

AGRICULTURAL TRENDS IN ROMANIA IN THE CONTEXT OF THE CURRENT TRENDS OF THE WORLD ECONOMY

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ABSTRACT. The role of agriculture is an extremely important one because it provides the necessary production of foods for the population and, at the same time, represents a source of raw materials for different processing industries. For a growing population, agriculture has been the main source of agri-food products that must ensure the food security of the population. Compared to other states of Europe, Romania is one of the European countries with the most favourable soil and climate conditions for agriculture. The last world crises, from the crisis in 2008 to the pandemic crisis in 2020-2021, and especially to the current conflict between Russia and the Ukraine, have brought up the issue of food self-sufficiency. During the current period, it is important to know what

production can be obtained in Romanian agriculture and if it can provide the food necessary for the population. An analysis regarding the dynamics of the cultivated areas and production of the main crops in Romania has been carried out, for each of its 8 development regions. The data, collected from different sources, were analysed using different methods. The research results highlight, for example, that Romania can easily achieve the self-sufficiency stage for most agricultural products of plant origin. In conclusion, natural resources, as well as the existence of a certain material base in Romanian agriculture, can ensure the increase of agricultural production, the satisfaction of the food needs of the population, as well as a certain availability for export.



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INTRODUCTION

The current stage of agricultural development in Romania is reflected in numerous national and international statistical publications, which show a low level of agricultural production achieved and mostly dependent on the evolution of meteorological conditions (drought, heavy rains, hail, landslides, etc.) This is an important cause of the oscillations in production that occur from one year to the next in Romania (Gavrilescu, 2018).

The role of agriculture is an extremely important one for today's society: it provides the food necessary for the population and represents a source of raw materials for many other industries. Agriculture has been the main source of food for a constantly growing society (Adamov *et al.*, 2016).

The latest world crises, from the 2008 crisis to the 2020-2021 Covid-19 pandemic crisis and, especially, to the current conflict between Russia and the Ukraine, have forcefully raised the issue of food self-sufficiency. Both Ukraine and Russia were at the top of the world's production of agricultural raw materials, almost exclusively cereals and protein crops (Jurjescu *et al.*, 2020, 2022). Thus, this conflict has caused a large increase in food prices in an already unstable food market, where prices have already reached the highest level in the last 10 years, greatly affecting the economy of many states of the world, and the phenomenon continues and deepens (Otiman, 2019).

Romania benefits from favourable soil and climate conditions for the development of agriculture, so that over 60% of its total area can be used for agriculture; however, the fragmentation of the landholdings, the precarious irrigation system, and the low technological level have led to its not being exploited at its true potential. However, Romania is one of the 7 countries that contribute significantly to the volume of agricultural production at the level of the European Union. According to Eurostat, in 2021, agricultural production in the European Union increased by 8% compared to the previous year. Romania is in the top of the countries with the highest growth rates of agricultural production last year, with an increase of 25%, along with Bulgaria and the Czech Republic.

Although Romania has achieved an increase in agricultural production, food prices have risen sharply in the last year. The biggest price increases were recorded for sugar, with an increase of 62%, according to the National Institute of Statistics (INS). Also, large increases, of almost 40%, were recorded for oil and potatoes. According to the INS in September compared to August 2022, the most significant price increases were recorded for sugar, 12%, potatoes, 8%, and eggs, 7% (INS, 2022).

Rising food prices are also directly influenced by rising energy prices. In 2021, the price of gas increased by 40%, electricity by 27%, thermal energy by 23% and fuel by 20% (INS, 2022).

Romania is not part of the group of countries forced to import large quantities of food. On the contrary, its favourable pedoclimatic conditions

make it possible to meet the food needs of a population two and a half times larger than at present (Alexandri, 2017). However, low production yields and an inadequate agricultural policy have led to the paradoxical situation of importing food products in large quantities, when in fact we should be exporting. Instead of exploiting the agricultural potential to the maximum, we neglect it, and the consequences lead to a decrease in the standard of living.

The current stage of development of Romanian agriculture is covered in the various national and international statistics publications: it shows a low level of agricultural production dependent mostly on the evolution of the natural conditions (drought, heavy rains, hail, landslides, etc.) This is an important cause of the oscillations of production that occur in Romania year after year.

Food security is the main challenge worldwide today. Food insecurity has increased globally since 2016. In the context of worldwide rising commodity prices last year and this year, Russia's war against the Ukraine and the use of food as a weapon of war had a strong impact on food markets.

The National Strategic Framework for the Sustainable Development of the Agricultural Sector and Rural Space in the Period 2014-2020-2030 mentions the need for "the accelerated development of Romanian agriculture and the guarantee of food security by fully ensuring the internal need for food products by fully ensuring the internal need of food products... and a surplus for export" (Steriu *et al.*, 2013).

Romania's accession to the European Union (EU) and the adoption of the common agricultural policy, on January 1, 2007, had a strong impact on the Romanian economy and on its agriculture.

According to statistical data, on the territory of Romania, the agricultural sector is one of the most advantageous for the Romanian economy, playing an important role in European agriculture.

The 3.4 million owners of agricultural land in Romania represent one-third of the total owners of agricultural lands in the EU. However, the average size of a farm in Romania is 3.7 ha, considerably smaller than the average size of the EU farms, about 15 ha (Alexandri, 2017).

In this context, the authors of this paper proposed to carry out an analysis of the agricultural production of Romania for the main cultivated plants, for each of the 8 regions of Romania. The purpose of the analysis is to see to what extent farms manage to use Romania's agricultural production potential.

The general objective of the paper is the analysis of the potential agricultural production and agri-food products of Romania. To achieve the proposed general objective, we focused on the following specific objectives: analysis of the land fund resources of Romania; evolution of potential of the main basic agri-food products; and an analysis of the current situation of agricultural production of the main agricultural crops in Romanian regions.

