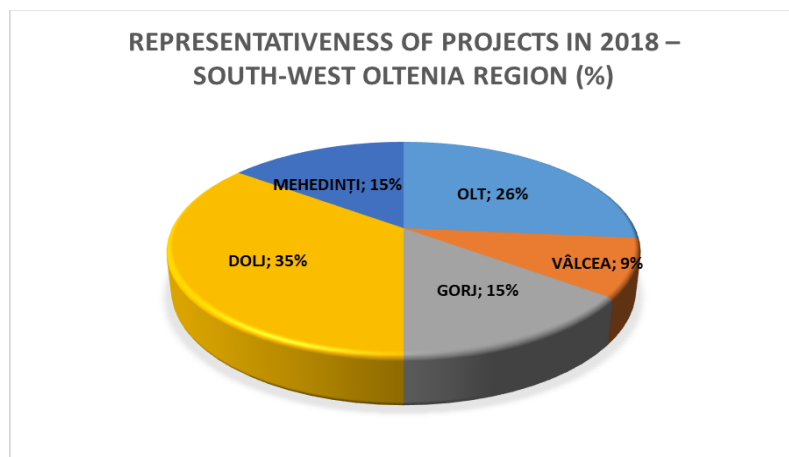


Figure 3. Representativeness of projects in 2018 – South-West Oltenia region (%)

The year 2019, as shown in Figure 4, brings the highest number of projects in the analyzed period, namely 39, confirming the positive dynamics of the program. Dolj County clearly dominated the regional landscape, with 24 projects (61.55 % of the total), which shows remarkable mobilization and a high capacity to attract European funds. Olt County recorded seven projects (17.95 %), Mehedinți six projects (15.37 %), and Vâlcea two projects (5.13 %).

OLT	VÂLCEA	GORJ	DOLJ	MEHEDINȚI
17,95 %;	5,13 %;	0%	61,55 %	15,37 %

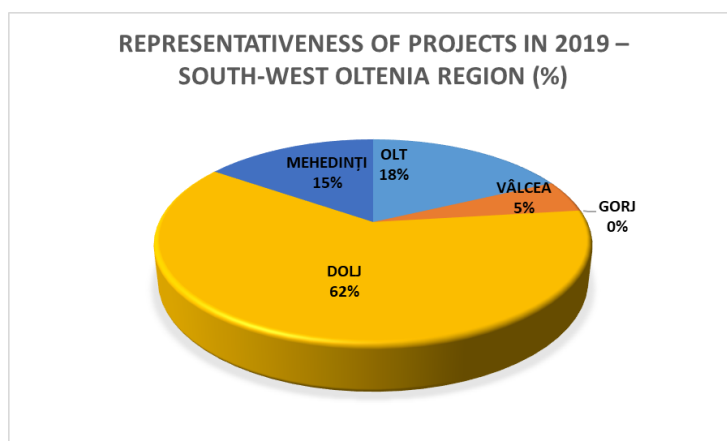


Figure 4. Representativeness of projects in 2019 – South-West Oltenia region (%)

The overall trend for the period 2016–2019 shows a more than threefold increase in the total number of projects funded in the region, indicating that beneficiaries are rapidly adapting to the requirements and opportunities offered by sub-measure 4.1a. This positive development is accompanied by a progressive geographical concentration of investments, particularly in Dolj, where administrative capacity and agricultural infrastructure seem to have facilitated access to funding.

At the same time, it can be seen that counties such as Gorj and Vâlcea have maintained a steady pace, but with relatively low values, which may indicate both structural limitations and a greater need for support in terms of information and technical assistance. Mehedinți, although recording moderate values, has maintained a constant presence each year, signaling an active base of fruit growers interested in modernization.

The results analysed confirm that sub-measure 4.1a plays an essential role in stimulating fruit-growing investments in South-West Oltenia, contributing to the diversification of production, increased competitiveness and adaptation to market requirements. The sustained increase in the number of projects over the four years analyzed demonstrates the effectiveness of the financing mechanism, but also the high potential of the region in this sector.

At the same time, the uneven distribution across counties raises questions about the accessibility of funds and the level of administrative preparedness in certain areas, highlighting the need for policies tailored to local specificities. The analysis thus highlights both the opportunities exploited and the persistent challenges in implementing funding programs for fruit growing. In addition to the increase in the number of projects, the period 2016–2019 also brought a diversification of investment types, from the modernization of existing orchards to the establishment of new plantations and the development of processing infrastructure.

