

STUDY ON CULTIVATED AREAS AND PRODUCTIONS IN ROMANIA IN THE MAIN CROPS IN AN EUROPEAN CONTEXT

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Abstract

Romanian land resources are immense, but certain land-ownership laws have caused a fragmentation of agricultural areas. Romania suffers from fragmentation of agricultural properties. Compared to other Member States of the European Union, Romania has an average farm size similar to that of Malta or Cyprus, island countries with much less agricultural land than Romania. Almost 75% of farms in Romania have less than 20 ha, and the share of farms under 10 ha represents about 98% of the total number and 38% of the total agricultural area used. In this paper, the authors analyse the situation of cultivated areas and productions in the main crops in Romania under the current conditions. Romania is one of the European countries with the most favourable soil and climate conditions for agriculture. Romania's natural conditions indicate that more than 60% of the total area of our country can be used for agriculture. The role of agriculture is an extremely important one for today's society because it can provide the necessary production of food for the population, raw materials for different industries, as well as production for export. Agriculture is one of the sectors where the Member States of the European Union have agreed to share both public funding and responsibilities. Studies carried out for this paper show that Romania is one of the main agricultural producers at European level and that it ranks among the countries of the European Union in terms of the area under cultivation and production of the main agricultural crops. The authors of the paper conclude that Romania is also one of the top ten exporters of wheat and maize in the world. Analyses show that agriculture is one of the few branches of the economy that have ranked Romania in the European top of the first places in the production of cereals and oilseeds obtained each year.

Key words: crops, areas, production, Romania, Europe

INTRODUCTION

The agricultural sector plays an important role in Romania, with about 30% of the total population engaged in different agricultural activities, compared to only 3%-14% of the population occupied in agriculture in other European countries [2], [1]. There is a major difference between rural and urban areas, residents living in rural areas are marked by a significantly higher level of poverty and by a lower standard of living compared to residents living in urban areas. Most Romanian farmers suffer from a lack of a clearly defined professional status, which has negative or ambiguous implications for the tax plan and social and health insurance. It is also reflected in the fact that the majority of those involved in agriculture in Romania do not have the

necessary professional training to provide them with an adequate level of knowledge and skills suitable for the competitive agricultural sector [5], [6]. Therefore, most Romanian farmers rely solely on their practical experience and only 7% of farmers have agricultural training. Although this is not uncommon in the EU, the lack of agricultural education is more severe in Romania.

Agriculture in Romania is one of the few branches of the economy that has put Romania at the forefront of the European tops. For example, in 2016, Romania ranked first in the European Union's sunflower production tops and second in wheat and maize production, after France, according to data from the National Statistics Institute (NSI) [11]. At the national level, agriculture is one of the important branches of the Romanian

economy. Thus, the contribution of agriculture, forestry and fish farming to the building up of the Gross Domestic Product (GDP) is around 6% in Romania, while, in the European Member States, the contribution to GDP from agriculture is around 1.7% [9]. However, Romania's agriculture cannot reach its full potential because of the massive fragmentation of agricultural areas, of the lack of technology and of efficient irrigation systems. These are some aspects for which Romania has fluctuating production per ha in the main crops, compared to the other Member States of the European Union [3]. Agriculture has become one of the sectors most vulnerable to climate change and the forecasts say that this trend will increase [4]. The current irrigation system continues to face problems caused by the location and poor technical condition of the irrigation infrastructure, resulting in a high cost of water, which only large farmers can afford to pay. This is the main reason influencing the production of small and medium-sized farmers in terms of the climate conditions of the year. In the years of drought, the farms often record low yields per ha [7].

MATERIALS AND METHODS

Following the study, the authors present the current situation of the cultivated areas and productions recorded in the main cultivated agricultural crops in Romania.

The data used shall come from the official databases of the NSI and Eurostat and are related to the crop production in the main agricultural crops and the areas cultivated with each type of crop.

