

Studies on the Evolution of Agricultural Production in Gorj County

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Abstract

Agricultural production varies from season to season, so it requires current decisions in a constant effort to maximize profits and minimize the effort and resources used. In this article we will present the evolution of agricultural production in Gorj County. Gorj covers an area of 560,174 ha and has about 240,000 hectares of agricultural land, the rest being occupied by forests, urban areas, stretches of water, etc. Animal husbandry and forestry, as well as fruit growing, viticulture and beekeeping are specific activities for the north of the county, the cereal culture being present especially in the center and south. The livestock sector includes significant herds of cattle (30,883 heads), pigs (73,872 heads), sheep (122,336 heads), goats (25,354 heads), birds (108,6471 heads).

Keywords: agriculture, agricultural production, Gorj county, zootechnical production

1. Introduction

Agricultural production has existed practically since the human being stopped wandering to opt for a sedentary lifestyle. Thus, he discovered that he could see and then enjoy the fruits of the field. [1]

In other words, agricultural production is the fruit of sowing and harvesting in the field. This, in order to obtain, above all, edible goods for human consumption, although part of it can be used for an industry that offers added value.

One of the peculiarities of agricultural production is that it is highly dependent on the climatic factor. Thus, in case of severe drought, large areas of crops can be seriously affected. That is why it is necessary, as a farmer, to strategically organize your agricultural activity and to be able to anticipate the problems and needs that you may encounter, depending on the time of year.

We can also say that agriculture is an activity that differs from other economic activities because, on the one hand, agricultural activity is conditioned by the biological evolutions of plants and animals, and on the other hand it ensures the food security of the population. [2-5]

In the 21st century, agricultural production continues to develop methods that allow it to increase its productivity. Irrigation systems and machines used in this sector are becoming more and more sophisticated. However, the risks and cyclical nature of this activity continue to be a challenge.

In this article we will present the diagnosis of agricultural production in Gorj County, a county with a strong cereal character. In terms of the general level of development, Gorj County is in a less favorable position, because the region to which it belongs is characterized by a lower level of development. Regional studies and analyzes in recent years place the Southwest region among the 4 least developed regions, along with the Northwest, East, South and Northeast regions. [6]

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2. Materials and methods

The materials in this article were collected from various bibliographic sources and on the website of the National Institute of Statistics. With the help of the data obtained from the online tempo, we managed to make this article and to observe the evolution of the agricultural production in the analyzed area. The methods used by the authors of this article are: observation, analysis, comparison, collection and finally processing of the data obtained.

3. Results and discussion

Gorj County is located in the southwestern part of Romania, along the Jiu River. [7] It borders Vâlcea County to the east, Hunedoara County to the north, Caraș-Severin County to the northwest, Mehedinți County to the southwest and Dolj County to the southeast. [8,9]