The novelty of this paper consists in the fact that, in Romania, most of the studies and profile analyses aim to

ensure consumption availability without emphasizing the need to obtain production yields depending on the natural resources available in our country and that could ensure the necessary food from domestic production.

MATERIALS AND METHODS

This paper presents an analysis of the current situation with reference to the evolution of agriculture in Romania, in each of its 8 development regions. This approach is relevant to the current concern of the European Union (and Romania) to ensure the food security of the population in this period, a period marked by problems regarding the availability of food for consumption.

Regarding the research methodology, the main methods used in the elaboration of the paper are data collection, processing, analysis (both quantitative and qualitative methods), and the comparison method. The calculation and interpretation of the results was carried out based on statistical data taken from the databases of Eurostat, the National Institute of Statistics (INS), the Ministry of Agriculture and Rural Development (MADR), but also from various national and international publications available in the specialized literature.

RESULTS

The current situation of agriculture and rural areas in Romania is the result of a complex of historical, political, ideological, economic, legal, international and conjectural factors.

Regarding the structure of agricultural farms in Romania, in the last century there were four major structural fractures - enforcement of agrarian laws,

1918-1921 – after the end of World War I (1918) – known as the **agrarian reform of 1921**; the **agrarian reform** starting in **1945**, after the end of World War II (1945); the **collectivization of agriculture** in Romania as a result of the establishment of the communist government, **completed in 1962**, and the **agrarian reform of 1991**, started by enforcement the Law of the Land Fund no. 1 of 1991, as a result of the 1989 political events known as the “1989 Revolution” that changed the government in Romania, and allowed the country to pass from a centralized, planned economy to a market economy), reaching today a land structure that is just as polarized as it was at the beginning of the 20th century (*Figure 1*) (Otiman, 1994).

As a result, agricultural imports have doubled, and agricultural exports have increased five times. Imports increased because domestic production did not cover the consumption needs of agricultural products. The main countries from which it was imported are mainly EU member countries.

The market of agricultural lands in Romania began to operate at maximum capacity, causing a rise of 200% in land prices. Also, the process of reintegration of agricultural land also started.

According to statistical data in 2013, over 50% of the Romanian agricultural land was not registered in the national Land Book (estimates of the Ministry of Agriculture in Romania). The "shadow land market" complicated both the rental operations and the sale of agricultural lands in the country (MADR, 2022).

The structure of the agricultural farms in Romania is presented in *Figure 2*.

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Thus, the share of agricultural households represents 55.30% of the total number of farms and only 5.00% of the area, while commercial farms make up 2.5% of the total number of farms and 54.60% of the country's area.

Subsistence and semi-subsistence farms include 42.2% of the farms and make up 40.40% of the agricultural area. In fact, these types of farms should be medium farms in rural communities, providing welfare to rural inhabitants.

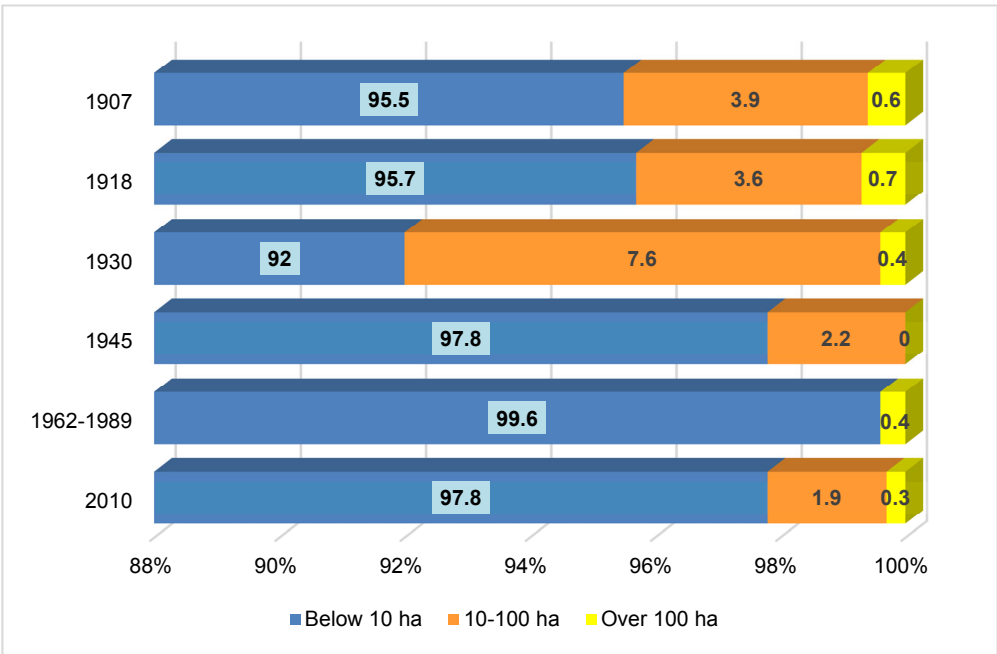


Figure1 – Evolution of the number of farms by size in Romania [%]

