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Conference Paper

Analysis of the main indicators regarding the production and surface area of the main crops in the South-East development region, in the period 2010-2018

Provided in Cooperation with:

The Research Institute for Agriculture Economy and Rural Development (ICEADR), Bucharest

Suggested Citation: Stoica, Gabriela-Dalila (2020) : Analysis of the main indicators regarding the production and surface area of the main crops in the South-East development region, in the period 2010-2018, In: Agrarian Economy and Rural Development - Realities and Perspectives for Romania. International Symposium. 11th Edition, The Research Institute for Agricultural Economy and Rural Development (ICEADR), Bucharest, pp. 183-187

This Version is available at:

<https://hdl.handle.net/10419/234389>

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ANALYSIS OF THE MAIN INDICATORS REGARDING THE PRODUCTION AND SURFACE AREA OF THE MAIN CROPS IN THE SOUTH-EAST DEVELOPMENT REGION, IN THE PERIOD 2010-2018

STOICA GABRIELA-DALILA¹

Summary: Cereals are grown for grain and are used both to provide food and feed. In Romania, cereals occupy an important place in the structure of use of agricultural areas, observing a tendency to increase the areas where cereals are grown due to their importance, but also due to the fact that Romania has favorable soil and climatic conditions for their growth and development. The research aims to analyze the evolution regarding the areas, total productions and average productions obtained within the South-East region, in the period 2010-2018.

Keywords: crop production, cultivated area, South-East region

JEL classification: Q10, R14

INTRODUCTION

Wheat is important in ensuring food safety and security, due to its high content of minerals, proteins, carbohydrates, fats and vitamins. It is considered a good precursor plant for many crops, as it is harvested early, which gives the soil the opportunity to recover in terms of fertility. Wheat consumption in our country is linked to the tradition of food consumption of the Romanian people.

Corn is considered the best known precursor plant, it is also rich in protein and carbohydrates, which makes it a good source of energy.

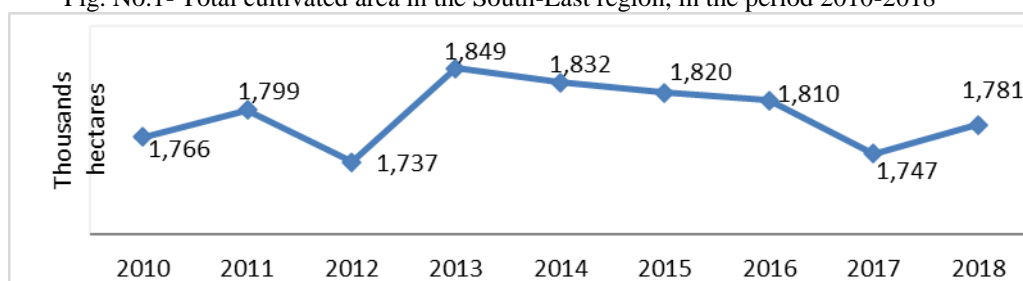
From ancient times, cereals are considered to be the basis of human nutrition, their cultivation contributing to the economic growth of the country. The problem that arises is the proportion in which cereals are consumed daily and the ratio between them and other products of both plant and animal origin. Romania occupies an important place in Europe, ranking on the leading places in the area cultivated with corn and on the 2nd place in the realized production.²

Regarding oil plants, Romania focuses on cultivating areas with sunflower, rapeseed, soybean and less flax for oil.

MATERIAL AND METHOD

Data provided by the National Institute of Statistics, time series 2010-2018 were used for this paper. The comparison method was used to highlight the annual differences in areas and production obtained in the cereals sector in the South-East Development Region.

Fig. No.1- Total cultivated area in the South-East region, in the period 2010-2018



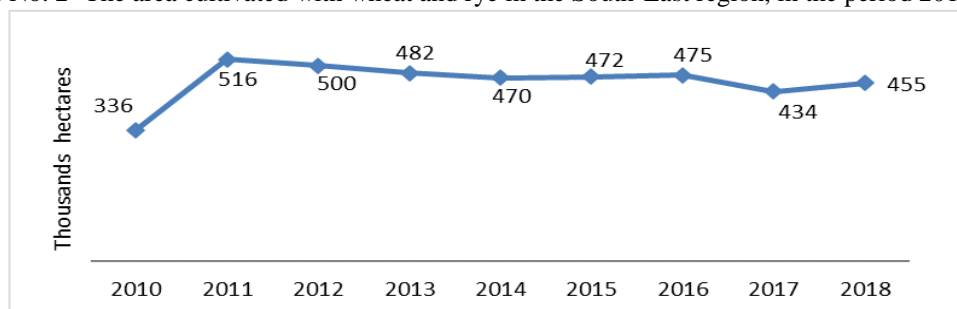
Source: www.inss.ro (Accessed on 20.02.2020)

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² <https://agroromania.manager.ro/articole/vegetal/romania-a-inregistrat-cea-mai-mare-productie-de-porumb-din-europa-26343.html>

The area cultivated with wheat and rye has a downward trend in the South-East development region. This area oscillated in the analyzed period, between 422 thousand ha and 529 thousand ha, which determined a period average of about 482 thousand ha.

