



UNIVERSITY OF LIFE SCIENCES "KING MIHAI I" FROM TIMISOARA

"YOUNG PEOPLE AND MULTIDISCIPLINARY RESEARCH IN APPLIED LIFE SCIENCES"



"Young people and multidisciplinary research in applied life sciences"

21-22 November 2024

THE IMPORTANCE OF AGRICULTURE IN THE ECONOMIC DEVELOPMENT OF CIUMEGHIU COMMUNE, BIHOR COUNTY

MĂNESCU CAMELIA¹, SICOE-MURG OANA^{1*}, MARIN DIANA¹, ADAMOV TABITA¹, NICOLETA MATEOC-SÎRB¹

¹University of Life Sciences "King Mihai I" from Timisoara, Faculty of Management and Rural Tourism, Timisoara, Romania

Abstract: Agriculture remains the main activity sector in the rural area. This sector provides jobs for a significant part of the population and, after decades of difficulties, still has a huge potential for development. The purpose of the paper is to emphasize the important role that agriculture has in the economic development of Ciumeghiu commune. The research methodology consists in the use of research data collection methods: observation, analysis, synthesis and the case study method, as well as data processing and interpretation methods: determination of indicators and statistical graphs. The authors present the economic development potential of the commune and a case study that follows the economic efficiency of a vegetable farm, as well as the determination of its main economic efficiency indicators. The paper ends with the main conclusions resulting from the research, which emphasize the importance of agriculture at the commune level.

Key words: agriculture, development, commune, importance, Ciumeghiu

- Introduction.** Agriculture has been and continues to be a vital field of human activity since ancient times. It remains the only source of food, an important supplier of raw materials for the industry and at the same time a significant outlet for its production.
- Material and method.** The research methodology consists in the use of research data collection methods: observation, analysis, synthesis and the case study method, as well as data processing and interpretation methods: determination of indicators and statistical graphs. The authors present the economic development potential of the commune and a case study.
- Results and discussions.** The administrative territory of Ciumeghiu commune is located in the southern part of Bihor county, in a plain area on DN 79, Arad-Oradea section. The commune of Ciumeghiu is located 50 km away from the municipality of Oradea. The territory of the commune is crossed by numerous watercourses, having a winding course, the most important being the Ghepeşul and the Crişul Negru river.



Figure 1 The location of Ciumeghiu commune on the map of Bihor county

- It borders Avram Iancu commune to the north, Hungary to the northwest, Arad county to the south, Batar commune to the east, and Salonta city to the north.
- Administrative organization.** Ciumeghiu commune is made up of three villages: Ciumeghiu, the village of residence, Boin and Ghiorac.
- The land fund of Ciumeghiu commune is mostly used in agriculture,** 75% of the surface representing agricultural land. The commune also has significant areas of forest land

Presentation of a case study: Analysis of the economic activity of a vegetable farm in the town of Ciumeghiu, Bihor county

The vegetable farm is located in Ciumeghiu commune, Bihor county at a distance of 50 km from the municipality of Oradea and 65 km from Arad. The farm has a total area of about 150 hectares which are cultivated with cereals and oilseeds. The following crops predominate on the farm: 50 hectares of wheat, 50 hectares of rapeseed and 50 hectares of sunflowers, to ensure a good crop rotation. The farm work is done by the family members with state-of-the-art machinery and strategy.

Establishment and crop care work on the farm

Soil work. Agriculture is based on the basic works (ploughing or scarification) after the experience gained in the work, and the execution of all the works at the optimal time, for a low consumption of fuel and with minimal wear of the machines but also to achieve maximum efficiency.



Figure 2. Soil work in the vegetable farm

- Figure 2 shows the basic soil works carried out on the farm, which reach an optimal depth of 30-35 cm.
- Regarding fuel consumption per hectare for these works, it is approximately 40-50 liters of diesel fuel per hectare.
- After the basic work, the plowing, the spreading of fertilizers follows, before the preparation of the germinant bed. Fertilizers applied before sowing, autumn crops, should contain as much P (phosphorus) as possible, for good rooting and starting of plants in spring. After the fertilizers have been applied, before sowing, the work of preparing the seed bed is carried out, which is usually done at a shallow depth of up to 5-10 cm, in order to preserve moisture and achieve soil uniformity.



Figure 3. Fertilizer application in the vegetable farm



Figure 4. Preparation of the germinant bed within the vegetable farm

- The sowing.** As soon as the seedbed preparation work is finished, sowing begins and each crop has a different sowing technique.
- Sowing time.** Regarding the sowing of autumn crops, in the present case: rapeseed and wheat, it is done as follows: in the months of August-September rapeseed and between September and October wheat.
- Wheat crop.** Regarding the wheat crop, the optimal sowing period in the western part is from September 20 to October 10. Wheat is a "safer" crop from the point of view of emergence. The way of working is similar to that of rapeseed, with phosphorus-based fertilizers. Wheat is sown at a distance of 12.5 cm between rows.