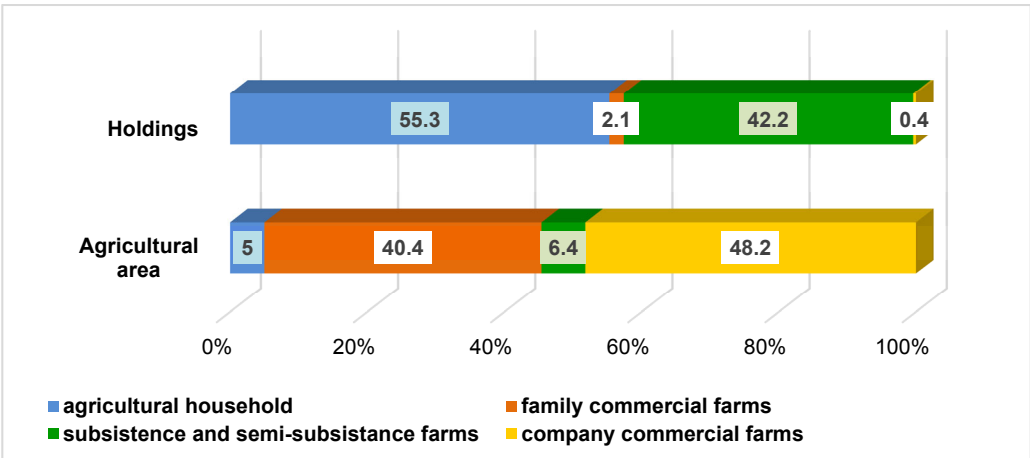


Figure 2 – Agricultural holdings and their agricultural lands in Romania in 2013
Source: Data obtained from Ministry of Agriculture and Rural Development (MADR)

It is estimated that, during the period 2005-2013, the average size of the farms (especially of the big ones) increased by almost 25% (in terms of

income) compared to the number of small farms. The current agricultural area of Romania according to the use of the land is presented in *Figure 3*.

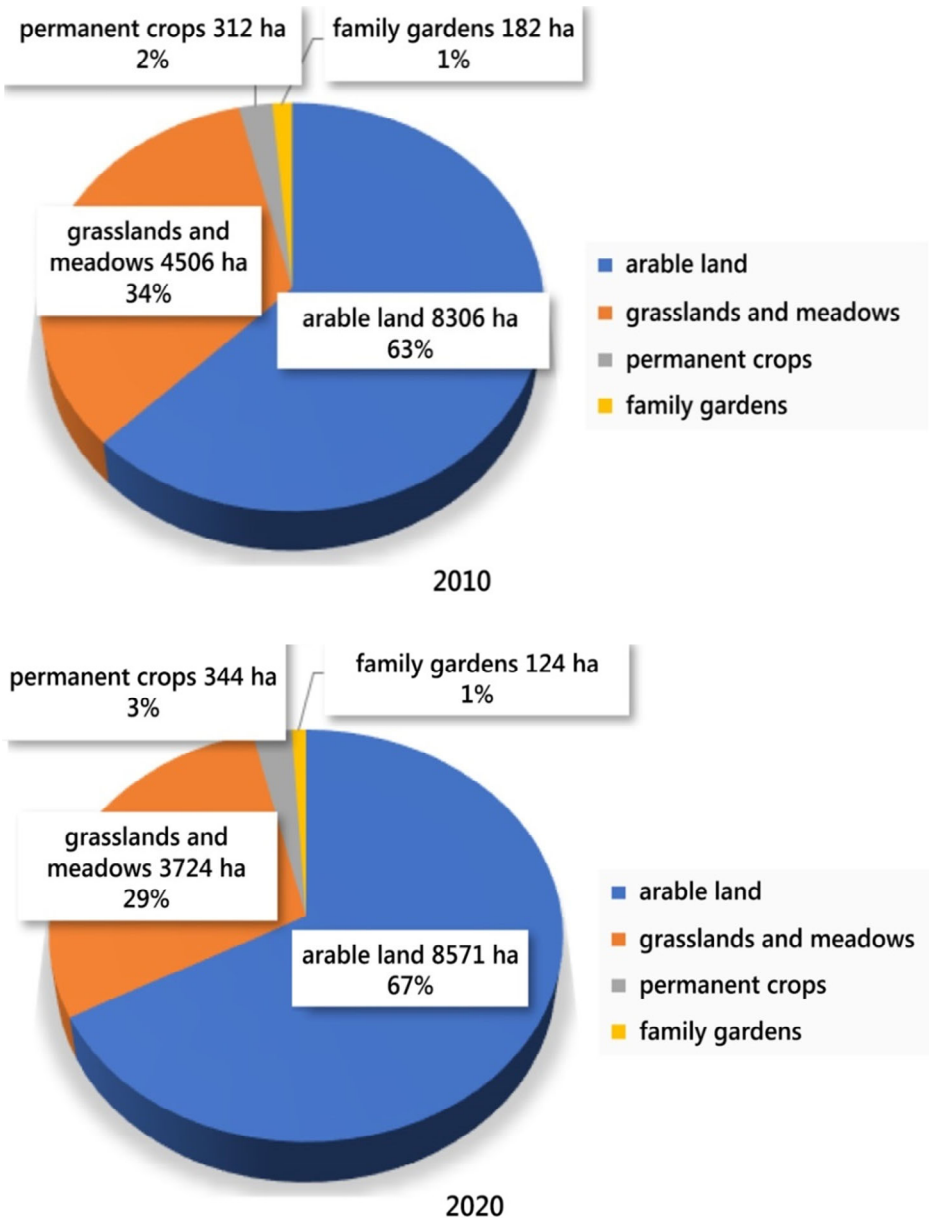


Figure 3 – Uses of agricultural land in Romania 2010 and 2020 [thousands ha]
Source: General Agricultural Census (RGA), 2020

Romania's agricultural area has decreased in recent years, to 12.76 million ha in 2020, according to RGA data, 2020, from 13.30 in 2010. Of the total agricultural area of Romania, 8.57 million ha is arable land, which represents over 67.0% of the agricultural area of Romania; grasslands and meadows constitute 29.0% of the agricultural area and the rest represents permanent crops (3.0%) and family gardens (1.0%). Arable land, cultivated annually, occupies over 67% (over 8.57 million ha) of Romania's total agricultural area. It has increased compared to 2010, as a result of the reduction of the areas occupied by grasslands and meadows (RGA, 2020).

