AGRICULTURE AT EUROPEAN UNION LEVEL

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Abstract

The Common Agricultural Policy (CAP) in the European Union aims to address the challenges faced by the agricultural sector. The new CAP focuses on the central role of farms and farmers in addressing climate change, preserving rural landscapes, and ensuring food quality.

It is very important to understand which are the main production area in agriculture in EU and from this paper we can conclude that cereals with milk production and winery are the motor of the industry. We analyse agriculture industry because it is considered the most important industry in EU due the various implications also in other industries.

Key words: *agriculture crops, crop yield, CAP, EU agriculture structure.*

JEL Classification*: Q10, Q14*

1. Introduction

The Common Agricultural Policy (CAP) in the European Union aims to address the challenges faced by the agricultural sector. The new CAP focuses on the central role of farms and farmers in addressing climate change, preserving rural landscapes, and ensuring food quality. France, Germany, Romania, Poland, and Spain are the top cereal-producing countries in the EU. Agriculture varies across countries and regions, influenced by factors such as equipment availability, environmental requirements, and market conditions. The CAP supports farmers through income support, market measures, and rural development programs. Cereals, milk, and viticulture dominate agricultural production in the EU. The production of cereals and oilseeds is

influenced by weather conditions, with a focus on animal feed consumption. Overall, the CAP plays a crucial role in ensuring food security and supporting farmers in the EU.

The agriculture industry is the most important industry for the European Union (EU) due because it plays a vital role in ensuring food security for the EU's population of over 500 million people, it is closely linked to the sustainable use of natural resources and the preservation of the environment. Farmers in the EU are encouraged to manage rural areas as public goods, promoting biodiversity, protecting landscapes, and conserving natural resources.

It is also very important the fact that agriculture industry contributes significantly to the economic development of rural areas within the EU. It supports millions of jobs, both directly on farms and throughout the entire food supply chain. Agriculture helps maintain vibrant rural communities, ensuring social and economic stability in these regions.

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2. EU Agriculture literature review

The Common Agricultural Policy (CAP) is a cornerstone of the EU's agricultural framework. Matthews (2018) explores the evolution of the CAP, emphasizing its role in stabilizing markets, ensuring food security, and promoting sustainable farming practices. The CAP reforms have aimed to address environmental concerns and rural development, shifting from direct subsidies to a more comprehensive approach that includes greening measures and rural development programs . According to Hart et al. (2016), the CAP's greening measures are intended to enhance biodiversity, improve water management, and mitigate climate change. However, the effectiveness of these measures is debated, with some studies suggesting that they fall short of achieving substantial environmental benefits (Pe'er et al., 2017). The introduction of organic farming and agroecological practices is also prominent, with studies by Mäder et al. (2020) indicating positive impacts on soil health and biodiversity.

Climate change poses a critical challenge to EU agriculture. Studies by Olesen and Bindi (2020) highlight the vulnerability of European agriculture to climate variability and extreme weather events. Adaptation strategies, such as crop diversification, improved water management, and the development of climate-resilient crop varieties, are essential. The role of policy in facilitating adaptation is underscored, with the CAP incorporating measures to support climate resilience (Matthews, 2016).

The agricultural landscape of the EU is diverse, characterized by a variety of crops influenced by climatic conditions, soil types, and farming practices. According to Eurostat (2020), the major crops include cereals (wheat, barley, maize), oilseeds (rapeseed, sunflower), and various fruits and vegetables. The crop structure varies significantly across different member states due to regional climatic and soil conditions, as well as historical and cultural farming practices.

Cereal crops are a significant component of the EU's agricultural production. Wheat is the most widely grown cereal, followed by barley and maize. As noted by Fischer, Byerlee, and Edmeades (2014), wheat production is concentrated in countries like France, Germany, and Poland, where favourable climatic conditions and fertile soils support high yields. Barley is predominantly grown in Spain, Germany, and the UK, while maize production is significant in France, Italy, and Hungary. The production of these cereals is influenced by both domestic demand and export opportunities.

