

ESTABLISHMENT OF A VEGETAL AGRICULTURAL EXPLOITATION IN CARANI LOCALITY, TIMIȘ COUNTY, ROMANIAN

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Abstract: Agriculture is one of the oldest activities specific to man, with the aim of obtaining raw materials and food products necessary for human nutrition and in certain economic sectors. It is also an important engine for the economic development of a society, developed agriculture being a factor that attests to the degree of development of a society. (Groszler 2017) The agricultural process takes place in units whose integration in the ecological, technical, economic and social environments is carried out specifically. (Duma 2014) This process ensures the transformation of various forms of substance and energy under the action of labor and natural factors, as well as through living organisms, into products and services designed to meet the agri-food and other requirements of society. (Berbeca 2014) In this paper we present a business plan for setting up a vegetable farm in Carani, Timiș County for accessing funds from PNDR 2014-2021, sub-measure 6.1, carried out between 2014-2021, as well as physical-geographical conditions of the territory of ATU Sânanndrei, of which the locality in question is also part of it. The total cultivated area is 6.75 ha, the plants cultivated throughout the project are: sunflower, wheat, zucchini, corn, melons and strawberries; making crop rotations every year. (Marin 2013) Also, without a business plan, non-reimbursable support for setting up a farm could not be obtained. The production of each plant cultivated for the period 2019-2020-2021 was also monitored.

Keywords: agriculture, climat, legume, farmer

INTRODUCTION

President of the Romanian Academy, politician, lawyer, historian, journalist, literary critic and prime minister, a man with a broad vision in several areas of activity, Mihail Kogalniceanu stated that, "Agriculture is the mother of humans feeding its sons."

For all of us, agriculture is an important asset without which we could not survive. Thus, by practicing agriculture, the raw material for the food industry is ensured in order to produce the consumption requirements of the population. (BORCEAN 2009)

Romania has a privileged position in terms of agricultural resources. (MARIN 2017)

Arable land represents 39.5% of the total area of the territory and only five other countries in the world have a more comfortable position than Romania from this point of view. (MIHUȚ 2018)

Besides European funds, local opportunities may also occur from the application of a more stable and predictable regulatory framework as a result of the implementation of the Common Agricultural Policy, with positive effects in terms of pricing; full use of the benefits of Romania's integration into the European Union could supply a market with a population that exceeds 80,000,000 inhabitants (FLORESCU 2014)

The paper contains a plan for the establishment of a vegetable agricultural holding in Carani, Timiș County, Romania, belonging to the Sânanndrei TAU. (DICU 2016)

The village of Carani is 18 km north of Timisoara, 3 km from the National Road DN69 to the east, to which Carani is linked by a communal road.

To the north, it is bordered by Calacea (5 km), to the east with the village of Cornesti, to the south with the Commune of Sânanndrei, to the west with Hodoni.

The Sânanđrei TAU studied comprises two types of plains in the Western Plain, namely the high Piedmont plain of the sub-hill glaxis, namely the Vinga Plain, and the low plain of subsidence and divagation, respectively the Beregsăului Plain. (OKROS 20016)

The Vinga Plain is in the form of a 120-140m altitude terrace, fragmented by a secondary erosion network, which gives the current aspect of this plain. (URLICA 2019) The main relief forms are represented by interfluves, slopes and meadows of erosion valleys. (Mircov 2016)

From the point of view of vegetation, the studied territory is part of the sylvo-steppe area, where, however, the grassy vegetation predominates the woody vegetation. (OANCEA 2012) The woody species in the nearby forests are the *Quercus* sp. mixed with *Tilia* Sp., *Acer campestre*, *Prunus spinosa*, etc. Along waters, there are species of *Salix*, *Populus*. (NITA 2007)

The soil cover of the studied territory is the result of the conjugated action in time and space of the soi genesis factors analysed above, respectively relief, hydrograph, hydrology, climate, mother rock, vegetation, groundwater, and last but not least the anthropogenic intervention through hydro ameliorative, mechanization, and chemical treatment of parental material. (NITA 2018)

MATERIAL AND METHODS

The share of agriculture in the Romanian economy decreased steadily after 1990 (the rate of decline was slower in the first years of transition and faster after 1997). However, the contribution of agriculture to GDP growth remains substantial (12.8% in 2001) compared to the EU average (1.7%).

