

## AGRICULTURE OF VALCANI COMMUNE, TIMIS COUNTY

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**Abstract:** Valcani commune is located in the western part of the Arancai Plain, in the lowest part of this plain on the Romanian territory, part of the Banat Plain. Valcani is a border locality and is located in the far west of Timis County, at the border with Serbia, about 20 km southwest of the town of Sânnicolau Mare. At the same time, it is a border crossing point with Serbian. It is bordered on the north by Colonia Bulgară, on the northeast by Dudeștii Vechi, on the southeast by Teremia Mică, on the south by Mokrin (Serbia) and on the west by Vrbica (Serbia). Valcani was first mentioned in documents in 1256 with the name Kywolkan Villa. In the past, it was owned by the Csanad family, just like other localities in the area. Allegedly, in the XVIIth century Romanians from Transylvania and Caraș and Severin settled here. In 1717 it was annexed to Timiș County. Due to the presence of smectic clay soils, solonetzic soils and lithosols, there is a tendency to water logging with vast areas prone to become swamps. The most representative types of soils present on the territory of Valcani commune are: 1. Chernozems: 7.0%; 2. Gleyic soils: 0.2%; 3. Solonetzic soils: 0.8%; 4. Vertisols: 43.0% ; 5. Alluvial soils: 37.0%; 6. Soil associations: 12.0%. From a climatic point of view, Valcani commune benefits from a temperate-continental climate with sub-Mediterranean influences, a climate characterized mainly by mild winters and moderately warm summers, with an average multiannual temperature of 11°C and a multiannual precipitation value of 536.3 mm, according to the Sannicolau Mare station, the closest to the area of interest Valcani commune was established for the first time in 1877 and served as an administrative unit until 1968, when it was abolished, being attached to Dudeștii Vechi commune. Following a local referendum held in 2004, the Valcani commune was established again, consisting of a single village. Following the Protocol concluded between Dudeștii Vechi commune and Valcani commune, based on Law 84/2004 and the provisions of Law 7/1996, on the Order of the Prefect no.672/02.08.2005 and on the Order no.534/2001 of the Ministry of Public Administration regarding the approval of the Technical Norms for the Introduction of the General Cadastre, the territorial limits of the commune (Valcani commune) were established, separated from the Dudeștii Vechi commune, by negotiation between the representatives of the parties, resulting for Valcani Commune, a total area of 6243.38 ha (land outside the build-up area and incorporated area within the build-up areas). During the three agricultural years studied, namely 2015, 2016 and 2017, we noticed that cereals such as wheat, maize and triticale, but also of oilseed plants, especially sunflower and rapeseed, have a high share in the field. Important areas grown in the past with cereals have been replaced with technical plants but especially with fodder, clover and alfalfa plants.

**Keywords:** Valcani, soil, agriculture, cereals, technical plants

### INTRODUCTION

The idea of a sustainable agriculture is to increase its productivity, to obtain safe and constant profits with minimum negative effects on the environment and to ensure the food safety of the population. Sustainable agriculture is a broad concept that foresees the complexity of this production system, the biological stability of cultivated plants and varieties, the conservation and protection of natural resources, but also the introduction and generalization of the most productive modern technologies. (ARDELEAN V., ZĂVOIANU I., 1979; IOAN OANCEA, 2005)

Of course, the problems regarding the profitability of the family farming, done on small parcels and produces more for subsistence, are of particular interest. These farms cannot promote profitable technical-economic solutions due to the fragmentation of agricultural land and the lack of a machine and machinery system. And this is costly and inefficient under such

conditions. (BORCEAN I., TABĂRĂ V., DAVID G., BORCEAN EUGENIA, ȚĂRĂU D., BORCEAN A., 1996; IANOȘ G., PUȘCĂ I., GOIAN M., 1997; MIHUȚ CASIANA, 2018)

Sustainable agriculture involves economically viable technologies over a long period of time, with high yields, obtained at lower costs. Any agricultural system must have a long-term and high productivity, which is conditioned not only by the quality of the resource base, but also by the social and economic framework. Therefore, the sustainability of agricultural production systems, according to H. Zegeye and A. Runge-Metzer (1992), has a physical and a socio-economic dimension. More specifically, in order for a system to be sustainable and viable it must meet the following conditions: maintaining and improving the physical environment and the resistance to external pressures or strong disturbances; meeting the requirements of the community in food products; ensuring the economic and social well-being of agricultural producers. (MANEA DAN, PEȚ IOAN, IENCIU ANISOARA, ȘTEF RAMONA 2015)