Oilseed crops, particularly rapeseed and sunflower, are essential for both food and biofuel production in the EU. Rapeseed is primarily grown in France, Germany, and Poland, where it benefits from the CAP's support for biofuel crops. Sunflower cultivation is significant in countries like Romania, Bulgaria, and Spain, which have suitable climatic conditions. Protein crops such as soybeans and pulses are increasingly important due to their role in crop rotation and soil fertility improvement, as discussed by Voisin et al. (2014).

Also very important is that EU is one of the largest producers of milk and dairy products in the world. According to the European Commission (2019), the EU produces over 150 million

tonnes of milk annually, with significant contributions from countries such as Germany, France, Poland, the Netherlands, and Italy. The dairy sector is a critical component of the EU's agricultural industry, providing a substantial source of income for farmers and contributing to rural development.

Regarding wineries, EU is the world's largest producer, accounting for about 60% of global production. Major wine-producing countries include France, Italy, Spain, Germany, and Portugal. According to the International Organisation of Wine (OIV, 2020), the EU produces a wide variety of wines, ranging from table wines to high-quality appellation wines. The wine sector is integral to the cultural heritage and economies of many EU regions.

3. Methodology

The methodology used in this paper is a descriptive and analytical approach. The paper provides information about the agricultural sector in the European Union, specifically focusing on the Common Agricultural Policy (CAP) and its objectives. In the paper we provide statistical data on cereal production in different EU countries and discusses the variations in agricultural practices, yields, and income across regions. Additionally, it highlights the importance of a common agricultural policy in ensuring food security, resource utilization, and economic development in rural areas. Overall, the methodology used in the paper involves presenting factual information, analysing data, and providing insights into the agricultural sector in the European Union.

Descriptive Approach: The paper provides a description of the agricultural sector in the European Union. We explain the role of agriculture in keeping up with scientific and technological advancements and highlights the need for the CAP to address evolving challenges.

Analytical Approach: We analyse the challenges faced by European agriculture, including economic, environmental, and socio-economic factors. We examine the differences in agricultural practices, yields, and income across countries and regions

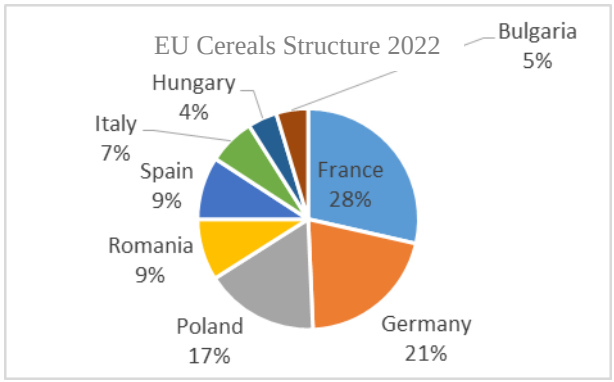
Statistical Approach: In the paper we present statistical data on cereal production in different EU countries, including France, Germany, Poland, Romania, and Spain. We provide production figures for multiple years and highlights the top-producing countries. We also include a figure showing the structure of agricultural production in the EU, indicating the proportions of different commodities such as cereals, milk, wine, oilseeds, fruits, pork, and sugar. Additionally, we present figures illustrating the evolution of cereal and oilseed crops over the past few years.

4. Agriculture at European Union level

In the European Union, the agricultural sector operates within the framework of the Common Agricultural Policy (CAP). Just as agriculture must keep pace with scientific and technological progress, so the common agricultural policy must respond to emerging challenges. Over the years the PAC has been reformed several times. The nine proposed objectives of the new common agricultural policy highlight the central role of farms and farmers in addressing climate change challenges by creating dynamic rural areas, preserving rural landscapes, protecting the environment and protecting food quality and health. These economic, environmental and climate-related and socioeconomic challenges require farmers to be at the heart of Europe's rural communities. This explains why supporting the succession of generations of agricultural holdings and encouraging new generations of farmers is an essential part of the new Common Agricultural Policy proposal.

Agricultural products, food, and culinary traditions play a crucial role in defining the regional and cultural identity of the European Union. This significance stems partly from the diverse natural environments, climates, and agricultural practices that give rise to a wide variety of agricultural products. Approximately 40% of the EU's land is used for cultivation, highlighting agriculture's substantial impact on the environment, natural resources, and wildlife. Farmers in the EU are incentivized to manage the countryside as a public good, ensuring that society benefits as a

whole. Given that at EU level cereals have the largest share in agricultural production, Figure 1 below, shows the top of the countries by harvested production in recent years.