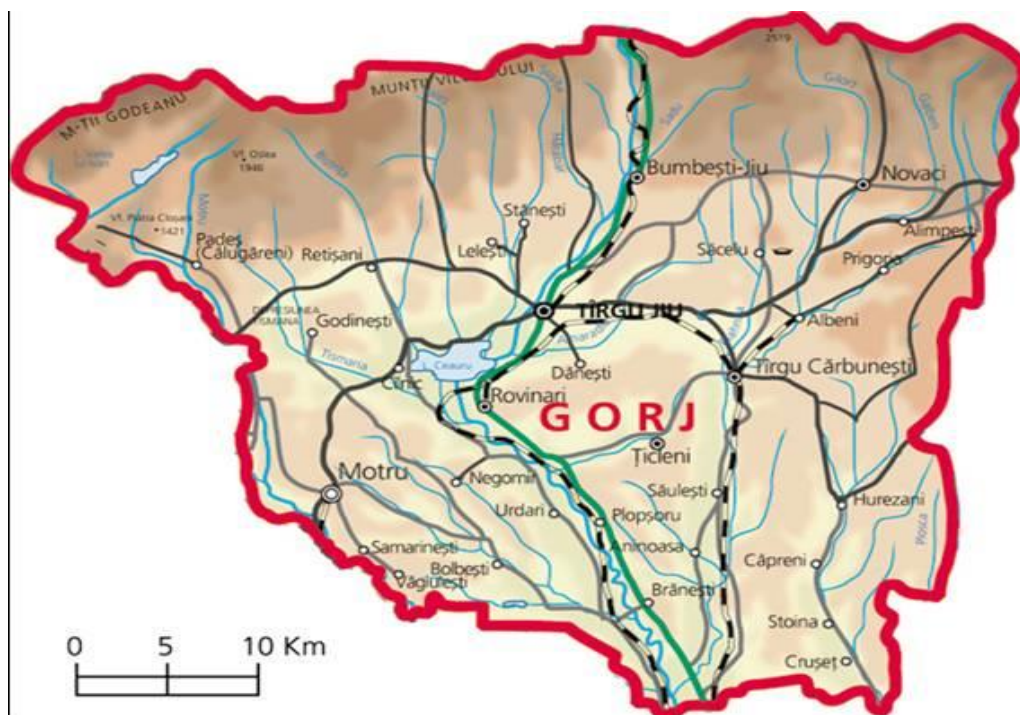


Figure 1. Map of Gorj County [10]

Gorj County covers an area of 5,602 km², occupying 2.34 percent of the country's territory, with an agricultural area of 238,559 ha at the level of 2019. [7]

Animal husbandry and forestry, as well as fruit, viticulture and beekeeping are specific activities for the north of the county, the cereal culture being present especially in the center and south. Agriculture, an occupation with a long tradition in Gorj County, has an important agricultural area that belongs mostly to the private sector.

The areas in the county where agriculture is practiced on large areas are represented by the

communes of Bălești, Danciulești, Crușeț, Turburea, Tântăreni, etc. [11]

The arable land covers an area of 98,110 ha, the natural meadows have a total area of 131,944 ha, of which pastures 89,867 ha and hayfields 42,077 ha, the area of orchards is 4,683 ha, and the area occupied by vines is 3,766 ha.

Unfortunately, approx. 76% of soils are affected by erosion, landslides or acidity. In addition, there is a high degree of fragmentation of agricultural land, given that almost half of the farms have an area of less than one hectare. [9]

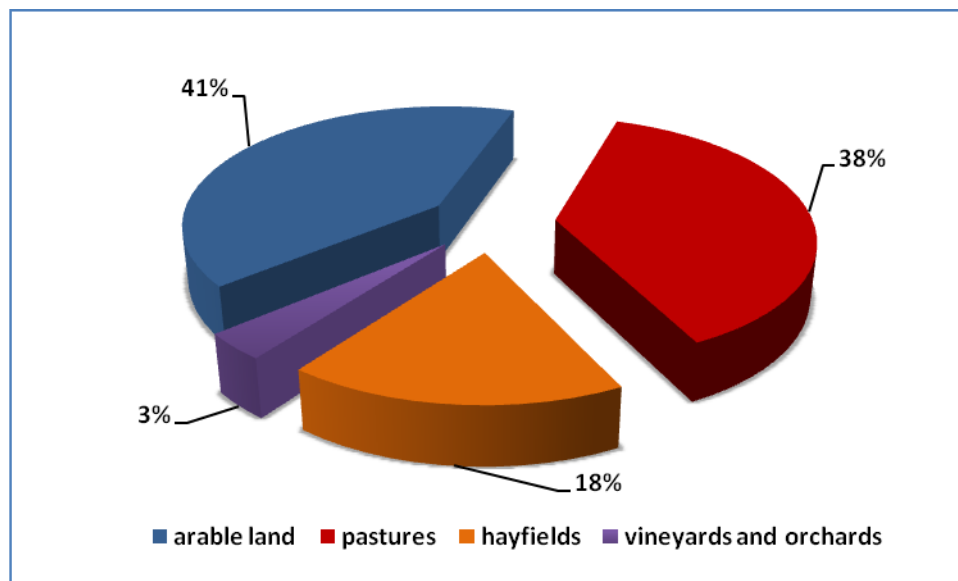


Figure 2. The structure of the agricultural area of Gorj county in 2019

With in Gorj county, the agricultural production registered a maximum in 2018, due to the vegetal agricultural production, as can be seen in table 1. Vegetable agricultural production had an upward trend until 2018, and since 2019 it has had a downward trend and holds the largest share in the structure of agricultural production, in proportion

of 68%. Regarding the category of agricultural services, they have decreased drastically, starting with 2016 and until now, compared to 2015, and the animal agricultural production decreased slightly in the period analyzed by us.

