

## A PRESENTATION OF THE BALINT LOCALITY AREA AGRICULTURAL SYSTEM, TIMIS COUNTY

Adalbert OKROS<sup>1</sup>, Georgeta POP<sup>1</sup>, Simona NITĂ<sup>1</sup>, Lucian Dumitru NITĂ<sup>1</sup>, Lucian BOTOS<sup>1</sup>

e-mail: adalbertokros@yahoo.com

### Abstract

The aim of this paperwork is to present the town Balint farming system, soil types and subtypes, Balint village perimeter, environmental factors that influence these traits, the study of the most important processes and soils of the area studied and also the type of agricultural system from this area. Located in the county of Timis, the DJ 609 B, Balint town, village resident with the same name, lies at a distance of 15.7 km of Lugoj City and 64.3 km from Timisoara. Balint village covers an area of 5568 hectares, of which 4794 ha is agricultural land. The composition of this administrative territory are also the following locations: Balint, Bodo, Fadimac and Targoviste. In terms of geomorphology, the territory has two main forms of relief: hills, dominating the rate of about 60 %, and plain components Lipovei Plateau, part of Bega Depression. The average altitude is 170 m, the extremes are represented by top Gomila (227 m), located in the NE area, Plateau Lipovei point Ratul Red (106 m), located in SE Depression of Bega.

**Key words:** soil, Balint, agriculture, agricultural systems, land fund

The area's hydrographical network is represented by the river Bega which, because of its relatively high debits and reduced slope, strongly diverts, manifesting the tendency to abate from its main affluent Gladna and a number of brooks, among which Fădimac and Niereghiș, which collect erosion valley waters and torrential elements from the hilly and pre-hilly areas. There is a mild-continental climate, with an average annual temperature of 10.60C (Lugoj station), the thermal regime facilitating plant development and animal breeding. The average annual precipitation value, registering between 605.5 mm (Lugoj station) and 735.0 mm in the hilly area (Făget station), insures relatively good conditions for the development of crops practiced on agricultural land. The full capitalization of the land's productive potential and the achievement of stable productions can result when respecting the necessary pedo-ameliorative measures and strictly respecting current crop technologies.

### MATERIAL AND METHOD

For the elaboration of current paper, we used data from MADR and INSSE, studies and field observations, information from the Balint agricultural chamber.

### RESULTS AND DISCUSSIONS

The limitative factors which significantly influence the soil's quality are determined by the land's high level of non-uniformity and the excess of surface humidity, acidity (very severe on 2.5%, moderate on 26% and reduced on 27.5% of the surface), the reduced humus content (moderate on 59%, reduced on 41%), compaction (severe on 34%, moderate on 43%), slope (very severe on 11.3%, moderate on 13%, reduced on 24%), surface erosion (36.5%), depth erosion (11.5%) and landfalls (30%). Depending on the specific field situation, identifiable through pedological and agro-chemical studies, periodic actions of amending the soil with calcium are recommendable, depth soil loosening, ameliorative fertilization, channel and culvert digging, levellings, land fund improvement activities. Also, it is necessary to carry out agro-technical works exclusively from an anti-erosional perspective, as well as the rehabilitation and modernizing of anti-erosional, protection, damming and drainage works. The commune's agricultural land is constituted by the following usage categories: tillable 3736.4 ha, grassland 836.8 ha, hay land 126.0 ha, vineyards 0.2 ha and orchards 94.6 ha. Regarding the agricultural land quality (fertility) class categorization, for the "tillable" usage

<sup>1</sup> USAMVB "Regele Mihai I al României", Timisoara

category, the situation is as follows: 1<sup>st</sup> cl. 52.2 ha (1.2%), 2<sup>nd</sup> cl. 854.8 ha (17.8%), 3<sup>rd</sup> cl. 1127.8 ha (23.5%), 4<sup>th</sup> cl. 1916.7 ha (40%) and 5<sup>th</sup> cl. 837.5 ha (17.5%). (Table 1, 2, 3, Figure 1, 2, 3).

Table 1.