Fig. No. 2- The area cultivated with wheat and rye in the South-East region, in the period 2010-2018

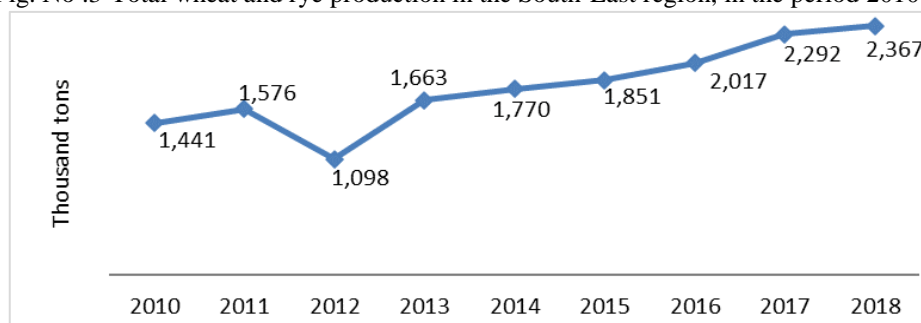


Source: www.inss.ro (Accessed on 20.02.2020)

In 2018, the area cultivated with wheat and rye in the region, represented 42.39% of the total area cultivated with grain cereals.

In 2018, Romania ranked 5th in Europe in the area cultivated with wheat.³

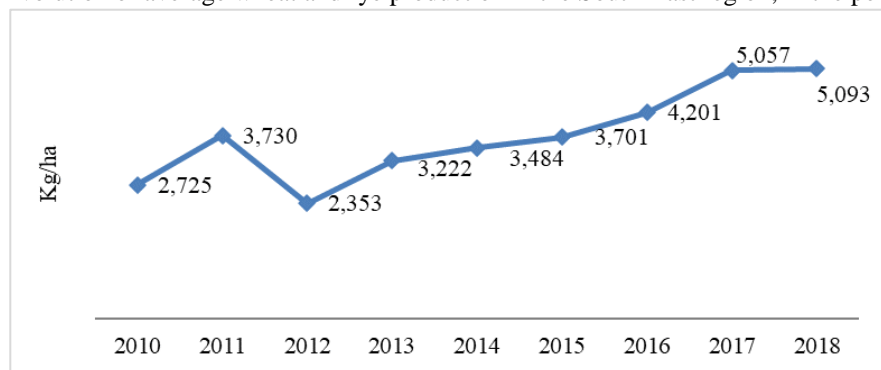
Fig. No. 3- Total wheat and rye production in the South-East region, in the period 2010-2018



Source: www.inss.ro (Accessed on 20.02.2020)

The total production of wheat and rye varies from one year to another, registering significant increases in the analyzed period, reaching a maximum of approximately 2.4 million tons, which means that it increased by 46.39% tons compared to 2012, when the lowest production was obtained. There are also substantial increases in yield per hectare. Thus, in 2018 a record yield of 5093 kg/ha was obtained by 86.89% more compared to the first year analyzed.

Fig. No.4 - Evolution of average wheat and rye production in the South-East region, in the period 2010-2018



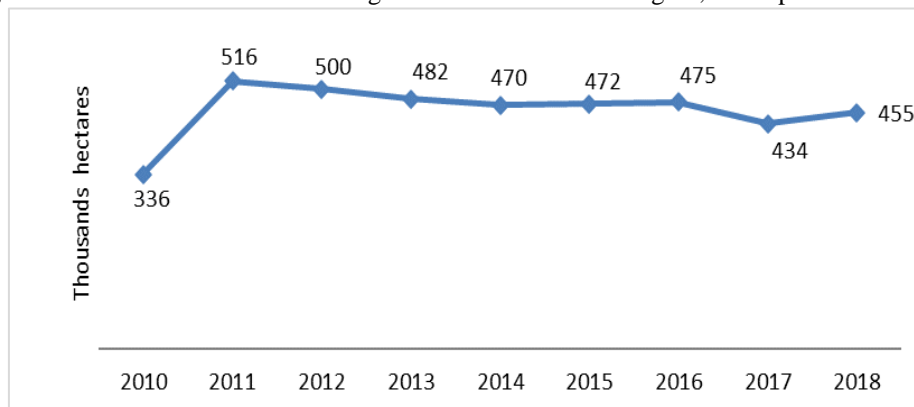
Source: www.inss.ro (Accessed on 20.02.2020)

