

SUMMARY

of the doctoral thesis entitled:

RESEARCH ON THE SUSTAINABILITY OF CONVENTIONAL AND ECOLOGICAL AGRICULTURAL SYSTEMS AT THE SOUTH-WEST OLTENIA REGION LEVEL

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Agriculture represents the essence of life, and in a world with rapid demographic growth, meeting the food needs of the current population becomes a colossal challenge. Over the past three decades, there has been a significant increase in awareness of the need for profound transformations in the agricultural sector and food systems as a whole. This awareness has emerged in response to increasingly evident challenges related to the sustainability and long-term viability of how we produce, manage, and consume food resources.

The doctoral thesis is structured into five chapters, which include conclusions and recommendations. It offers a detailed analysis at the level of the South-West Oltenia region, from the perspective of conventional and organic agriculture, taking into account different types of agricultural holdings in the crop sector. The focus is on large-scale crops, particularly wheat and sunflower.

The first chapter of the thesis, entitled "Scientific Foundations of Conventional and Organic Agriculture", provides an overview of the evolution of agriculture, from its origins to the present, with an emphasis on the development and sustainability of the two agricultural systems. This chapter also examines recent global events, such as the crisis generated by the Covid-19 pandemic and the war between Russia and Ukraine, which have placed significant pressure on agricultural production and farmers. These circumstances have necessitated the adaptation of the agricultural sector at both European and global levels.

Additionally, this chapter highlights the role of the Common Agricultural Policy (CAP) at the European Union and Romanian levels, both from the perspective of multiannual financial frameworks and the European Green Deal. The chapter concludes with a bibliometric analysis of the specialized literature, focusing on the terms "conventional agriculture" and "organic agriculture", conducted at a global level. As a result of this analysis, 1,486 articles were identified, of which only those containing comparative studies between

the two agricultural systems were retained. In the context of adding the term "sustainability", the number of articles was significantly reduced, resulting in 62 articles, and after further selection, 13 articles were analyzed and interpreted.

The second chapter of the thesis, entitled "Purpose, Objectives, and Research Methods", highlights the main goal of the thesis: to evaluate the sustainability of conventional and organic agricultural systems. These systems were analyzed in detail at the level of the South-West Oltenia region and focused on:

- 🌾 The analysis of crop production, particularly large-scale crops, as well as identifying trends in the expansion or reduction of cultivated areas, as appropriate;
- 🌾 Comparing yields based on land size and determining average yields for wheat and sunflower crops;
- 🌾 Evaluating the adoption rate of organic farming practices and market trends for organic and conventional products;
- 🌾 Comparing financial results and analyzing average selling prices for agricultural products;
- 🌾 Assessing economic and production performance based on land size to determine specific advantages and challenges for small, medium, and large farms.

This chapter also describes all the research methods used in the thesis. These methods include bibliometric analysis, result segmentation, graphical methods, statistical-mathematical analysis (using the PivotTable function), as well as the survey method, which involved collecting information from primary sources, such as questionnaires and interviews conducted with farmers. The data obtained were subsequently analyzed and processed to formulate conclusions and recommendations.

Chapter III, entitled "Analysis of Conventional and Organic Agriculture", provides a detailed examination of the evolution and development of agriculture, both from a conventional and organic perspective. The analysis begins at a global level, evaluating the areas cultivated with cereals, including separately for wheat and sunflower, both in conventional and organic systems.

At the European and EU levels, agriculture includes a significant number of farmers, among whom more than 440,000 organic operators have been identified, with the largest number in Italy, approximately 76,000. From the perspective of organic processors, around 88,000 have been identified in Europe, of which 82,500 are in the EU, with Italy again leading with nearly 24,000 processors.

There is also an emphasis on the share of organic areas in the EU in 2021 when these represented 9.6% of the total agricultural area. This value is considerably below the target of 25% for organic areas, which must be achieved by 2023, according to the European Green Deal objective. In Romania, the analysis focuses on the evolution of the number of farms and the areas they hold, both at the national level and in the 8 development regions, from the perspective of conventional and organic agriculture, with a particular focus on the South-West Oltenia region.

In the fourth chapter, entitled "Research on the Sustainability of Conventional and Organic Agricultural Systems", a detailed analysis was conducted at the level of the South-West Oltenia region, focusing on the sustainability of conventional and organic agricultural holdings. The study included 18 agricultural holdings, 9 for each type of agriculture (conventional and organic), distributed across three land size intervals: 10-30 ha, 50-100 ha, and over 100 ha. Two main crops were analyzed: wheat and sunflower.

The analysis focused on crop-based agricultural holdings and considered several factors: farmers' age, gender, education level, tenure, legal form, the level of farm equipment, and financial resources used. Additionally, the level of APIA subsidies, average production per hectare, production costs, and average selling prices were evaluated. Furthermore, the profitability of the two crops was analyzed for each category of practiced agriculture.

The final chapter of the thesis, entitled "Conclusions and Recommendations", presents the results of the analysis, emphasizing the main aspects identified at the global level, as well as at the European Union level, including Romania and the South-West Oltenia region. A series of recommendations were also formulated based on the implementation of the questionnaire at the South-West Oltenia region level and the macro-level study.

The bibliography used includes over 100 sources, covering specialized literature from both international and local authors.