A STUDY OF AGRICULTURE IN THE TIMIS-TORONTAL MICROREGION

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Abstract: *Situated in the Western part of Romania, the microregion Timiş-Torontal gathers 3 small towns and 11 localities with the rank of communes. Due to its geographical establishment in the county and having a border with Serbia, it offers beneficial conditions for the economical development. The agriculture is a cornerstone of the microregion because it owns a good and very good qualitative terrain, with climaterical conditions that are beneficial to its development.*

Key words: *agriculture, microregion, development, surface*

INTRODUCTION

The Timis-Torontal Microregion is situated in the Western part of Romania, respectively in the South part of the Timiş County, being delimitated at South and South-West by the border with the Serbian Republic, at East by Caras-Severin County and at North by the Timisoara Municipality.

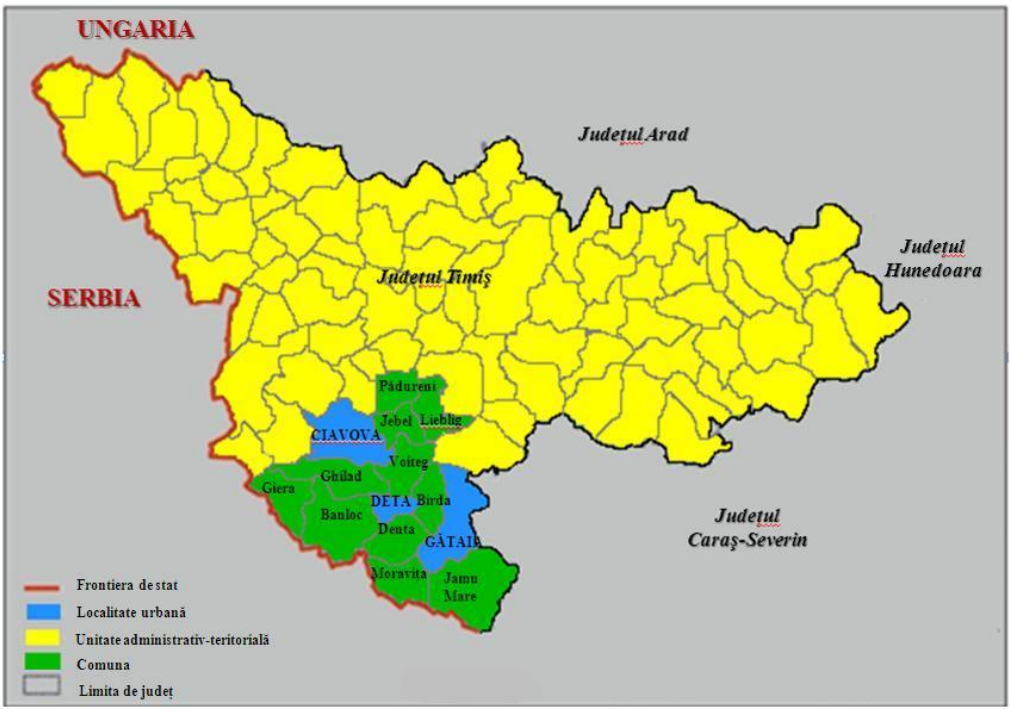

Fig. 1. Timis-Torontal Microregion

The Microregion consists of 3 small towns that do not exceed 7.000 inhabitants each: Deta, Gătaia, Ciacova and 12 localities ranked as communes: Birda, Banloc, Denta, Giera, Ghilad, Jebel, Jamu Mare, Liebling, Livezile, Moravița, Pădureni and Voiteg.

The surface of the administrative territory of the Timis-Torontal Microregion is of 1.447 kmp, representing 17% of the total surface of Timis County.

MATERIAL AND METHOD

As a working method the following were used: field study, data gathering, observation, data processing and comparative analysis.

RESULTS AND DISCUTIONS

With a few exceptions, represented by approximately 6.200 ha of forest, the land is agricultural, from which 79% is ploughable. The practice of agriculture is favoured in the region by the temperate continental climate and also by the respect the inhabitants hold towards the earth. The agricultural surfaces are worked individually, in agricultural assciations, exploitations with a juridical personality and family exploitations.