-thousand tons-

EU countries	2019	2020	2021	2022
France	70.38	57.09	66.88	59.93
Germany	44.33	43.3	42.4	43.52
Poland	28.45	35.03	34,	34.99
Romania	30,41	18.15	27.79	18.86
Spain	20.6	27.33	25.52	19.3
Italy	16.43	17.02	16.63	14.34
Hungary	15.64	15.56	13.97	9.06
Bulgaria	11,13	8.6	11.64	9.79

Figure 1:Top grain production at EU level;
Source: Statistical data processed by the authors based on information from Statistics | Eurostat (europa.eu)

One can notice that the main countries with high production are France, Germany, Romania, Poland and Spain. They have been top 5 countries at EU level since 2019. The countries immediately following but with lower productions are Italy, Hungary and Bulgaria.

European agriculture differs from country to country and region to region. For example, yield per unit of production varies due to factors such as differences in the availability and costs of technical equipment, irrigation systems, farmer education and farm sizes. Production results can also be influenced by environmental and welfare requirements. Technical and financial results may still vary between countries and regions depending on sales prospects, transportation facilities, the existence of the production-marketing chain and the availability of seasonal labor. At the farm level, there are also differences due to the relative influence of prices and production fluctuations on farmers' incomes. In certain regions of the European Union, farming is characterized by part-time farming. For part-time farmers, falling prices and low production affect relative total income to a lesser extent than for full-time farmers.

At European level agriculture industry is the only sector who receive full support, unlike other economic sectors which are primarily backed by national governments. Given its crucial role in ensuring food safety, managing natural resources, and fostering rural economic development, having a common policy for agriculture is essential. This sector is more dependent on temperatures and climatic conditions than others, and there is an inherent delay between consumer demand and farmers' supply capabilities, as increasing production—such as growing more wheat or producing more milk—takes considerable time. Moreover, food consumption significantly exceeds that of other products, meaning even minor changes in production can greatly impact prices.

These uncertainties highlight the public sector's vital role in stabilizing farmers' incomes. Farmers are central to ensuring stability and food security for over 500 million EU inhabitants. Thus, the Common Agricultural Policy (CAP) supports farmers through various measures:

- **Income support**: Direct payments to bolster farmers' incomes.
- **Market measures**: The European Commission can intervene in certain market situations, such as imediate demand drops or price declines due to temporary oversupply.
- **Rural development measures**: Tailored programs address the unique needs and challenges of rural areas. While State Member create their programs from a shared set of measures, they have also the flexibility to focus on issues most pertinent to their specific structural, natural and economic conditions.

There are approximately 11 million farms in the European Union, employing 44 million people across the food supply chain. Farmers, as the first link in this chain, play a strategic and essential role. Figure 2 below illustrates the structure of agricultural production at the EU level.

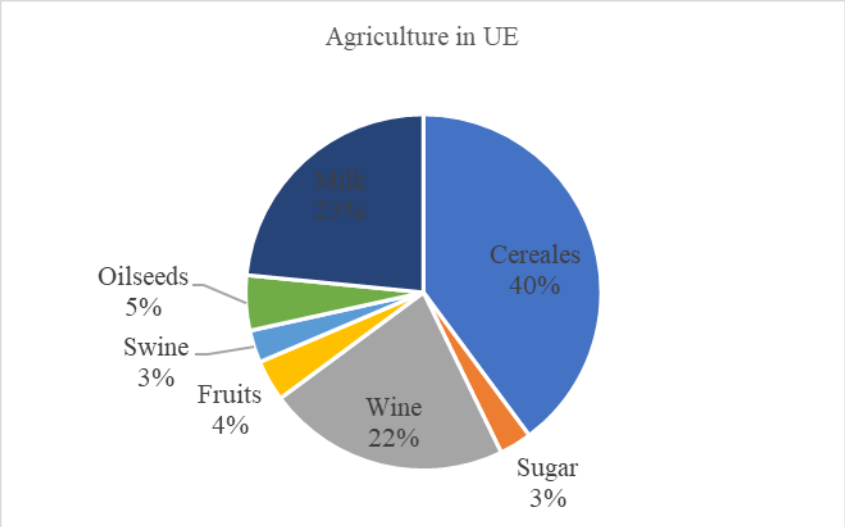


Figure 2: Structure of agricultural production at EU level 2022-2023
Source: Made by the author based on data from Statistics | Eurostat (europa.eu)

As I mentioned previously, it can be seen that cereals have the largest share in agricultural production, 38%, followed by milk with 23% and wine production with 22%. At a very long distance, the production of oilseeds with 5%, fruit growing 4%, pork and sugar with the same percentage of 3%.