Thus, in agriculture, in addition to the social productivity of labor, we also find a natural productivity, determined by the influence of natural factors, of which on the first place is the climate, which thus becomes a significant resource of agricultural production. (NIȚĂ S., NIȚĂ L. D., MIHUȚ C., KOCIS E., PANAITESCU L., LUNGU M., 2014)

Therefore, this particularity of agriculture constitutes the objective motivation of the combination of the agricultural branches, especially of the vegetal ones with the animal ones, but also of the agricultural ones with the non-agricultural ones, which uses secondary agricultural products as raw material. According to the provisions of Law 7/1996, of the Order of the Prefect no.672/02.08.2005 and of the Order no.534/2001 of the Ministry of Public Administration regarding the approval of the technical Norms for the Introduction of the General Cadastre, the territorial limits of the commune (Valcani commune), detached from Dudestii Vechi commune, were established by negotiation between the representatives of the parties, resulting a total area of 6243.38 ha (land outside the build-up area and incorporated area within the build-up areas) for Valcani commune. (NIȚĂ SIMONA, OKROS ADALBERT, 2012; HETEA DENISA, ARDELEAN ABEL, IENCIU ANIȘOARA AURELIA, MANEA DAN NICOLAE, 2017; DRIENOVSKI R., POPESCU FLAVIA, IENCIU ANIȘOARA AURELIA, MANEA D., 2016)

During the three agricultural years studied, namely 2015, 2016 and 2017, we noticed a high share in the field for cereals such as wheat, maize and triticale, but also for oilseed plants, especially sunflower and rapeseed. (IENCIU ANISOARA AURELIA, ȘMULEAC LAURA IOSEFINA, MIRCOV VLAD DRAGOSLAV, CIOLAC VALERIA, MANEA DAN NICOLAE, 2017)

Important areas cultivated with cereals in the past have been replaced with technical plants but especially with fodder, clover and alfalfa plants. (PUȘCĂ I., 2002)

## **MATERIALS AND METHODS**

For the elaboration of the present paper, the data retrieved is taken from different sources of statistics, municipalities and public institutions from Valcani, Timiș County.

## **RESULTS AND DISCUSSIONS**

Following the Protocol concluded between the Dudestii Vechi commune and Valcani commune, the territorial limits of the commune (Valcani commune) were established, separated from the Dudestii Vechi commune, by negotiation between the representatives of the parties, resulting for Valcani commune, a total area of 6243.38 ha (land outside the build-up area and incorporated area within the build-up areas) of which:

- agricultural land: 5522.6 ha
- non-agricultural land: 415.78 ha.

Table 1

**Situation of the agricultural land of Valcani commune**

Use	Area (ha)
Arable	4.774,87
Grassland	709,97
Meadows	22,99
Vineyards	10,47
Orchards	4,4
<b>Total agricultural</b>	<b>5522,6</b>

Table 2

**Crops for years: 2015, 2016 and 2027**

No.	Crop	2015 ha	2016 ha	2017 ha
1	Wheat	3547,75	2042,18	1346,43
2	Barley	28,57	12,46	7,87
3	Triticale	29,13	42,13	60,58
4	Maize	151,20	265,88	389,77
5	Sunflower	755,53	423,68	1253,17
6	Soybean	1230,15	949,68	390,64
7	Rapeseed	-	297,64	476,59
8	Fodder plants	40,89	39,12	37,89
9	Sugarcane	-	40,24	207,32