Table 1. The evolution of the agricultural production of Gorj county, in the period 2015-2020

Specification	2015	2016	2017	2018	2019	2020
- thousand lei -						
Total	1034693	1013182	1216205	1331343	1257880	1253331
Vegetable agricultural production	603848	615615	821905	917291	835528	847705
Animal agricultural production	426536	397352	394106	413889	422126	405421
Agricultural services	4309	215	194	163	226	205

Source: Processing according to the Statistical Yearbook, 2016, 2019, 2021, [12, 13, 14, 15]

Next we will present the evolution of cultivated areas with the main crops, in the period 2015-2020 (table 2).

The main crops grown in Gorj County are:

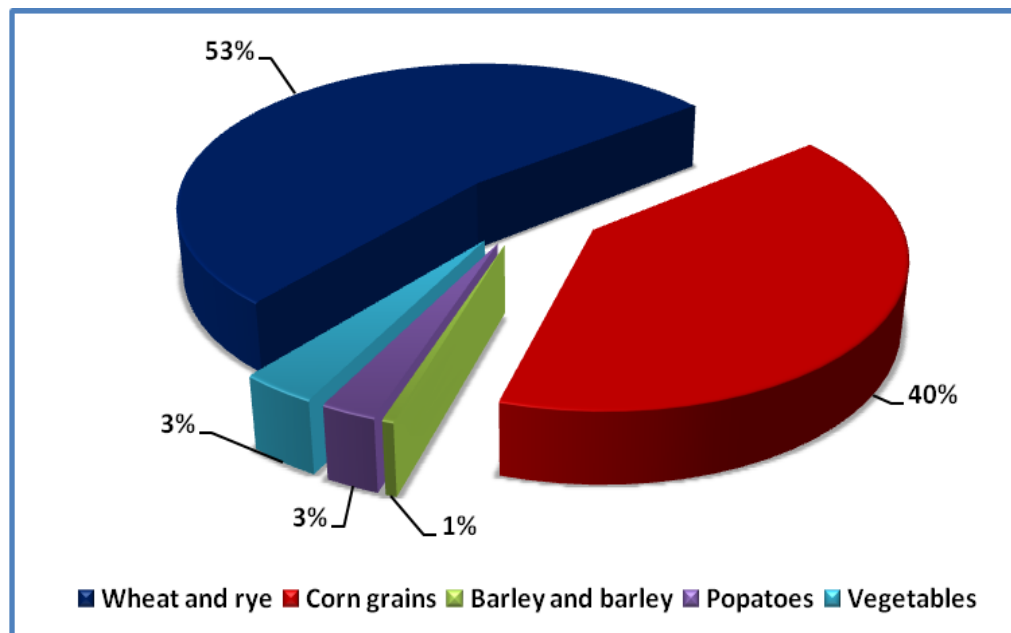
- ❖ corn,
- ❖ wheat and rye,
- ❖ barley,
- ❖ potatoes,
- ❖ vegetables. [10]

The total cultivated area in 2020, compared to 2015, decreased, and if we analyze the cultivated area by crops we can see a slight decrease in cereals for grains, potatoes and vegetables and a significant increase in oily plants and legumes for grains.

Table 2. Evolution of cultivated areas with the main crops, in the period 2015-2020

Specification	2015	2016	2017	2018	2019	2020
Cultivated area, of which	85635	87049	79850	80141	80199	81735
Grain cereals, of which	74267	76215	68908	68804	68687	70260
- Wheat and rye	9028	9359	9854	9808	9669	11492
- Rye	11	15	15	-	-	-
- Degree - total	9017	9344	9839	9808	9669	11492
- Barley and barley	579	687	761	759	768	690
- Corn grains	59691	61167	53113	53061	53136	52983
Grain legumes	176	195	242	242	240	243
Oily plants, of which	171	64	209	255	299	300
- Sunflower	129	64	209	224	299	300
- Colza	-	-	-	31	-	-
Potatoes	3344	3192	3181	3289	3290	3292
Vegetables	5584	4929	4857	4893	4830	4537

Source: Processing according to the Statistical Yearbook, 2016, 2019, 2021, [12, 13, 14, 15]

**Figure 3.** Share of cultivated areas in Gorj County, 2020

From figure 2 it can be seen that the largest share of the cultivated area, in 2020, is held by cereals, representing a percentage of 94%, therefore we can say that Gorj County has a strong cereal character. Of the grain cereals category, the largest share is held by corn with 53%, followed by wheat and rye with a percentage of 40%. The areas with barley and barley have decreased, the same has happened to the area cultivated with potatoes.