The regional distribution of agricultural lands according to the way of use is differentiated in relation to the relief conditions, with the pedo-climatic characteristics and the suitability for crops. Overall, only 25% of all agricultural lands have a superior quality, with a good and very good productive potential.

The agricultural production showed very different specific dynamics, both sectorial (vegetable and animal), as well as in regional profile, depending on the diversity of the conditions of agro-pedoclimatic suitability, but also on the degree of use of the production factors.

The vegetal production registered a higher growth rate, because it supposes lower material and financial efforts, in the conditions of the nonexistence of the capital market and of the advantageous credits.

Over the last decade, livestock numbers have declined significantly, including queen herds. below the current level, which represents a technological minimum, can lead to the compromise of the genetic background in animal husbandry.

Data obtained from MADR and INSSE and with the support of the Agricultural Chamber of the City Hall of Carani were used for the elaboration of this paper.

RESULTS AND DISCUSSIONS

In the following, a business plan, "Setting up a vegetal agricultural holding in Carani, Timiș County, for accessing funds in NRDP 2014-2021, sub-measure 6.1" is presented.

The establishment of an agricultural holding needs first the registration of agricultural land in APIA, on behalf of the applicant, given that the land is registered for the first time on behalf of the agricultural holding in 2018. In order to set up this farm and calling on non-reimbursable support, it is desirable to improve the management of agricultural holding and increase its competitiveness. The land area of the farm is 6.75 ha, in Sânanđrei.

The project aligns for the national rural development strategy, by complying with strategic objectives and compliance with other national policies as well as with EU priorities.

The overall objective of the project is to develop the agricultural holding by increasing the competitiveness of the agricultural sector, investment and improve the management skills of the legal representative. At the same time, the overall objective and compliance with the specific objectives are also taken into account: increasing the revenues of the holdings led by young farmers.

The aim of this project is to obtain support for the establishment of the applicant for the first time as a holding ruler. By providing support, the following are taken into account:

- Increasing revenue in the target year compared to 2018 as a result of the increase in production and area cultivated with vegetables and the increase in holding performance by respecting crop rotation and using certified seeds.

- Improving the management of the agricultural holding. Given that the potential of the area in which it operates has a high degree of land use for agricultural purposes, soil suitability and climate are respected.

- Adapting production to market requirements.

- Relying the evolution of the applicant on both internal and external factors (climate, soil fertility, diseases, etc.).

- Developing the holding by receiving the installation premium, so that funding through the NRDP program is needed to develop production capacities to achieve maximum performance.

- Complying with Community rules, in particular, the requirements of cross-compliance, labour protection, environmental and sanitary-veterinary protection. At the same time, complying with the requirements of occupational protection, the environment and the veterinary protection will be followed.

Additional Objectives:

- The holding will only use certified seeds;

- Purchasing 3 ha arable land within the commune of Sânanndrei;

- Purchasing an agricultural disk;

- Promoting the produce with 400 leaflets.

Table 1

Culture plan for the vegetable sector

Name Culture	2018		2019		2020		2021	
	Surface (ha)	Output (tone) ⁶	Surface (ha)	Output (tone)	Surface (ha)	Output (tone)	Surface (ha)	Output (tone)
Sunflower	4,20	7,14	3,75	5,45	3,75	5,45	3,75	5,45
Wheat					3,00	14,1	3,00	14,1
Zucchini - Fresh vegetables, melons and strawberries - in the field	1,05	7,875	1,50	11,25	1,50	11,25	1,50	11,25
Sweet corn - Fresh vegetables, melons and strawberries - in the field			1,50	11,25	1,50	11,25	1,50	11,25

Sweet corn - Fresh vegetables, melons and strawberries - in the field	1,50	1,50						
TOTAL	6,75	16,515	6,75	27,95	9,75	42,05	9,75	42,05