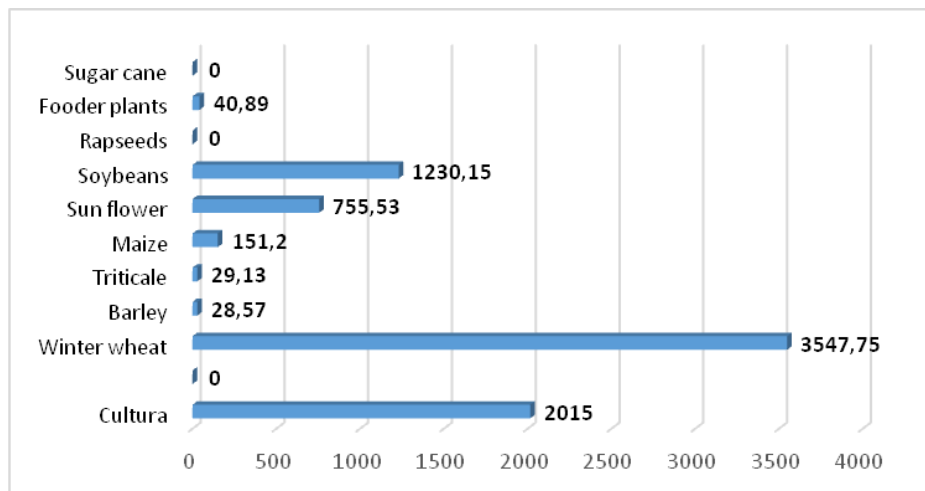


Fig.1. Areas of crops from the year 2015

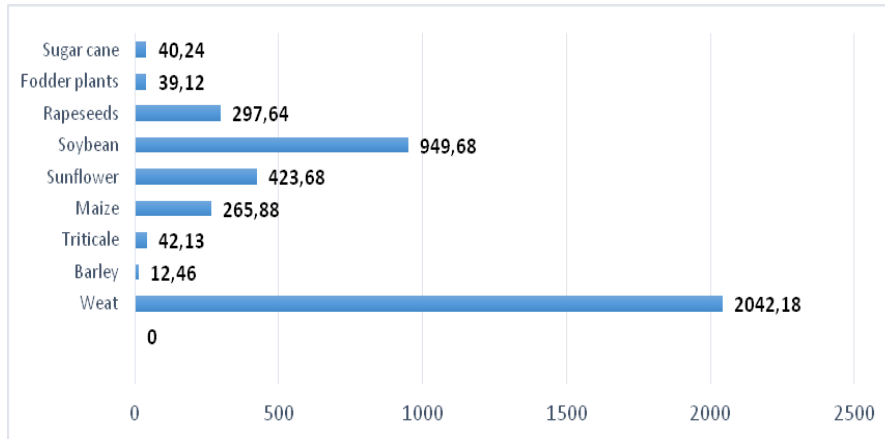


Fig. 2. Areas of crops from the year 2016

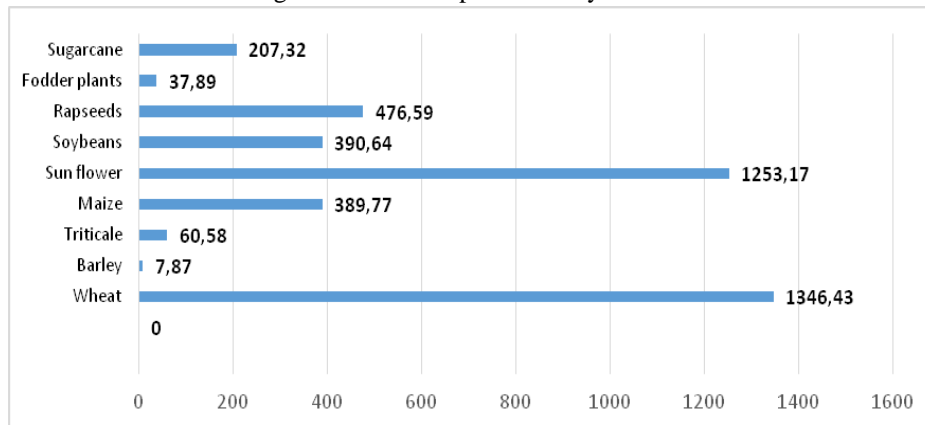


Fig.3. Areas of crops from the year 2017

### CONCLUSIONS

Valcani is a border locality and is located in the far west of Timiș County, at the border with Serbia, about 20 km southwest of the town of Sânnicolau Mare. At the same time, it is a border crossing point with Serbian.

The territory of Valcani locality is part of the Arancai Plain, part of the Banat Plain, with a focus on the predominance of the agricultural land from the land fund of the commune and especially of the arable land.

During the three agricultural years studied, namely 2015, 2016 and 2017, we noticed that cereals such as wheat, maize and triticale, but also oilseed plants, especially sunflower and rapeseed, have a high share in the field.

Important areas cultivated in the past with cereals were replaced with technical plants but especially with fodder, clover and alfalfa plants.

From the data studied at agricultural farms located in the area of Valcani commune, we observed the continuation of the tradition of large cereal cultivator, but also the emergence of mixed farms that practice agriculture based on crop diversification and animal husbandry.

In Valcani locality there is a predominantly agricultural system, but with great tendencies towards an agro-zootechnical one.

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