The area under cultivation is the total area cultivated annually with each crop and is expressed in thousands of ha. Total production is the amount of agricultural produce in each crop for the year analysed and is expressed in thousands tons.

As a working methodology, the technique of indirect research, that of documentation and collection of information from databases and literature has been used.

RESULTS AND DISCUSSIONS

Occupation and land use are closely interdependent with the relief units present on the territory of the country. Romania enjoys a very varied relief (28% mountains, 42% hills and plateaus, and 30% plains), which leads to a variety of land use possibilities. The geographical distribution of the relief is reflected in an unequal territorial distribution of land types.

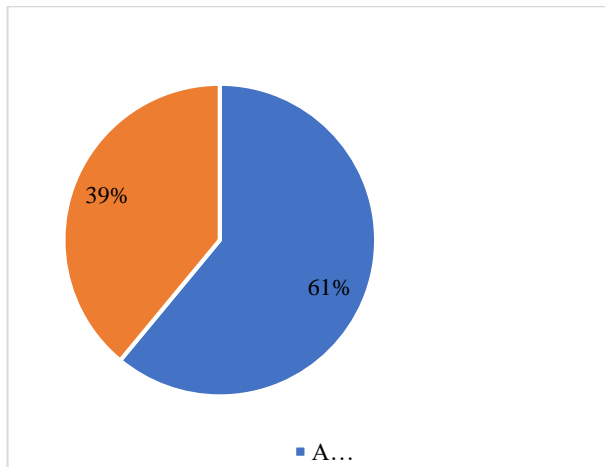


Fig. 1. Share of agricultural area of total area of Romania

Source: Data processed after the Ministry of Regional Development and Public Administration [9].

The area of Romania is 23,839,071 ha, of which 61% is agricultural land (Fig. 1). The largest agricultural areas are arable areas (64% of agricultural land), followed by pastures and meadows (33% of agricultural land). Forests cover an area of 6,800,872 ha, representing 29% of the country's territory, with 0.32 ha of forested land per capita.

In 2019, compared to 2018, agricultural crop production increased in grain legumes and decreases in grain cereals, oil plants, sugar beet, fodder beet, tobacco, potatoes – total, vegetables – total, green fodder from arable land, orchards on fruit and vineyards on fruit. Grain crops with significant shares of cereal production in 2019 were grain maize (56.9%), wheat (33.9%), barley and two-row barley (6.5%) (Fig. 2).

The main grain-growing counties, which have important shares of the total production, are Timiș (8.8%), Călărași (6.4%), Dolj (5.7%), Constanța (5.2%), and Teleorman (5.1%) (Fig. 3).

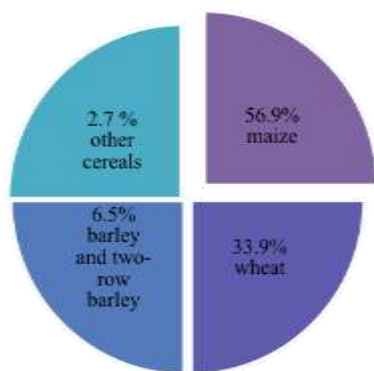


Fig. 2. Areas cultivated with the main grain cereals, 2019
 Source: Own calculation.

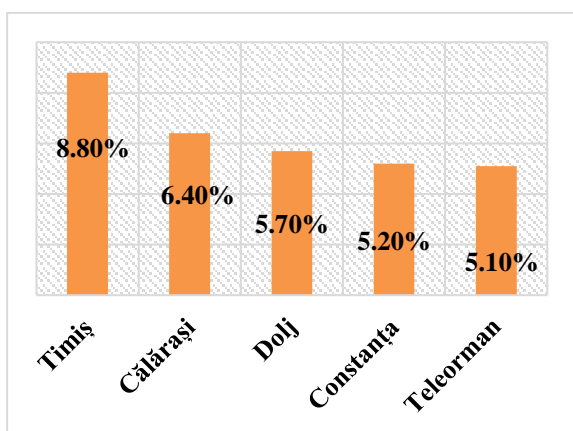


Fig.3. Main grain-cereal growing counties
 Source: Own calculation.