³ <https://agroromania.manager.ro/articole/vegetal/romania-a-inregistrat-cea-mai-mare-productie-de-porumb-din-europa-26343.html>

This evolution regarding the average production of wheat and rye is influenced by the level of technical endowment with tractors and the main groups of agricultural machines. It was found that the highest average yields were obtained in the years when there was a better technical endowment, which contributed to the optimal timing of the work of preparing the germination and sowing bed, the work of fertilization, herbicide, control of diseases and pests, as well as harvesting.

Another important cause that led to the achievement of high levels of production was the annual amount of rainfall and their distribution during the growing season. For wheat, the water requirement is 3,500 - 4,500 m³/ha, the critical phases being: emergence-flowering, sprouting-flowering-grain formation (May-June).

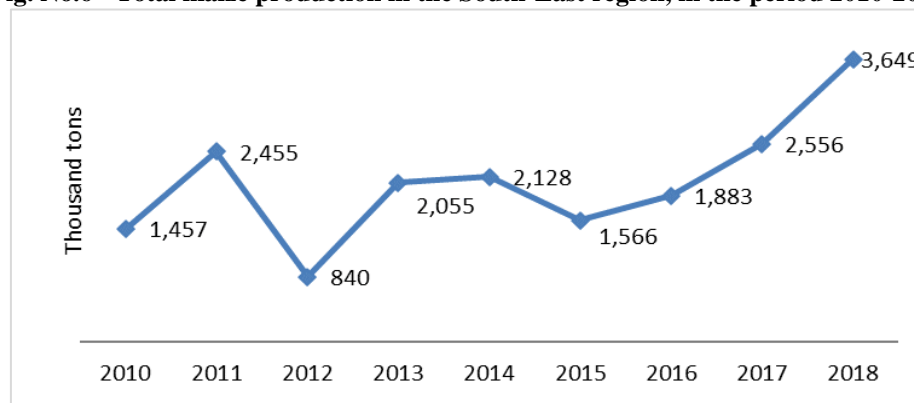
Fig. No. 5- Area cultivated with corn grains in the South-East region, in the period 2010-2018



Source: *www.inss.ro* (Accessed on 20.02.2020)

At the level of the South-East development region, the surface cultivated with grain corn was between approximately 336 and 516 thousand ha, resulting in an annual average of the period of 460 thousand ha. The area cultivated with corn grains in 2018, represented 41.51% of the total area cultivated with grain cereals. Thus, in 2018 Romania was the leader in the cultivated area and on the 2nd place in the corn production achieved.⁴

Fig. No.6 - Total maize production in the South-East region, in the period 2010-2018



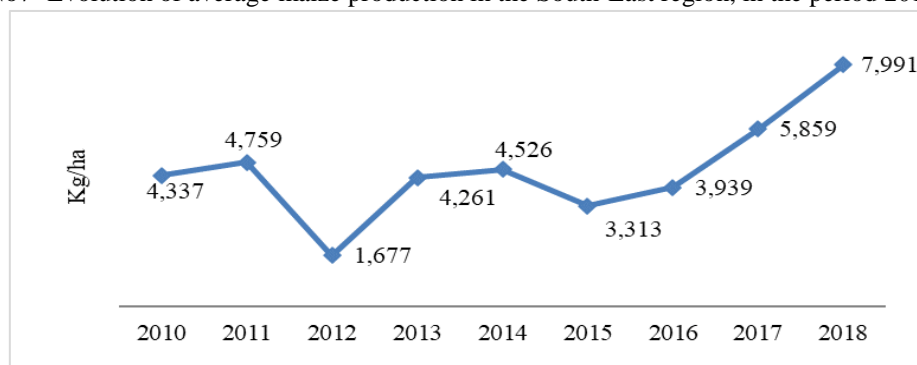
Source: *www.inss.ro* (Accessed on 20.02.2020)

Regarding the total production of corn, in the region there is a variation, registering values between 840 thousand tons and 3.6 million tons, resulting in an average period of 207 thousand tons and an average yield of 4,518 kg/ha .

The average production registers an accelerated growth, reaching a value of 7,991 kg/ha, with 84.25% more than the first year analyzed, when a yield of 4,337 kg/ha was obtained.