Table 2

Plan for the production and marketing of produce

Name culture	2019		2020		2021	
	Estimated production intended marketing (to)	Estimated value pf production marketed (Ron)	Estimated production intended marketing (to)	Estimated value of production marketed (Ron)	Estimated production intended marketing (to)	Estimated value of production marketed (Ron)
Sunflower	5,45	6.540	5,45	6.540	5,45	6.540
Wheat			14,1	8.460	14,1	8.460
Zucchini - Fresh vegetables, melons and strawberries - in the field	11,25	12.375	11,25	12.375	11,25	12.375
Sweet corn - Fresh vegetables, melons and strawberries - in the field	11,25	14.062,5	11,25	14.062,5	11,25	14.062,5
TOTAL	27,95	32.977,5	42,05	41.437,5	42,05	41.437,5
Total cumulative production sales for a maximum of 3 years.			kg	Ron		
			112,05	115.852,5		

For a deeper analysis of economic viability, risk exposure should be considered and analysed:

- *Pure risk* is determined by the existence of climate factors (hail, drought, flood), factors that cause a decrease in production.
- *Technological risk* occurs because of application of deficient technologies, of making certain technological works improperly.
- *Financial risk* is correlated mainly with the applicant's cash availability. Given that the applicant wants the development of the holding by calling on non-reimbursable European funds, this risk will be eliminated
- *Commercial risk* occurs because of changes in the competitive environment. To increase competitiveness and sales level, the applicant will focus on customers and suppliers to conclude advantageous collaboration relationships for both sides.
- *Political risk* is determined by political changes that engender specific policies for agriculture, on organizing forms, type of property, and culture orientation.
- Social risk depends on salary policy measures correlated with the level of economic development of the country and agriculture. By developing the farm, it is desirable to increase labour productivity and work satisfaction.

In the choice of suppliers, the following conditions have been taken into account:

- Possible supplies to be delivered within a time frame;
- Transport and payment arrangements;
- Possible bonuses.

The price of products adopted by the applicant will be a result of external and internal factors:

- external factors: customers, competition, climate, time, economic conditions;
- Internal factors: cost of production.

Table 3

Income and Expenditure Budget			Year 0-1	Year 2-3
Geographical area: Plain				
System: Non-irrigated				
Nr. Crt.	Indicator	U.M.		
A1	MATERIAL EXPENSES	RON	17.700	20.910
A1.1.	Raw materials	RON	16.700	19.910
a	Seed and planting material	RON	5.795	2.800
b	Fertilizers and amendments	RON	3.780	5.460
c	Pesticides	RON	2.025	2.950
d	Diesel fuel	RON	5.100	8.700
A1.2	Other material payments	RON	1.000	1.000
A2	OTHER EXPENSES	RON	12.960	9.945
a	Services performed by third parties	RON	12.150	8.775
b	Taxes and fees	RON	810	1.170
A	TOTAL EXPENSES	RON	30.660	30.855
B1	INCOME FROM PRODUCTION SOLD	RON	56.392	82.875
B2	OPERATING SUBSIDIES	RON	16.584	19.353
B	TOTAL INCOME	RON	72.976	102.228
C	TAXABLE PROFIT	RON	42.316	71.373
D	TAX	RON	4.232	7.138
E	NET INCOME	RON	38.084	64.235

CONCLUSIONS

Without a business plan, no non-reimbursable support can be achieved for the establishment of an agricultural holding. For a good management of the agricultural holding, the legal manager will have the following attributions and competencies:

- Analysing the correlation of vegetation factors with morphological and biological particularities;
- Organising work to set up crops;
- Supervising crop care work;
- Correlating the management of the economic processes of the agricultural holding;
- Establishing varieties and hybrids, and planning rotation of crops;
- Planning the period of application of fertilizers and amendments;
- Coordinating soil works.

To protect and stop the degradation of environmental components (water and soil), consider reduced and correct use of chemical fertilizers and pesticides, as well as the application of appropriate mechanical works. At the same time, eliminating soil erosion will be supported by the application of best agricultural practices.

In the analysed years, the gross result is positive: this situation indicates that the activity carried out within the holding is cost-effective and that the business can continue.