If the total surface of the Timiş- Torontal microregion represents 18% of the surface of the Timiş County, the agricultural terrain represents 22% of the county's agricultural land. The surface of over 146.423 ha of agricultural land is the main income source for most of the inhabitants, even if most farms are subsistence farms. Therefore, the main concern after the year 2000 was the concentration, through agglomeration, of the surfaces worked by farmers. Through the purchasing of land by investors, especially by foreign ones, there were created farms of sufficiently large dimensions to be worked with high productivity and performance. In almost every admnistrative unit there is at least one farm of this type, which purchased the land from owners who did no longer have the posibility to work the land.

The main cultures are represented by cereals, mostly wheat and corn, which occupy about 70% from the arable surface. The technical plants occupy larger surfaces with each passing year, the main cultivated plants being rapeseed, soy and sunflower. The weighing factor of this cultures in the total of cultivated surfaces can rise, but it can also decrease considering the evolution of market prices, the largest cereal consumer in the area being SC SMITHFIELD FARMS, which is located nearby.

PNDR and its axes, through the implemented projects, represents a large source of investments in the microregion. Thus, only in the area of Gătaia City, 28 projects were implemented or in course of implementation and in the Giera commune over 10 projects were implemented or in course of implementation. Agricultural investment projects were also sporadically implemented or in course of implementation in other administrative territories that are a part of the microregion.

Due to the fact that the vast majority of rural actors have a connection (in various proportions) with the agricultural sector, the structure of this domain can be highlighted according to the tabel below.

Table 1

The structure of the landed fund

Localitaty	Agricultural terrain	Arable terrain	Meadows	Hay	Grape vine	Orchards	Forests	Total surface
Ciacova Town	22.995	18.445	4.039	426	1	84	341	25.276
Deta Town	2.904	2.379	462	56	0	7	35	3.274
Gătaia Town	19.540	15.993	2.692	833	18	8	344	21.253
Banloc Commune	15.481	12.442	2.815	214	0	10	537	17.360
Birda Commune	4.322	3.142	845	327	2	6	388	6.330
Denta Commune	8.414	7.420	848	133	0	13	196	9.140
Giera Commune	8.555	6.446	2.000	101	0	8	7	9.175
Ghilad Commune	8.820	6.931	1.420	369	0	4	148	10.706
Jamu Mare Commune	16.618	11.295	3.307	1.317	274	425	2.304	19.688
Jebel Commune	9.966	8.070	1.633	258	0	5	1.261	12.074
Liebling Commune	7.773	6.498	856	406	0	13	23	8.226
Livezile Commune	3.319	2.690	521	108	0	10	367	5.580
Moravița	7.883	5.521	2.055	303	1	3	21	8.478

Commune								
Pădureni Commune	3.292	2.443	754	95	0	0	258	4.233
Voiteg Commune	6.541	5.184	1.210	144	0	3	2	6.962
Total	**146.423**	**114.899**	**25.457**	**5.090**	**296**	**599**	**6.232**	**167.755**

Source: Author's data processing with data collected from the city councils of the Timiş-Torontal Microregion

From the total surface of the Timiş- Torontal Microregion, which is 167.755 ha, 146.423 ha represent the arable land (87%), which holds a valuable agricultural potential.