Figure no. 3 below presents the evolution of cereal crops in the last 3 years in the EU. Crops considered are wheat, corn, barley, triticale, durum, rye, oats and others.

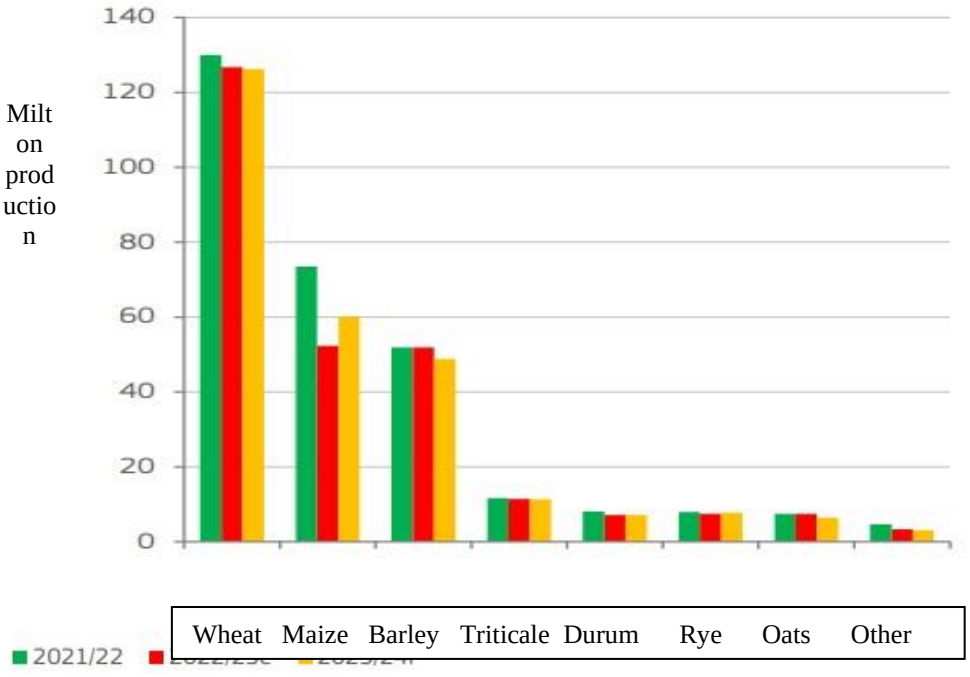


Figure 3: Evolution of cereals at EU level;
Source:short-term-outlook-autumn-2023_en.pdf (europa.eu)

The European Union's cereal production for 2023/24 is estimated at 268.5 million tons (4.3% below the average of the last 5 years), mainly due to unfavorable spring and summer weather conditions, which significantly affected negatively corn and barley production (by 13% and 7% respectively below the average of the last 5 years). Prolonged wet conditions during the harvest period negatively affected grain quality. Thus, it is expected that a large part of the grain will be used for animal feed.

For the year 2023/24, the production of common wheat in the EU is expected to remain stable (125.3 million tons), while the production of maize is expected to recover from the very low level harvested in the previous year (+ 15% to 59.8 million tons). Production of sorghum and rye (+41.6% and +4.2% annually respectively) is expected to increase, driven by the cultivation of a larger area. The lowest productions will be for oats (-14%) and barley (-6%), as the main producing regions in Spain and the north of the EU have been affected by unfavorable weather conditions (drought in Spain and drought followed by heavy rains in the north .

Regarding the evolution of oilseed crops we consider rapeseed, sunflower and soybean crops. Their evolution at EU level is presented in figure 4 below.