According to the data in *Figure 4*, in the last three years, the areas cultivated in Romania fluctuated, the smallest area of 8,375.7 thousand ha being cultivated in 2020. The cultivated area is less because farmers fail to sow

the arable area they own annually (Eurostat, 2022).

The area allocated to the main plants grown in Romania, in 2020, are presented in *Figure 5*.

Regarding the areas cultivated with the main crops in Romania, in 2020, it is found that there is little diversity of cultivated plants: over 5.3 million ha were cultivated with grain cereals (*Figure 6*).

Agriculture has been the main source of food for a constantly growing society. The last world crisis – from the 2008 crisis to the 2020-2021 pandemic crisis, and especially to the current 2022 Russian-Ukrainian conflict, forced the issue of dietary self-sufficiency. Through agriculture, the **availability of foods for the population**, the food security of all citizens, the right to have permanently access to sufficient foods, for a decent living should be ensured.

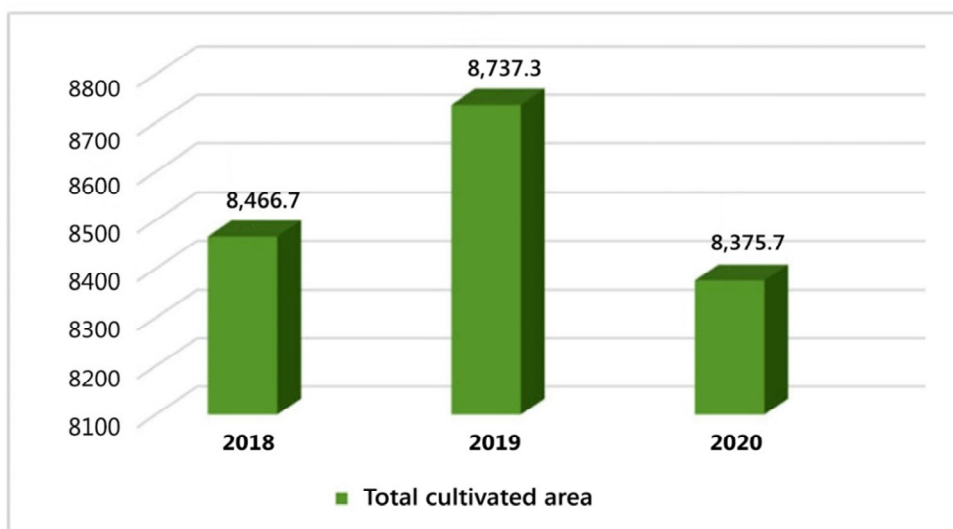


Figure 4 – Dynamics of cultivated areas in Romania [thousands ha]

Source: Data processed from National Institute of Statistics (INS)

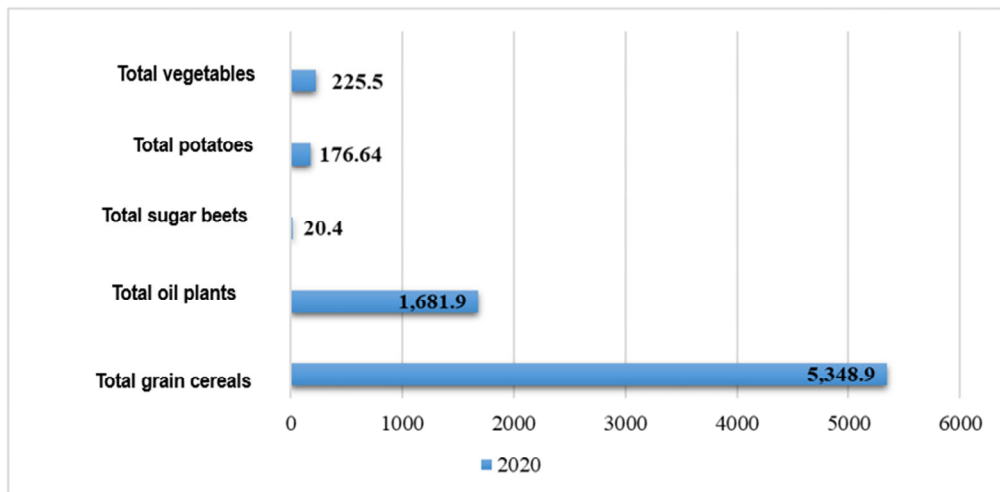


Figure 5 – Area allocated to the main plants grown in Romania [thousands ha]
Source: Data obtained from MADR

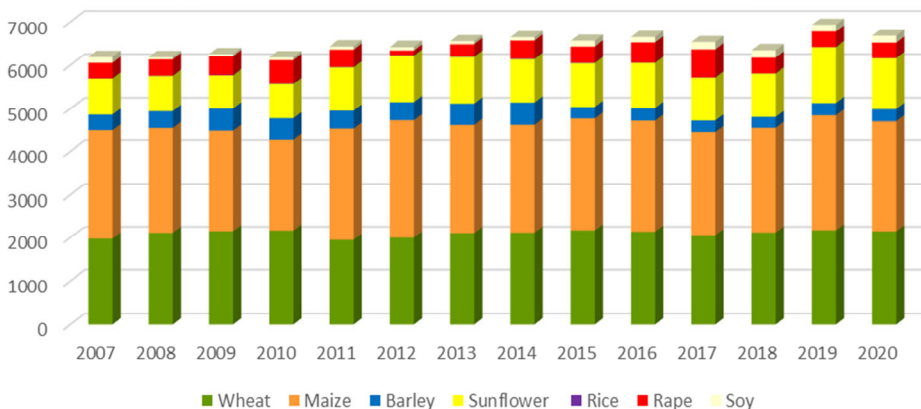


Figure 6 – Evolution of the areas cultivated with the main plants in Romania (thousands ha)
Source: Data obtained from MADR

Data in *Table 1* highlights the imbalances in the agriculture of Romania and the inability of Romanian farmers to produce sufficient to meet the needs of the population. In 2020, imports of meat and meat products represented 35.3%, fruit and fruit products, 32.4%, sugar and sugar products, 71.9%, and fish and fish products, 85.3%, far too much for

Romania, which has a high potential to provide the necessary consumption for the basic products from its own production (*Table 1*).

