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EXPLOITATION OF THE DEVELOPMENT POTENTIAL OF THE CIUMEGHIU COMMUNE, BIHOR COUNTY

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Abstract: **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 industry and at the same time the main activity of the rural population. The purpose of the work is to determine the most suitable crops, depending on the quality of the soil and the production capacity of the farm, so as to obtain the highest possible profit.** The research methodology consists in the use of methods of collection, processing and interpretation of information and statistical data, the case study method and methods of presentation and mathematical-statistical processing. The paper presents the economic potential of the commune and a case study. At the end of the paper, the most profitable crops at the commune level are identified.

Key words: exploitation, potential, agriculture, crops, 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 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 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, Boiu 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 humic farm in 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 8.5 hectares of which 6 hectares are cultivated with vegetables and 2.5 hectares are cultivated with cereals (wheat and corn). Within the farm there is also a solar which has an area of 500 square meters - 0.05ha, (50 meters long x 10 meters wide) and was built for the production of seedlings, in particular, and as experiments for the rest of the crops.

The main vegetable crops of the farm are: cauliflower, cabbage and celery. In addition to these, on a small area of land (approximately 0.5 hectares), other vegetables are also grown: cabbage, lettuce, eggplant, peppers, tomatoes, watermelon and yellow. These are generally intended for own consumption and aim to track their behavior and their adaptation to soil and climatic conditions. The work on the farm is carried out by family members, who have over 20 years of experience in growing vegetables and, when necessary, seasonal labor.

Soil work. A good agricultural year must start with a quality ploughing, given by a suitable depth for the needs of the next crop, the correct adjustment of the plow (the plow should be straight, in a horizontal plane) and the optimal period to benefit from a low fuel consumption (diesel), low wear and tear on the machine, the plow, and to make the work of the tractor easier.

Figure 2 Soil work within the vegetable farm

In the last period of time and using the latest technology in the field, plowing is largely removed from soil preparation works, with scarification. Sown. After the soil works have been carried out, at a depth of 30-35 cm in the ground, so the foundations have been laid for the preparation of the new agricultural year, it is time to talk about the sowing of seedlings, in the case of Vegetable Farm the main vegetable crops are: cauliflower, cabbage, and celery.

To prepare the seedlings for planting in the open field and in the greenhouse, sowing begins at the beginning of January. Sowing is done by filling the boxes with fine peat, then sowing and covering with 1-2 cm of peat mixed with sand for optimal emergence. Optimal germination is done with heat and humidity and is 90-95%.

After sowing, wait around three weeks until the seeds grow and are ready for transplanting (repotting). This work is done by moving the plants from the boxes into the cells.

The main purpose of this work is to give more space to the plants and to make them uniform by selecting two types of plants: small and large.

Figure 3 Preparation and care of seedlings

Planting is done mechanized, with a 2-row planting machine that plants around 8,000 plants per hour. This option helps to save money, time and for replacing seasonal labor (which is very hard to find in recent years). If the planting is done sooner (in February), the plants are covered with a microporous foil of 19 or 23 grams/m2, which helps the plants withstand up to -5 and -7 degrees Celsius.

Figure 4 Mechanized planting

Crop care. This option was chosen (planting in February), in order to enter the market faster, which should also bring a higher price. Along with planting, a drip tape is pulled to irrigate and administer fertilizers. About 3-4 weeks after planting, a chain hoe is used to remove the weeds left over from weeding, new fertilizers are applied and only the activity of spraying the plants remains. Spraying the plants is done with a tractor-mounted machine (MET), to save time and make the work easier.

Harvesting. After all these processes, the harvesting stage follows, for the purpose of marketing, hoping that the price will be as high as possible, so that in addition to covering the expenses, an added value is also obtained.

When the harvest is done, the land is cleared with a crop shredder and amendments are spread to raise the pH of the soil and achieve higher yields the following year.

DETERMINATION OF THE ECONOMIC EFFICIENCY PER HECTARE OF THE MAIN CROPS OF THE VEGETABLE FARM:

- cauliflower, cabbage and celery
- the main economic indicators expenses, income and profit were determined.

• Conclusions

From the experience of cultivating the land over the years, it has been found that it is much more profitable to eliminate the crops of peppers, eggplants, tomatoes and watermelon or yellow, because these crops are heat-loving, they are planted in early May. Instead, cabbage and cauliflower are planted at the beginning of March and harvesting already begins at the beginning of May, while eggplant and pepper are harvested at the beginning of August-September, cabbage and cauliflower can be grown twice on the same land .

From the point of view of hail, the stress is a little lower because in cabbage, cauliflower and celery there are better chances of recovery, while in other crops (peppers, eggplant, tomatoes and watermelon or yellow) the chances are minimal.

The vegetables grown in the Vegetable Farm, unlike other crops (peppers, eggplants, tomatoes and green or yellow watermelons) are more resistant to diseases, rains and can be harvested more easily, while for watermelons and peppers you need to have a little experience in the field.

The vegetable farm had most of the crops in the experimental field, in order to determine which are the most suitable, depending on the quality of the soil and the production capacity of the farm, and which ensure obtaining a convenient profit, thus being chosen as the most profitable three crops featured: cauliflower, cabbage and celery.

Thus, the cultivation of vegetables can represent an important source of income for the inhabitants of Ciumeghiu commune.