⁴ <https://agroromania.manager.ro/articole/vegetal/romania-a-inregistrat-cea-mai-mare-productie-de-porumb-din-europa-26343.html>

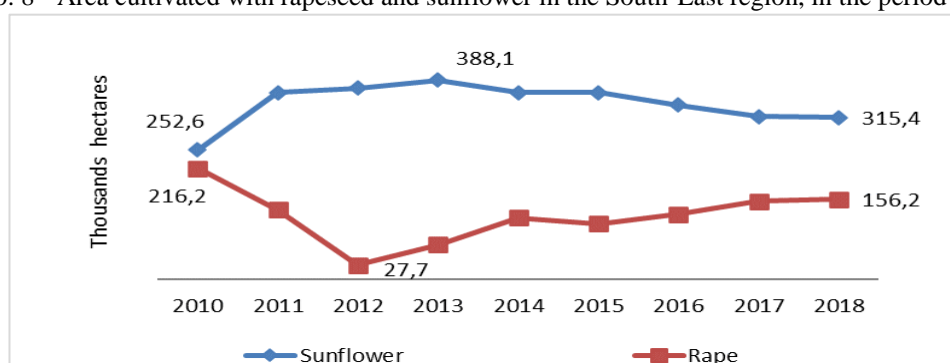
Fig. No7- Evolution of average maize production in the South-East region, in the period 2010-2018



Source: www.inss.ro (Accessed on 20.02.2020)

Thus, for the corn harvest in 2018, the average yield in Romania was 7.79 t/ hectare, based on data provided by the Romanian authorities. The European average was 8.35 t/hectare.⁵

Fig. No. 8 - Area cultivated with rapeseed and sunflower in the South-East region, in the period 2010-2018

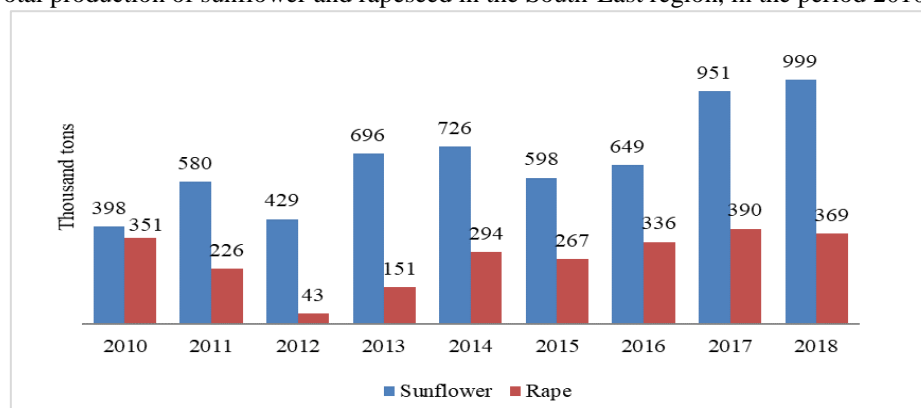


Source: www.inss.ro (Accessed on 20.02.2020)

Sunflower cultivation occupies an important place in the country, in terms of cultivated area and production obtained. Therefore, in 2018 Romania ranks 1st in Europe in terms of area and production obtained from sunflower.

There was a variation of the area cultivated with sunflower, observing a minimum value recorded in 2010 increasing by 20% until 2018. The increase of areas cultivated with sunflower took place due to the loss of areas sown with rapeseed.⁶

Fig. No. 9- Total production of sunflower and rapeseed in the South-East region, in the period 2010-2018



Source: www.inss.ro (Accessed on 20.02.2020)

⁵ <https://fermierinromania.ro/ramdamentele-medii-ale-productiei-romanesti-de-cereale-comparativ-cu-tarile-membre-ue/>

⁶ Profitul Agricol 1/2020

Rapid crop rotation is essential for the success of rapeseed farming, with better results when farmers coordinate their rapeseed cultivation plans.⁷

CONCLUSION

In conclusion, during the analyzed period, there is a general tendency to increase the cultivated areas, the total production and the average production obtained.

The area cultivated with wheat and rye has the largest share in the total area cultivated with grain cereals, namely 42.43%. The second crop, as cultivated area, among those analyzed above is corn, representing on average 40.47% of the total area cultivated with grain cereals.

Regarding the total yields obtained, for all five crops analyzed there are substantial increases. Wheat and rye account for about 35% of total cereal production, and maize accounts for 53% of total cereal production.

Compared to the first year analyzed, currently the average yields per ha have an upward trend, reaching a record production of about 8 t/ha for corn, 5 t/ha for wheat and rye, 3 t/ha for sunflower 2,3 t/ha for rapeseed.

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