As for wheat production, Romania ranked fourth in the EU, 2020, after France, Germany, and Poland (Jurjescu *et al.*, 2022).

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Table 1 – Production of the main agri-food products in Romania

	Years	Production thousand t	Import thousand t	%	Export thousand t
Products of plant origin					
1.Cereals and cereal products in grain equivalent	2020	19,089	3,981	17.3	11,525
	2019	30,017	2,353	7.3	14,204
	2018	31,112	2,063	6.2	12,066
2. Potatoes	2020	2,699	518	16.1	24
	2019	2,627	535	16.9	38
	2018	3,022	405	11.8	43
3. Vegetables and vegetable products (in equivalent fresh vegetables), legumes, grains and melons	2020	3,605	910	17.3	90
	2019	3,766	865	16.5	135
	2018	3,990	845	15.9	133
4. Fruit and fruit products (in fresh fruit equivalent)	2020	2,527	1,328	32.4	108
	2019	2,465	1,314	32.1	113
	2018	2,958	1,265	29.9	98
5. Sugar and sugar products (in refined sugar equivalent)	2020	187	478	71.9	126
	2019	292	492	62.8	122
	2018	137	494	78.3	111
Animal products					
6. Milk and dairy products, in milk equivalent of 3.5% fat (excluding butter) - mii hl	2020	52,812	11,251	17.6	2,437
	2019	52,568	10,378	16.5	2,464
	2018	52,835	10,428	16,5	2,791
7. Eggs – mil pcs	2020	5,446	464	7.9	316
	2019	5,564	430	7.2	381
	2018	5,713	348	5.7	428
8. Fish and fish products (in fresh fish equivalent)	2020	19	110	85.3	8
	2019	24	140	85.9	12
	2018	23	112	83.0	6
9. Meat, meat products and edible offal (in fresh meat equivalent)	2020	1,028	560	35.3	153
	2019	1,046	580	36.1	163
	2018	1,035	574	35,7	171

Source: calculations using INS, 2021, 2022

Figure 7 shows wheat production by region in Romania, in 2020. In Romania, the regions with the largest production of wheat are South-Muntenian and South-West-Oltenia. In terms of sunflower production, Romania ranked first in the hierarchy of the EU Member States, followed by Bulgaria,

Hungary, France, and Spain. Regarding the production of the sunflower in Romania by regions, the largest production was in South-West and South-Muntenian, followed by the South-West-Oltenia, West, and North-West (*Figure 8*).