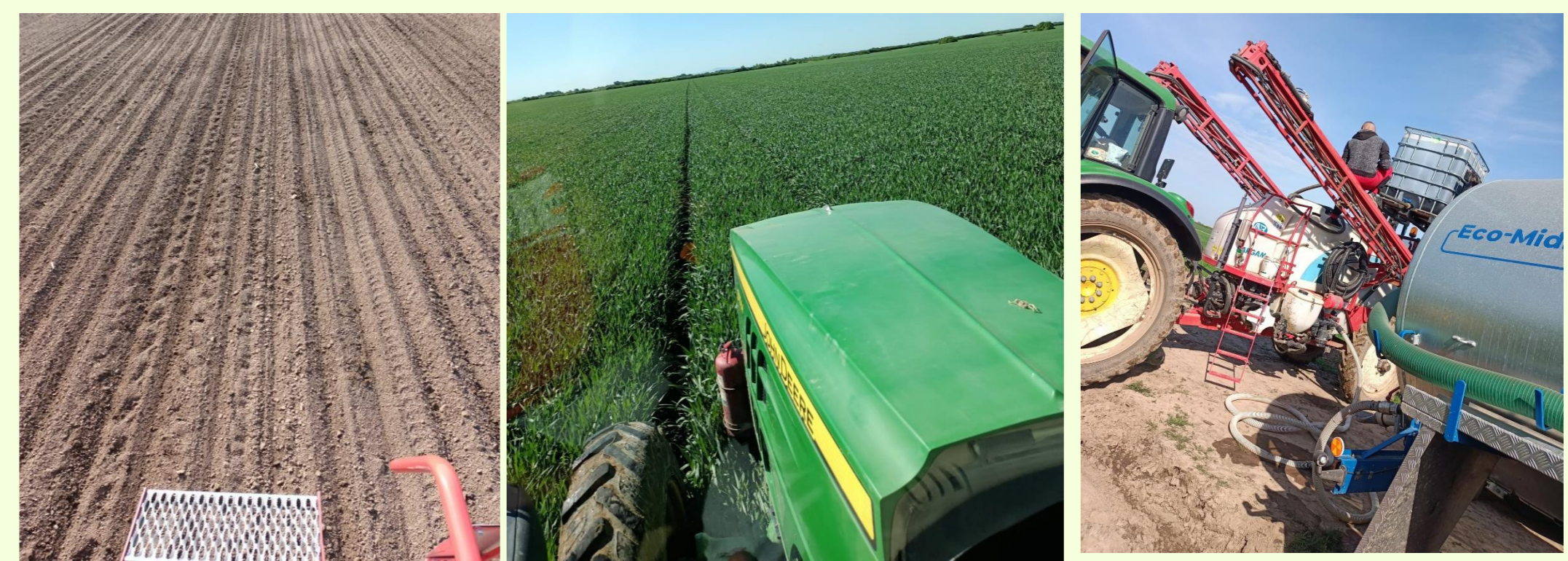


Figure 5 The sowing of wheat Figure 6. Vegetation phase of wheat Figure 7 Applying the treatments

Culture care. The application of insecticide and fungicide treatments is very important in terms of the quality and productivity of the wheat crop.

Harvesting. The most anticipated part by farmers is the HARVEST, after which the results of the work done are obtained.

In the same way, rapeseed and sunflower crops are presented in the paper.

Determining the economic efficiency per hectare the authors then carry out a study to determine the economic efficiency per hectare for the three main crops of the vegetable farm by calculating the following indicators:

- expenses per hectare and on total crop,
- Income per hectare and total crop
- Profit per hectare and total crop.

Table 1.
The main economic efficiency indicators calculated for the farm's wheat crop, 50 hectares

No.	Specification	U.M.	The value of the indicators
1	Cultivated area	ha	50
2	Production obtained (Qt)	t	300
3	Average selling price (p)	lei /t	900
4	Total production costs (Cht)	lei	155000
5	Total Revenue (Vt)	lei	270000
7	Earned Profit (Pr)	lei	115000
8	Subsidy	lei	50000
9	Total profit	lei	165000

Table 2.
The main economic efficiency indicators calculated for the farm's rapeseed crop, 50 hectares

No.	Specification	U.M.	The value of the indicators
1	Cultivated area	ha	50
2	Production obtained (Qt)	t	150
3	Average selling price (p)	lei /t	3000
4	Total production costs (Cht)	lei	235000
5	Total Revenue (Vt)	lei	450000
7	Earned Profit (Pr)	lei	215000
8	Subsidy	lei	55000
9	Total profit	lei	270000

Table 3.
The main indicators of economic efficiency calculated for the sunflower culture of the farm, 50 hectares

No.	Specification	U.M.	The value of the indicators
1	Cultivated area	ha	50
2	Production obtained (Qt)	t	150
3	Average selling price (p)	lei /t	2000
4	Total production costs (Cht)	lei	175000
5	Total Revenue (Vt)	lei	300000
7	Earned Profit (Pr)	lei	125000
8	Subsidy	lei	50000
9	Total profit	lei	130000

Conclusions

Following the study undertaken in this work on the activity carried out in the vegetable farm, the following conclusions can be drawn:

- The cultivation of corn was abandoned, after the unpleasant experiences of the past (obtaining low productions following the confrontation with the phenomenon of drought), due to the climate changes that Romania is facing in the last period of time. It was decided that three crops should be predominant in the analyzed vegetable farm: wheat, rapeseed and sunflower.
- The three crops wheat, rapeseed and sunflower ensure a good crop rotation, without overlapping more than 2-3 years of the same crop on the same plot.
- With these crops there is the possibility that after the work done in one year, the farm staff will have a decent living.
- After determining the economic efficiency of the three crops wheat, rapeseed and sunflower, within the Vegetable Farm it follows that its activity is profitable, but it must be taken into account that these results are obtained when agriculture is practiced with passion and at the same time having due to the fact that it requires dedication 24/24 hours and 7/7 days.
- Thus, the authors consider that, considering the large agricultural area owned by the Ciumeghiu commune, as well as the high potential of the soil, agriculture, practiced in medium-sized family farms, can represent a solution for the employment of the local population in order to obtain an income of decent living, emphasizing the importance that agriculture has at the level of the commune.