Counties with a higher share of the total sunflower production were Dolj (9.4%), Timiș (7.8%), Brăila (7.5%), Teleorman (6.6%), and Constanța (6.5%) (Fig. 4).

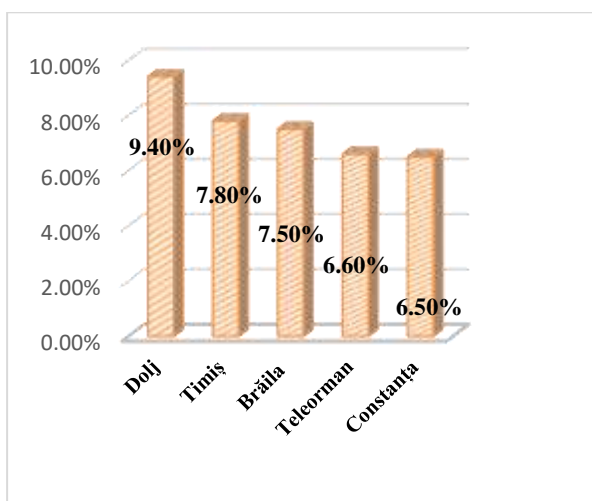


Fig. 4 Main sunflower growing counties, 2019
 Source: Own calculation.

Production of oil plants decreased because of the decrease in both yield per ha and the area under cultivation.

More significant rape productions were obtained by the counties of Călărași (11.9%), Arad (8.8%), Teleorman (7.2%), Giurgiu (7.2%), and Constanța (6.6%) (Fig. 5).

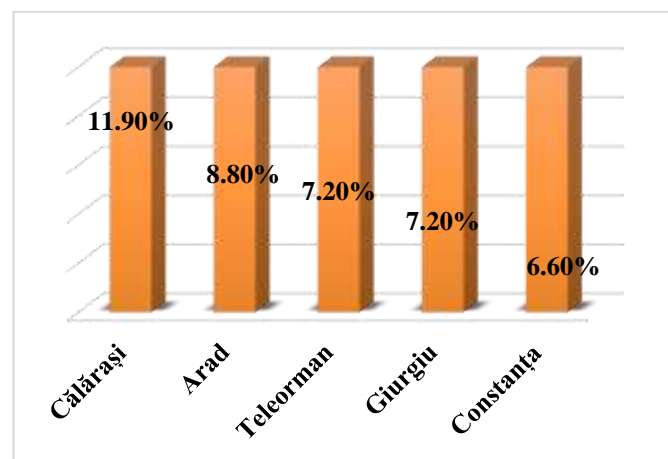


Fig. 5. Main counties with the largest share of rape production, 2019
 Source: Own calculation.

The counties with a higher share of the total soybean production are Călărași (16.5%), Timiș (14.8%), Brăila (14.4%), Botoșani (10.4%), and Satu-Mare (6.0%) (Fig. 6).

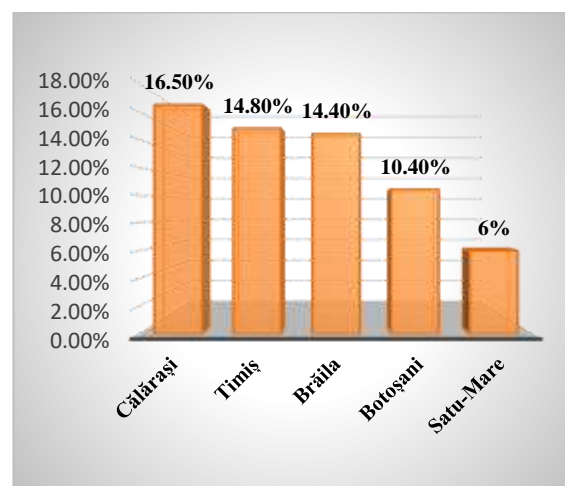


Fig.6. The main counties with the highest share of the grain soybeans, 2019
 Source: Own calculation.