**Soil fertility classes in the Bălăneț commune area**

Fertility classes	Ha	% total
1 <sup>st</sup> cl.	52.2 ha	(1.2%);
2 <sup>nd</sup> cl.	854.8 ha	(17.8%);
3 <sup>rd</sup> cl.	1127.8 ha	(23.5%);
4 <sup>th</sup> cl.	1916.7 ha	(40%);
5 <sup>th</sup> cl.	837.5 ha	(17.5%).

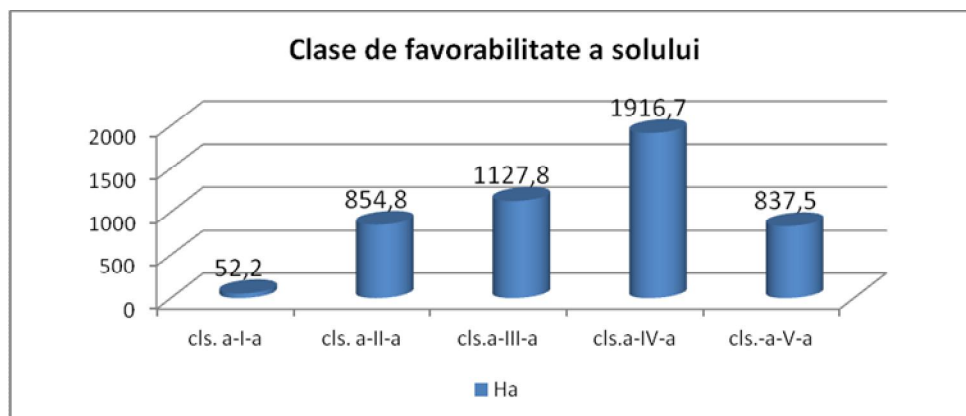


Figure 1. Soil fertility classes in the Bălăneț commune area

Table 2.

**Land surface balance - ha**

Ct. no	Locality	Insured	Suppliant L18+L1	Suppliant L247	Suppliant total	Differences		Observations
						Plus	Minus	
0	1	2	3	4	5	6	7	8
1	Balint	726	681.28	16.56	697.84	28.16	-	
2	Bodo	1571	1141.45	52.49	82.27	1223.72	-	
4	Fadimac	739	616	100.26	102.25	718.29	-	
5	Târgoviste	848	910.64	25.38	35.69	-	88.02	
	Total	3884	3349.37	194.69	3544.06	946.33	88.02	

Table 3.

**Scattered tree no**

Row no	Tree species	Individual agricultural exploitations	
		Bearing - piece	Young - piece-
A	B		1
1	Fruit trees-total:	13096	1005
2	Apple trees:	521	
3	-Golden delicious		
4	Pear trees:	817	
5	-Summer pear trees		
6	Peach trees	253	50
7	Apricot trees	335	100
8	Cherry trees	564	170
9	Plum trees	9575	750
10	Nectarine trees	50	10
11	Nut trees		
12	Hazelnut trees	866	55
13	Chestnut trees		
14	Other fruit trees (quince, almond trees etc.)	615	