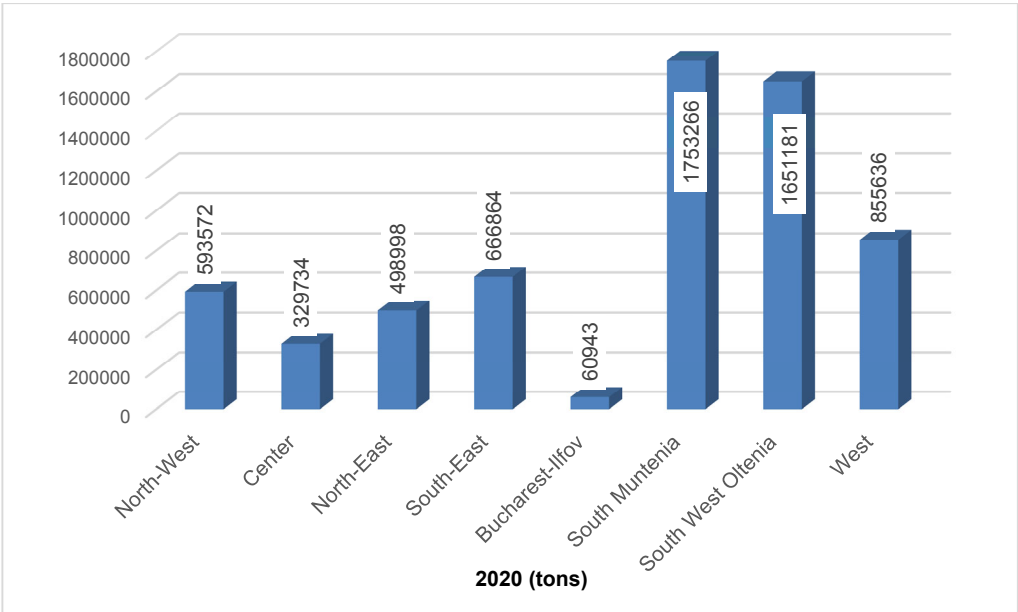


Figure 7 – Wheat production in Romania
Source: data obtained from INS

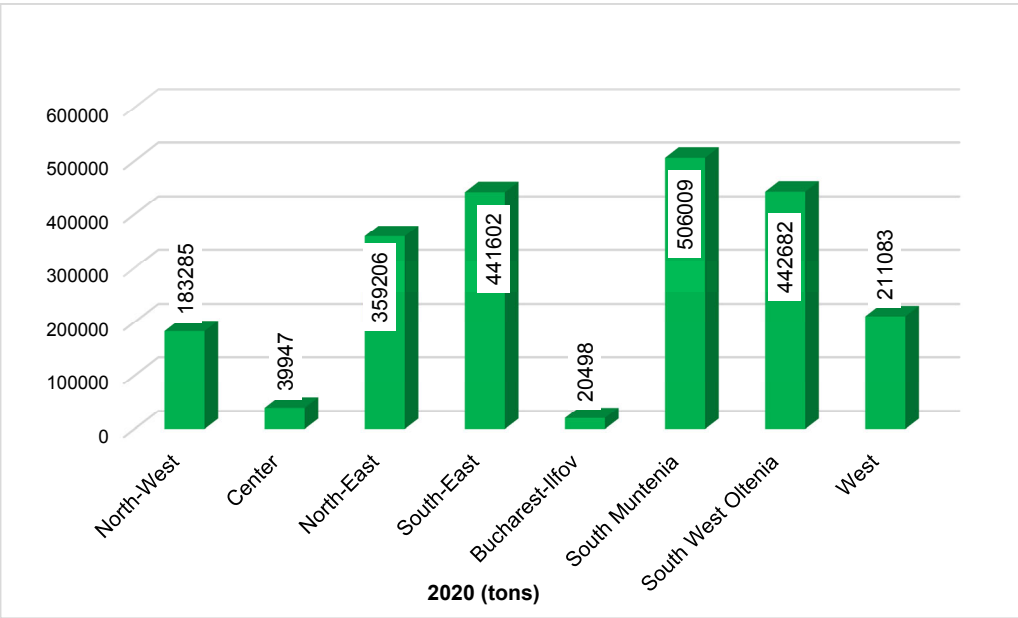


Figure 8 – Sunflower production in Romania
Source: Data obtained from INS

Regarding the production of rapeseed in 2020, Romania ranked among the first seven EU Member States; the largest producer in the European Union was Germany, followed by France, with 40.9% of the total community production.

Regarding the area cultivated with rapeseed in 2020, Romania ranked fifth in the European Union. Production by region in Romania is presented in *Figure 9*. The largest rapeseed, production in Romania was in the South-Muntenian region, followed by the West and South-East regions. The South-Muntenia region recorded, by far, the highest production of soybeans in 2020, with a production of 60,655 tons, followed by the South-East region with 60,226 tons (*Figure 10*).

Romania is the largest maize cultivator in the European Union, more than a quarter of the area cultivated by the EU member countries being cultivated in Romania. Maize production by development region is presented in *Figure 11*. The largest maize production in Romania was in the South-Muntenia region, followed by the North-West region and the North-East region (*Figure 11*). *Figure 12* shows the value of agricultural production in each of Romania's 8 regions.

The analysis of statistical data shows that, in 2020, the highest value of agricultural production was recorded in the București-Ilfov region but decreasing compared to 2019 and 2018.