At European Union level, the most important crops in arable land are cereals, the most widespread being, of the total area under cereal cultivation, wheat (46.7%), barley (22.1%), and maize (16.0%) (Fig. 7).

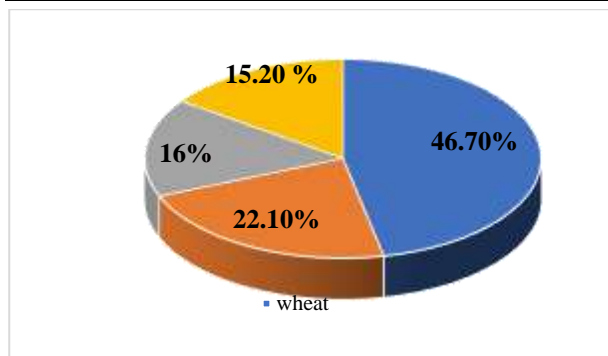


Fig. 7. Share of the main cereal crops in the EU, 2019
 Source: Data processed after NIS [10].

However, crops can vary significantly from country to country because of different climate conditions, production and consumption practices, and tradition. In terms of wheat cultivation, Romania ranked fourth (8.2%) after France, Germany and Poland, and the share of the European Union's total wheat-cultivated area decreased by 0.1% compared to the previous year (Fig. 8).

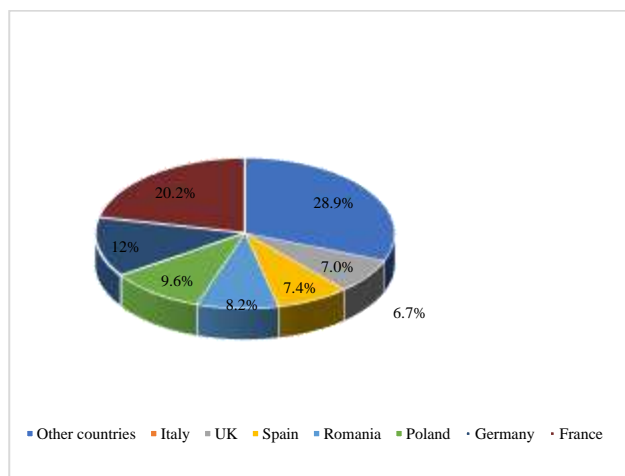


Fig. 8. Areas cultivated with wheat in the EU, 2019
 Source: Data processed after Eurostat [4].

Romania, the largest grain maize grower in 2018 and 2019 in the European Union (more than one-fourth) (Fig. 9 and 10).

In 2018, its share in the EU cultivated area with maize was 29% and in 2019 it increased at 29.7%.

In 2018, Romania was followed by France whose share in the EU-28 cultivated area accounted for 17%, and Italy with 16% (Fig. 9). In 2019, Romania was followed by Bulgaria which kept 18.6% and Spain with 16.3% (Fig. 10).

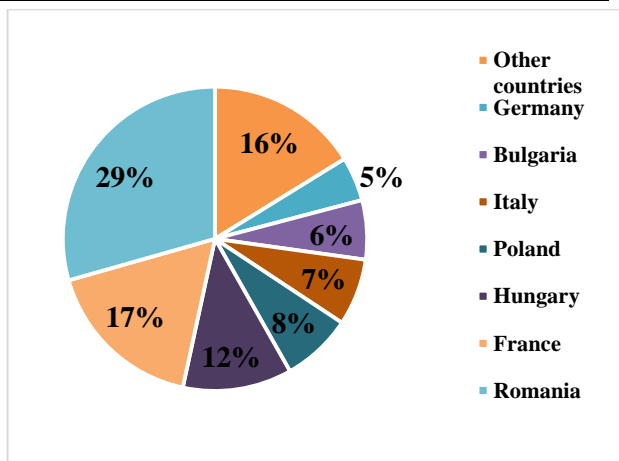


Fig. 9. Areas cultivated with grain maize in the EU, 2018
 Source: Data processed after Eurostat [4].