BIBLIOGRAPHY

- BERBECEA ADINA, ISIDORA RADULOV, L NIȚA, C VOGYVOLGYI, ALINA LAȚO, A ÖKROS, F CRISTA, KI LAȚO, 2014 - The quality of Maros River water in Romania Hungary cross border area. Research Journal of Agricultural Science 2014/6/1
- BORCEAN A., MANEA D., SIMONA NIȚĂ, 2009 - The behavior of a sunflower assortment at the attack of the main pathogens under conditions from didactic station of U.S.A.M.V.B. Timișoara, Research Journal of Agricultural Science, vol. 41, pp 217
- DICU D, BERTICI R, GAICA I., 2016 - Evaluation of eco-pedological conditions for orchards conversion of lands from Moravita, Timis county Research Journal of Agricultural Science, Facultatea de Agricultură, Vol. 48 (4)
- DRAGOESCU URLICA, A. A.; COROAMA-DORNEANU, L. KAMBERI, L., 2019 - Sustainable Learning and Material Development in ESP - English for the Life Sciences. International Journal for Quality Research 13(3):753-760.
- DUMA COPCEA ANIȘOARA, MIHUȚ CASIANA, NIȚĂ L., 2014, The bonitation of agricultural lands in Foeni locality, Timiș county, International Symposium, Trends in the European Agriculture Development”, - 29-30 May, edition VII a, Timișoara
- FLORESCU T., A OKROS, LAȚO ALINA, 2014 - The Agricultural System From The Chișineu Criș Locality Area, Arad County, Research Journal of Agricultural Science 2014
- GROSZLER ASTRID-SIMONE, ADALBERT ÖKROS, ALINA-ANDREEA DRAGOESCU, 2017 - A guide to basic Romanian agricultural terms and their english equivalents. Research Journal of Agricultural Science 2017/1/1
- MARIN DIANA, 2017 - Research Regarding the Nutritional Value of the Food Products, Animal Science & Biotechnologies / Lucrari Stiintifice: Zootehnie si Biotehnologii. 2017, Vol. 50 Issue 1, p278-281.
- MARIN DIANA, CORNELIA PETROMAN, IOAN PETROMAN, IOANA BALAN, RAMONA CIOLAC, ANA MARIA DINCU, CARMEN DUMITRESCU, ANA LOZICI, 2013 - The role of non-agricultural activities in rural area development Lucrări Științifice Management Agricol Vol.15,
- MIHUȚ C, A. DUMA-COPCEA, L. NIȚĂ 2014 - The soil improvement Giarmata community, Timis county for use sustainable Horticulture in quality and culture of life, Lednice, Czech Republic. September 23-26
- MIHUȚ CASIANA, A. OKROS, ANIȘOARA DUMA-COPCEA, L.D. NIȚĂ L.D., V.D. MIRCov, VALERIA CIOLAC, ANTOANELA COZMA, M. STROIA, 2021 - Supply in nitrogen, phosphorus and potassium of a preluvosol from Giulvăz, Tmis county, romania, under the influence of organic fertilisation. The international symposium “Trends in european agriculture development”, vol. 53, nr. 1
- MIHUȚ CASIANA, DUMA-COPCEA ANIȘOARA, 2018 – The influence of soil works on physical-mechanical properties of the soils from the main banat vineyards, International Conference on life sciences ISBN 978-88-85813-24-3 pg. 645-654, Timisoara 2018
- MIRCov DRAGOSLAV V., VUXANOVICI S., COSMA ANTOANELA, OKROS A., PINTILIE SOFIA, NICHITA ANCA IULIANA, MOISESCU CARMEN IRINA, 2016 - Climate records registered in western Romania European Biotechnology Conference, vol. 231, ISSN 0168-1656, factor 3,34
- NITA L, ȚĂRĂU D, ROGOBETE GH, DAVID GH, DICU D, NIȚĂ S., 2018 - Using pedologic information in defining the quality and sustainable use of land in western Romania, 2018/1/1; Jurnal Research Journal of Agricultural Science; Volumul 50; Numărul 1
- NITA SIMONA, BORCEAN A., 2007 - Study regarding some varieties of Zea mays everta Stuart which grow under the pedo-climatic conditions in Almaj Depression, „60 de ani de învățământ superior în Oltenia”, Annales of University of Craiova, Vol XXXVII / A 2007
- OANCEA I, 2012- Tehnologiile agricole performante, Editura Ceres București
- OKROS A., POP GEORGETA, NIȚĂ SIMONA, RADULOV ISIDORA, MICU LAVINIA MĂDĂLINA, MIRCov V., DICU D. D., 2016 - Agricultural systems in the western part of Romania Journal of Biotechnology, Volume 231, Supplement, 10 August 2016, 05-09.05.2016 Riga Letonia 3,14, Page S58