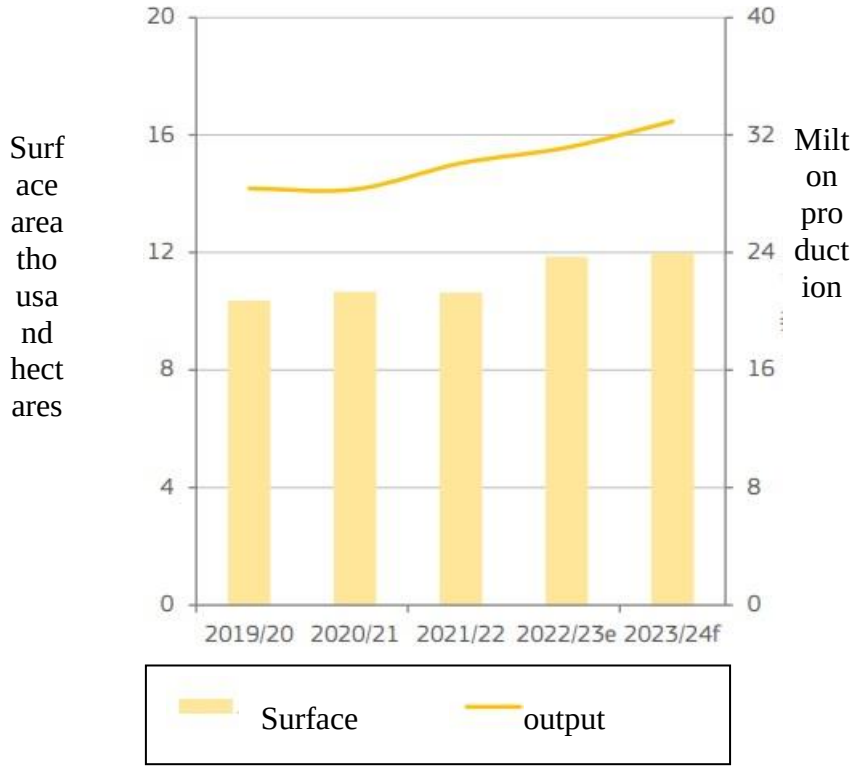


Figure 4: Evolution of oilseeds in the EU
Source:[short-term-outlook-autumn-2023_en.pdf (europa.eu)]

In the year 2023/24, it is estimated that, in the European Union, the production of oilseeds will be 6% higher than in the previous marketing year and could reach 33 million tons. This increase is mainly driven by higher production of soybeans (+20%) and sunflowers (+14%), which are recovering from very low levels recorded in the previous season. Rapeseed production, which increased in 2022/23, is expected to remain fairly stable (at 19.6 million tons in 2023/24), despite a slight increase in cultivated area (+1% compared to 2022/23). Regarding sunflower seeds, there are still challenges for some of the main producing countries in the EU (Romania and Bulgaria) due to adverse weather conditions.

5. Conclusions

It can be seen that the literature regarding EU agriculture highlights the importance of the Common Agricultural Policy (CAP) in stabilizing markets, ensuring food security, and promoting sustainable farming practices. The CAP reforms have focused on addressing environmental concerns and rural development through greening measures and rural development programs. However, the effectiveness of these measures in achieving substantial environmental benefits is still debated

The agricultural landscape in the EU is diverse, characterized by variations in crop structure influenced by climatic conditions, soil types, and farming practices. Cereal crops, including wheat, barley, and maize, are significant components of EU agricultural production. The production of these cereals is concentrated in countries such as France, Germany, and Poland, where favorable climatic conditions and fertile soils support high yields. Oilseed crops, particularly rapeseed and sunflower, are essential for both food and biofuel production in the EU. The dairy sector is also a critical component of the EU's agricultural industry, with significant contributions from countries such as Germany, France, Poland, the Netherlands, and Italy. Additionally, the EU is the world's largest producer of wine, with major wine-producing countries including France, Italy, Spain, Germany, and Portugal.

As a general conclusion the crop structure in the EU is influenced by a combination of climatic conditions, economic policies, and technological advancements. Climate change poses challenges and necessitates adaptive strategies, while economic policies like the CAP and technological innovations are crucial in shaping future trends. Ongoing research and policy adjustments are essential to ensure the sustainability and productivity of the EU's crop production systems.

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