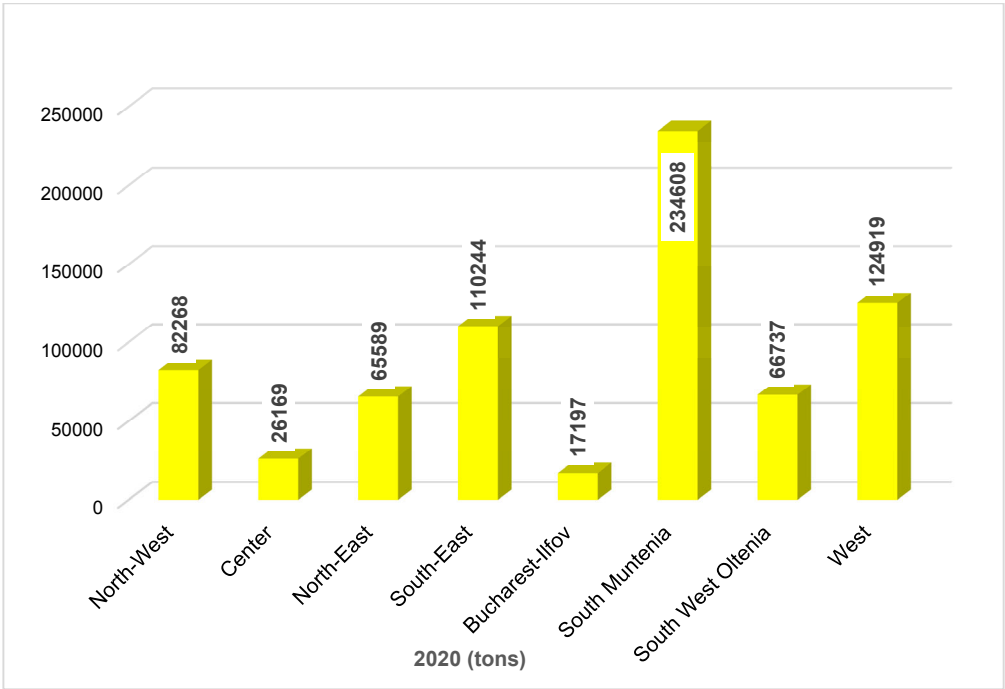


Figure 9 – Production of rapeseed in Romania
Source: Data obtained from INS

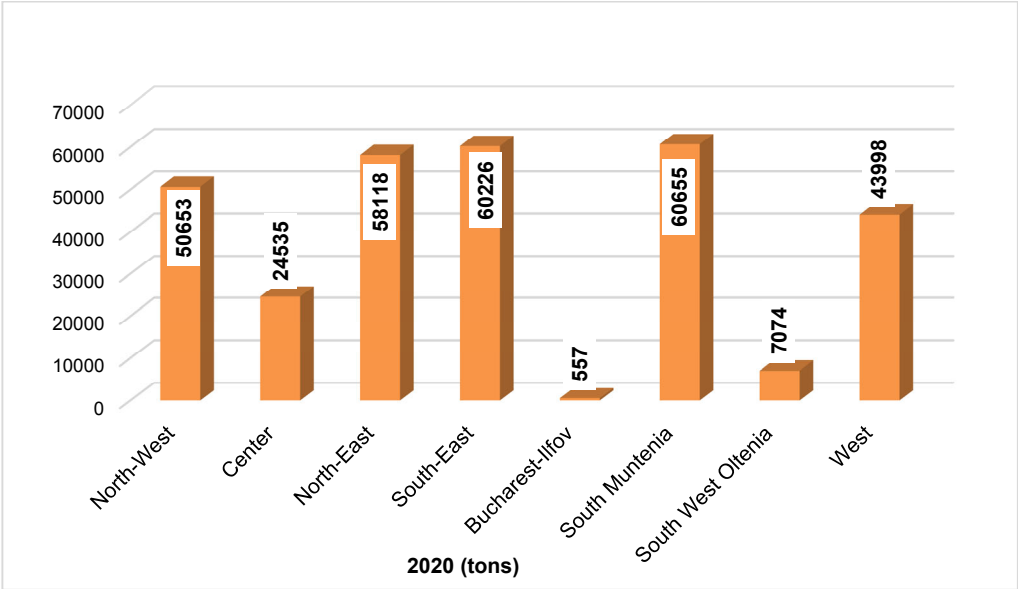


Figure 10 – Soy production in Romania
Source: Data obtained from INS

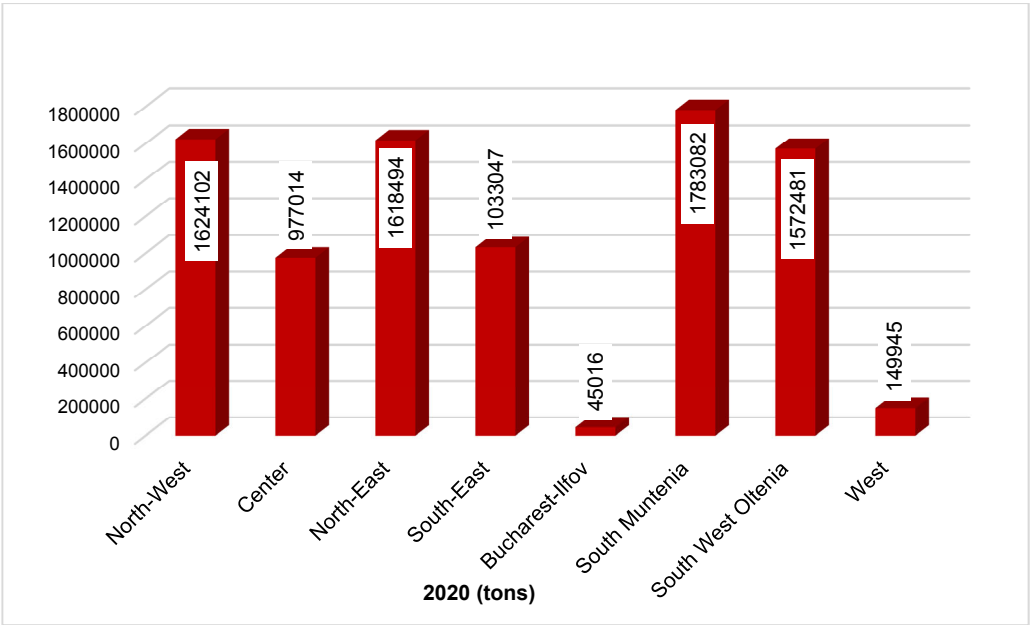


Figure 11 – Maize production in Romania
Source: Data obtained from INS

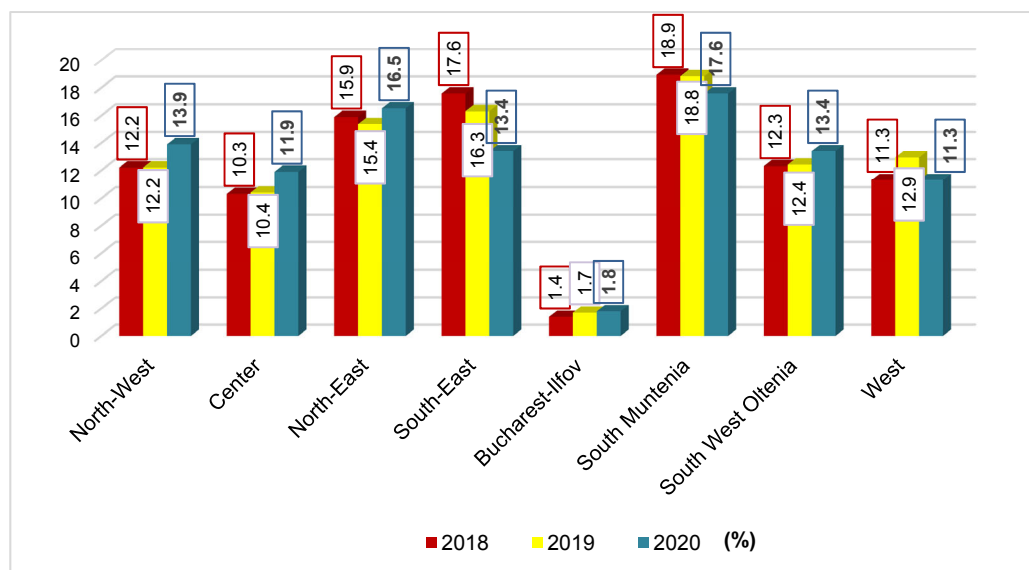


Figure 12 – Value share of agricultural production by development region in Romania
Source: Data obtained from INS

DISCUSSION

Romania can easily achieve the stage of self-sufficiency in most agricultural vegetal products. Bringing Romanian agriculture to European standards should lead to increased production capacity for agri-food products in terms of food self-consumption and increased exports of agri-food products. Average production per ha is an essential element of economic efficiency and, consequently, of profitability. The level of average production depends, on the one hand, on the natural fertility of the soils and, on the other hand, on the cultivation technologies applied.