In counties with more modest results, such as Gorj and Vâlcea, the potential for fruit growing remains underutilized, which opens up opportunities for future support programs tailored to the local context. The disparities between counties can be explained both by differences in technical equipment and farm structure, and by the degree of involvement of local authorities in promoting and facilitating access to funds. The results confirm that where there is solid agricultural infrastructure and an active entrepreneurial culture, the absorption of European funds is higher. Thus, Sub-measure 4.1a not only stimulates the development of fruit growing, but also contributes to reducing regional economic disparities when supported by coherent policies and inter-institutional collaboration. The dataset used in this study was compiled from official reports of the Agency for Financing Rural Investments (AFIR), complemented by data from County Agricultural Directorates and the National Institute of Statistics. Only approved and contracted projects under Sub-measure 4.1a – either under implementation or already completed between 2016 and 2019 – were included in the analysis. Rejected, cancelled, or pending projects were excluded. Potential gaps or delays in reporting were addressed by using the consolidated versions of official annual reports, ensuring consistency and comparability of the data across the South-West Oltenia region.

Expanding the area under fruit trees and diversifying them would improve the supply of fresh fruit to the domestic and external markets, stimulate domestic processing of raw materials, and support the development of fruit growing. These measures would contribute to economic growth and the sustainability of the agricultural sector. (Vladu M., Botu M., Dinu T. A., Tudor V. C. 2019)

CONCLUSIONS

An analysis of the evolution of projects funded under Sub-measure 4.1a in the South-West Oltenia region shows a clear trend of growing interest in investments in fruit growing. Between 2016 and 2019, the number of projects submitted increased more than threefold, from 12 to 39, confirming the growing mobilization of beneficiaries. The first two counties that stood out as poles of attraction for funds were Dolj and Olt, with a steady and sustained increase in the number of projects. Dolj, in particular, recorded a remarkable leap in 2019, accounting for over 60 % of all projects in the region.

This high concentration indicates a competitive advantage for Dolj County in accessing funds, probably correlated with a better-developed agricultural infrastructure and a higher level of farmer training. The counties of Gorj and Vâlcea remained at a constant but low level, suggesting both untapped potential and possible barriers to accessing funding. Mehedinți County recorded a constant presence throughout the period, with moderate but stable results.

The uneven distribution across counties reveals a polarization of investments, which may lead, in the long term, to differences in regional competitiveness in the fruit-growing sector. The increase in the number of projects from year to year shows an improvement in the beneficiaries' ability to develop and implement projects in line with the program requirements. This positive development is an indication of better dissemination of information and an increase in the level of professionalism in the local agricultural environment.

In parallel with the increase in numbers, there has also been a diversification of the types of investments – from the conversion of existing plantations to the development of new orchards and processing facilities. The funded projects contribute directly to the modernization of production and processing infrastructure, increasing the competitiveness of local producers on the market. The results suggest that the absorption of European funds is higher in areas with solid agricultural infrastructure, active advisory networks, and a developed entrepreneurial culture. The differences between counties highlight the need for support strategies tailored to the local context in order to stimulate participation in areas with modest results.

Sub-measure 4.1a has proven its effectiveness as a regional development tool, but its impact is maximized when accompanied by vocational training and technical assistance for farmers. The general trend indicates a progressive maturation of beneficiaries in relation to European funding requirements, which may generate positive long-term effects. The growing interest in fruit growing in South-West Oltenia is part of a broader movement to shift agriculture towards high value-added crops. The results achieved can be a solid argument for continuing and expanding support measures in fruit growing, with a focus on underrepresented areas.

In the medium and long term, maintaining this trend can help reduce intra-regional economic disparities and consolidate a competitive regional fruit market. Overall, the period 2016–2019 can be characterized as a phase of accelerated growth and consolidation of the fruit-growing sector in South-West Oltenia, decisively stimulated by interventions under Sub-measure 4.1a.

Limitations: this research is descriptive in nature and does not aim to establish causal relationships. Several limitations must be acknowledged. First, the analysis relies on aggregated data, without access to detailed information at farm level, which restricts the ability to capture intra-county differences. Second, possible reporting inaccuracies in official datasets (AFIR, County Agricultural Directorates,

INS) may affect the precision of the findings. Third, given the type of available data, causal tests or counterfactual approaches could not be performed. Future studies could benefit from access to more detailed datasets and longitudinal monitoring.

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