Vegetables are very important in human nutrition, and the area occupied by this category, in the area studied by us, is 4537 ha, respectively 3%.

In conclusion, the overwhelming share in the structure of cultivated areas, in Gorj County, was and is held by cereals.

Next we will analyze the vegetable agricultural production for the main crops, in the period 2015-2020.

Table 3. Vegetable agricultural production in the main crops, in the period 2015-2020

	- tone -					
Specification	2015	2016	2017	2018	2019	2020
Grain cereals, of which	191322	231174	387900	426509	300820	293422
- Wheat and rye	27693	29714	43439	43936	35981	36871
- Rye	25	34	45	:	:	:
- Degree - total	27668	29680	43394	43936	35981	36871
- Barley and barley	1571	2241	2764	2819	2812	1936
- Corn grains	151042	187242	326947	364563	248307	241618
Grain legumes	776	426	644	648	621	575
Sunflower	122	76	547	615	918	450
Potatoes	36908	38362	47433	50700	34958	39185
Vegetables	61053	56307	70793	61847	57173	55503

Source: Processing according to the Statistical Yearbook, 2016, 2019, 2021, [12, 13, 14, 15]

In the cereal crop for grains, a total production of 293422 tons was obtained in 2020, a lower production compared to 2019, when the total production was 300820 tons, but much higher than in 2015, when the total production was 191322 tons.

We can say with certainty that the evolution of this indicator depends largely on climatic factors, so it is necessary to take certain measures in conditions of severe drought.

Animal farming is the second most important component of agricultural production in addition to crop production and agricultural services. If so far we have presented the vegetal agricultural production, we will further analyze the animal agricultural production and the problems that this vital sector faces for us.

Regarding the number of animals, in Gorj county, the following situation was registered in the period 2015-2020 (table 4).

Table 4. Evolution of the number of livestock in Gorj County, in the period 2015-2020

	- heads -					
Categories of animals	2015	2016	2017	2018	2019	2020
Cattle	49838	48795	42913	41773	32732	30883
Swine	97886	94418	90676	88672	81971	73872
Sheep	112700	113276	117255	118813	119463	122336
Sheep and sheep	98407	96884	99397	101054	101715	105151
Goats	26655	27299	28510	28388	25035	25354
horse	9110	9256	8577	8167	6826	6880
Birds	1267126	1272000	1068115	1161185	1092285	1086471
Bee families	44237	44934	44301	45054	48450	51437
Rabbits	1843	1174	1258	2043	2660	2660

Source: Processing after Tempo online, 2021, [12]

Analyzing the table above we can see that the number of cattle has decreased from 2016 to the present, compared to 2015. The same decreasing trend happens to the number of pigs, they have decreased steadily in the period we analyzed.

The flock of sheep registered an increasing trend during the analyzed period, reaching in 2020 a level of 105,151 heads, respectively 35.1% more than in 2006. In 2016, the flock of birds registered 75689.9 thousand heads, 10.9% less than in 2006. Regarding the dynamics of the number of horses, there was an increase in 2016 compared to 2015,

which is followed by a continuous decrease until 2020.

Regarding the number of birds, the variation in the analyzed period is sometimes ascending, sometimes descending, the highest number of birds was recorded in 2016.

The total number of rabbits registered a downward trend until 2017, and since 2018 the trend has been upward.

Beekeeping is relatively developed in Gorj County, as can be seen from the table above, registering significant increases in 2020, compared to 2015.

In conclusion, we can say that animal husbandry is a sector with considerable potential that should traditionally occupy an important place in the structure of Gorj agriculture. This is an important factor in social stability and maintaining the ecological balance, being at the same time the main productive branch that provides food for the population and important quantities of raw materials for the food and non-food industries.

4. Conclusions

Gorj has about 98,110 hectares of arable land. This is equivalent to 41% of the county's surface, the rest being occupied by forests, urban areas and stretches of water.

Animal husbandry and forestry, as well as fruit, viticulture and beekeeping are specific activities for the north of the county, the cereal culture being present especially in the center and south.

The level of total crop production, as well as the ratio between it and agricultural production, as well as the ratio between the main and the by-product, depend on several main factors, such as:

- ✓ biological: cultivated variety (hybrid) and its cultural value;
- ✓ ecological: relief, climate, soil structure;
- ✓ technological: sowing, care work, fertilizing, crop rotation and harvesting.

Gorj County has the most favorable conditions for practicing beekeeping, relevant to the large number of bee families registered in the period we analyzed.

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