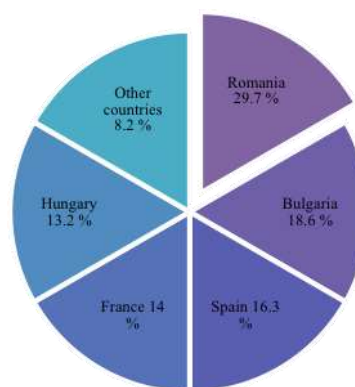


Fig. 10. Areas cultivated with grain maize in the EU, 2019
 Source: Data processed after Eurostat [4].

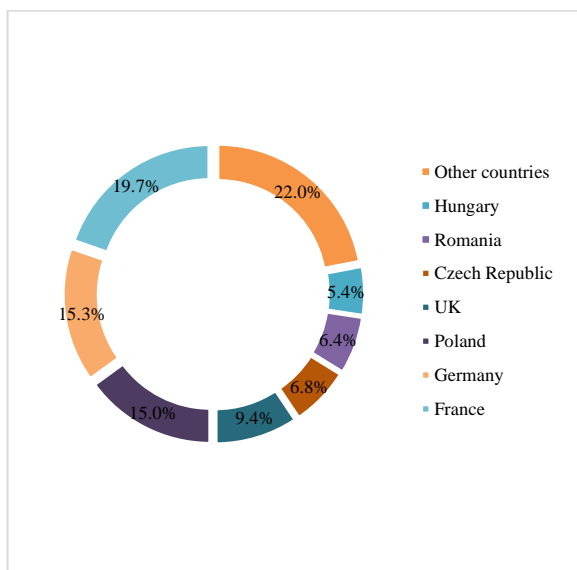


Fig. 11. Areas cultivated with rape in the EU, 2019
 Source: Data processed after Eurostat [4].

For the rape cultivated area, Romania was ranked the sixth among the Member States in 2019.

Its share in the total rape-cultivated area of the European Union decreased by 2.7% compared to the previous year (Fig.11).

Romania ranked third, after Italy and France, in areas cultivated with soybeans in 2019. The area cultivated with soybeans in the European Union decreased by 6.9% in 2019 compared to the previous year (Fig. 12).

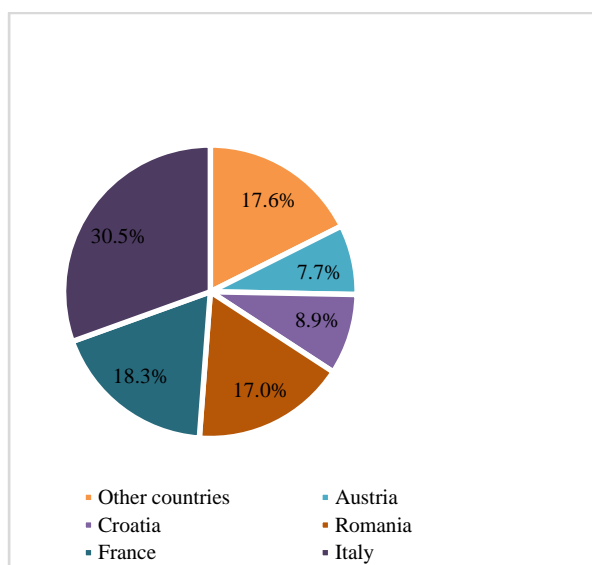


Fig. 12. Areas cultivated with soybean in the EU, 2019
 Source: Data processed after Eurostat [4].