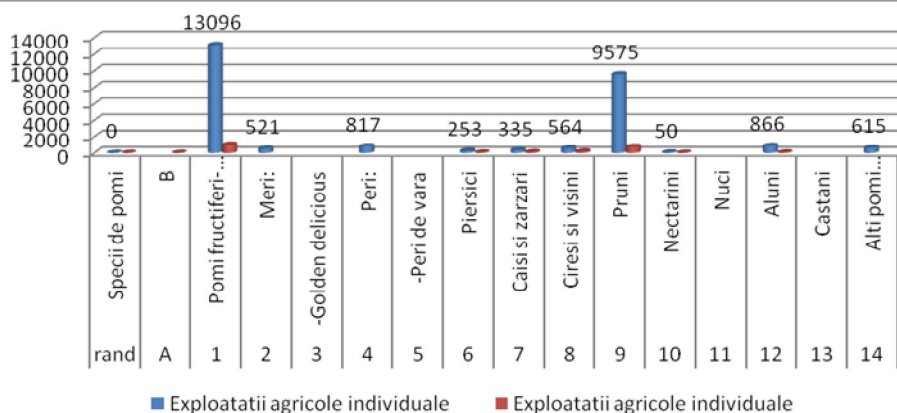


Figure 2. Scattered tree number

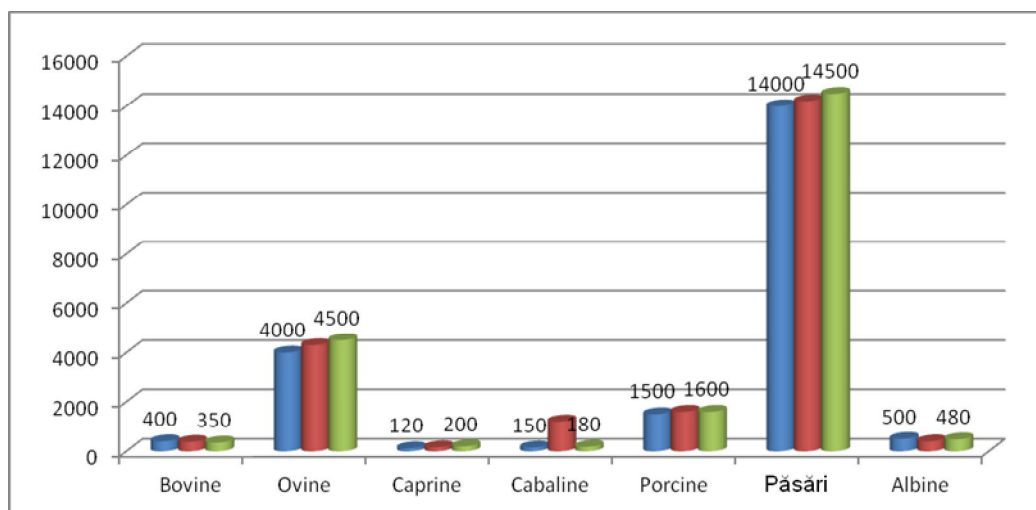


Figure 3. Zootechnical sector - heads

## CONCLUSIONS

The commune's agricultural land is divided in the following usage categories: tillable 3736.4 ha, grassland 836.8 ha, hay land 126.0 ha, vineyards 0.2 ha and orchards 94.6 ha.

There is a large range of crops, generally predominating cereal, vegetable and fodder crops.

Low and inconstant productions are due to limitative soil factors, as well as poor material equipment.

Regarding the quality (fertility) class categorization, for the agricultural land "tillable" usage category, the agricultural land situation is as follows: 1<sup>st</sup> cl. 52.2 ha (1.2%), 2<sup>nd</sup> cl. 854.8 ha (17.8%), 3<sup>rd</sup> cl. 1127.8 ha (23.5%), 4<sup>th</sup> cl. 1916.7 ha (40%) and 5<sup>th</sup> cl. 837.5 ha (17.5%).

Limitative factors significantly influencing the soil quality are determined by the land's high level of non-uniformity and the excess of surface humidity, acidity (very severe on 2.5%, moderate on 26% and reduced on 27.5% of the surface), the reduced humus content (moderate on 59%, reduced on 41%), compaction (severe on 34%, moderate on

43%), slope (very severe on 11.3%, moderate on 13%, reduced on 24%), surface erosion (36.5%), depth erosion (11.5%) and landfalls (30%).

The full capitalization of the land's productive potential and the achievement of stable productions can result when respecting the necessary pedo-ameliorative measures and strictly respecting current crop technologies.

## REFERENCES

- Niță L. D. 2007 - *Pedologie*, Editura Eurobit, Timișoara.  
 Posea Gr., 1997 - *Câmpia de Vest a României (Câmpia Banato-Crișană)*, Ed. Fundației "România de maine", București.  
 Rogobete Gh., Țărău D., 1997 - *Solurile și ameliorarea lor. Harta solurilor Banatului*, Ed. Marineasa Timișoara.  
 Țărău D., Luca M., 2003 - *Panoptic al comunelor bănățene din perspectivă pedologică*, Ed. Marineasa.