Each state is bound to ensure the food security of its citizens because the problem of the access to food for the population contributes to peace and social peace (tranquillity), to stability and prosperity. **Social peace (tranquillity)**

refers strictly to the existing harmony as a result of the well-being, the contentment at the level of society, at the level of the individual. A lack of social peace can occur because of the dissatisfaction occurring at a social level (lack of food, too high prices, increase in living costs, insufficient income, poverty, etc.) and generate social conflicts, social movements materialised in protests, meetings, strikes, and demonstrations, and which finally usually lead to social change.

Currently, food security and the population's access to proper high-quality agri-food products are major problems and concerns of many of the world's countries.

Regarding the availability of food for consumption, the analysis of the statistical data shows that our Romania's agriculture succeeds in ensuring the domestic consumption requirements only

in cereals; as for all other basic products, Romania needs to resort to imports to meet the consumption requirements of the population. Statistics highlight the imbalances in Romanian agriculture and the inability of the Romanian farmers to produce enough agri-foods to ensure the necessary consumption. In Romania, the agri-food production sector has been severely affected since the 1990s because of the destruction of the functional agri-food chains in the centralized economy and of the powerlessness of entrepreneurs to create new functional chains to cope with competition in a market economy. As a result, Romania has become an importer of the most basic products consumed domestically.

On the most evolved agricultural markets, the raw material harvested is subjected to several preparation and processing processes in different by-products until it is turned into a merchandise. The rapid movement of the raw material from the agricultural producer, throughout the entire agri-food chain to the final consumer, adds value to the farmer, the processor, and the consumer. It would be important for Romanian farmers not to sell the raw material to the processors but to prepare and process their production by themselves and only then to sell it – ideally through their own stores. In this situation, an important role is that of the cooperation and association of agricultural producers.

In this regard, increased attention is required for agricultural households and subsistence and semi-subsistence farms (which are small and medium-sized farms holding a share of 97.5% of the total number of farms and 45.40% of the land area of Romania, while 48.20% of the

area is owned by the big commercial farms that represent only 0.40% of the total number of farms) in the rural areas of Romania, which should make their business more efficient. The existence of investment funds for the companies for processing agricultural raw materials in these areas would be a solution in this regard. It would solve the problem of income for these categories of farmers, and the problem of migration, another issue that requires urgent solutions because it is one of the causes of the numerous small properties remained uncultivated in Romania because of abandonment. The profitability of farms is generally low: farmers make a great effort for relatively low incomes, which is why many young people leave agricultural activities and rural areas. These problems are intertwined, and negative effects occur in the chain.

Alignment of Romanian agriculture at EU competitiveness levels, at the new financial system of agricultural support is problematic as long as the investment program for sustainable economic growth is almost non-existent compared to the real productive investments for Romania.

CONCLUSIONS

Changes of the agrarian structures in Romania occurred as a result of the agrarian reforms enforced following great political events: World War I (1918), World War II (1945), the establishment of a communist government that led to the centralization of agriculture through forced collectivization (1962), and the 1989 political events known as the “1989 Revolution” that changed the form of government and allowed Romania to

switch from a centralized, planned economy to a market economy.

Romania has become the European Union member country with the largest number of farms following the successive application of the regulations regarding the restitution of agricultural lands to the former owners or to their heirs, a process started with the enforcement of the Law 18/1991 (the Land Fund Law).

According to statistics, Romania has about 33% of the total farms owned by the EU member countries, but most of these farms are subsistence and semi-subsistence farms (42.4% of Romania's farms) that play an important role in guaranteeing food security, but a minor role in making up the food offered along the food chains from producers to processors and to final consumers.

Statistics show that, during the last years, the polarity of the agrarian structures in Romania has increased, that is, there are many small farms and a small number of very large farms, so the middle segment remains under-represented. The structure of the farms is as polarized as it was at the beginning of the 20th century.

The land structure of Romania is quantitatively and qualitatively compatible with the requirements of the development of plant and animal production; it is also fully capable of meeting the domestic demand for agri-food products and to ensure some availability for export. Romania has an agricultural area of 0.64 ha/inhabitant, almost double the average of the EU member countries: only Spain and France (with 0.62 ha/inhabitant) have levels comparable with that of Romania.

This is the main argument that supports the production potential of agriculture and the ability to produce enough agricultural products for both domestic consumption and for export.

The agricultural area of the country represents, according to the last general agricultural census (GAC) from 2020, almost 12.8 million ha, less than that of 2010 by 543 thousand ha, because of the removal from the agricultural process of some important agricultural areas.

Romania has 11% of the EU area cultivated with cereals and oil plants. Thus, Romania is the largest producer of maize and sunflower in Europe, and it is in the top five countries in wheat and soybeans in the EU.

The opinion of the specialists is that the development of agriculture at European standards, guaranteeing food security and safety from domestic products should consider the structuring of agricultural farms (holdings) so that each agricultural farm may produce and be economically efficient.

Economically, in the context of the Covid-19 Pandemic, because of the challenges of this period, both farmers, processors and the entire food supply chain, including consumers, were taught the hard lesson that *a global aspect can have global consequences and generate global problems*.

In this context, countries should place more emphasis on local autonomy in making decisions regarding their national needs and show more responsibility and collaboration in relation to common problems, such as drought, pollution, global warming, greenhouse gases, extinction of species, artificial intelligence, etc.

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