In Romania, 6.5% of the total wheat production of the European Union was obtained in 2019, with our country ranking fifth among Member States, after countries such as France, Germany, the United Kingdom, and Poland.

In 2019, Romania cultivated the largest area with grain maize in the European Union and also obtained the largest production.

As regards sunflower production, Romania ranked first among Member States, followed by Bulgaria, Hungary, France, and Spain.

Rape production placed Romania in the top seven Member States.

In 2019, the largest rape producer in the European Union was France, which, together with Germany, the second largest producer, produced 37.3% of total Community production.

In 2019, Italy produced 38.0% of soybean production, followed by France (15.7%),

Romania (14.6%), Croatia (8.5%), Austria (7.9%), and other Member States (15.3%). Romania also maintained potato production among the first seven Member States, after Germany, France, the Netherlands, Poland, the United Kingdom, and Belgium [8].

CONCLUSIONS

The production performance in Romania's reflect the potential of agriculture for maize, sunflower, soybean, wheat, rape and potato, for which the country occupy the 1st position (maize, sunflower), the 3rd position (soybean) the 6th position (rape) and the 7th position (potato) among the top EU agricultural producing countries.

But, the performance is given especially by the extend of the cultivated areas than yields, which makes the difference between Romania and the other EU country with a high developed agriculture.

The present data show that the enhancement of the performance of Romanian agriculture can resize Romania's image as a cereal force on the European market and beyond.

Increased trade in agricultural products can contribute decisively to the growth of Romania's economy.

REFERENCES

- [1]Bernet, T., Weidmann, G., 2019, Organic agriculture (Agricultura ecologica), Fibl-Merckblatt Elveția, Association Education for Development (Asociatia Educatie pentru Dezvoltare, AED), Republic of Moldova.
- [2]Cristina, A. F., Mănescu, C., Popescu, A., Mateoc-Sîrb, N., 2015, Analysis of the Romanian rural area, Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development" Vol. 15(4): 39-42.
- [3]Deacu, E., 2017, Romania has a high agricultural potential, but it si lacked of productivity (România are potențial agricol ridicat, dar îi lipsește productivitatea), Adevarul.ro, Accesed on 5 November 2018.
- [4]Eurostat Database, 2019, <https://ec.europa.eu/eurostat/data/database>, Accessed on 1 November 2019.
- [5]Grad, I., Mănescu, C., Mateoc, T., Mateoc-Sîrb, N., 2014, Studies on the agriculture systems practiced in Romania, Scientific Papers Series Management Economic Engineering in Agriculture And Rural Development, Vol. 14(1): 139-142.

[6]Mateoc-Sîrb, N., Otiman, P.I., Mateoc,T., Mănescu, C., 2013, Analysis of development opportunities for rural entrepreneurship in the development Region West, Romania, Scientific papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol. 13(1): 231-234.

[7]Mănescu, C., Cristina, A. F., Sicoe-Murg, O., Găvruta, A., Mateoc, T., Toth, A., Mateoc-Sîrb, N., 2016, Analysis of the importance of agriculture sector in Romanian economy, Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol. 16(1): 271-278.

[8]Ministry of Agriculture and Rural Development, Strategy for the development of the agri-food sector on medium and long-run 2020-2030 (Ministerul Agriculturii și Dezvoltării Rurale, Strategia pentru dezvoltarea sectorului agroalimentar pe termen mediu și lung orizont 2020-2030), <http://www.madr.ro/docs/agricultura/strategia-agroalimentara-2020-2030>, Accessed on 3 November 2019.

[9]Ministry of Ministry of Regional Development and Public Administration, 2018, General data on agriculture.

[10]National Institute of Statistics Data base.

[11]Toth, A., Mateoc-Sîrb, N., David, S., Mateoc, T., Mănescu, C., Venig, A., Sârb, Gh, 2016, Organic agriculture: An opportunity for sustainable development of Romanian villages, Journal of Biotechnology, Vol 231S: 83.