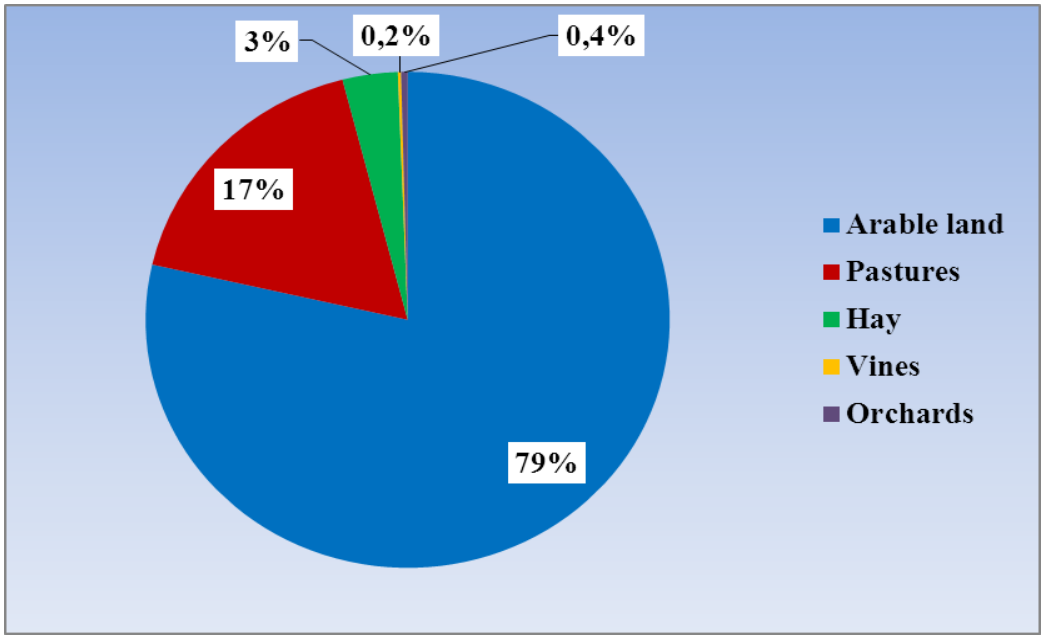

Fig. 2 The structure of the arable land

From the analysis of the territorial fund, it can be obseved that the largest surface is held by the arable land, with a weight factor of 79%, followed by meadows with 17%. The surfaces planted with grape vine and fruit trees are very small. In many localities there are no grape vine plantations. In the Jamu Mare commune there are many grape vine plantations, which sum up to 275 ha that mostly belong to foreign investors.

Table 2

Land fertility classes

Locality	Class I	Class II	Class III	Class IV	Class V	Average fertility class
Ciacova Town	587	4.889	4.945	3.344	1.342	3
Deta Town	325	1.324	737	120	35	2
Gătaia Town	412	2.093	12.382	214	194	3
Banloc Commune	201	4.371	3.358	3.607	1.062	3
Birda Commune	152	880	3.150	95	45	3
Denta Commune	1.168	2.752	2.750	872	57	2
Giera Commune	570	1.955	1.834	1.682	391	3
Ghilad Commune	420	1.650	3.120	2.250	1380	3
Jamu Mare Commune	0	4.033	6.946	1.049	71	3
Jebel Commune	0	898	2.629	744	1.105	3
Liebling Commune	1.174	2.716	2.915	2.319	709	3
Livezile Commune	160	1.142	1.530	420	67	3
Moravița Commune	378	1.552	2.335	487	887	3
Pădureni Commune	230	1.320	1.450	209	83	3
Voiteg Commune	1.924	3.793	1.901	399	92	2
Total	**7.701**	**34.368**	**51.982**	**17.811**	**7.520**	**3**

Source: Timiş County Office of Cadastre, Geodesy and Mapping

In the microregion, the agricultural lands mostly belong to the third fertility class. Only in the Denta and Voiteg communes there are mostly lands with a second class fertility.

Considering the culture structure, there is a specialization of the culture of wheat, barley, corn and sunflower. In the past years, large farms have introduced the rapeseed culture on quite large surfaces.

Wheat represents one of the most important plants and cereals, globally occupying one of the largest surfaces. It contains a high level of cabohydrates and protein.

Corn is also one of the most important culture plants, with multiple usages in the human diet, industry and animal feed. The corn beans are used in the corn starch, medicinal alcohol and glucose and dextrose industry, while the corn germs are used for extracting oil, which is applied in the diet nutrition.

Barley has two varieties, one used for animal feed and one used in the beer production.

The following table depicts the structure of the main cultures.

Table 3

The structure of the main cultures

Localitaty	Wheat	Corn	Sunflower	Legumes
Ciacova Town	4.380	4.671	4.120	451
Deta Town	532	606	450	250
Gătaia Town	6.240	5.200	4.500	500
Banloc Commune	3.978	4.210	2.890	530
Birda Commune	1.231	1.056	860	256
Denta Commune	1.351	910	605	594
Giera Commune	3.665	2.890	1.780	45
Ghilad Commune	2.540	2.860	1.340	320
Jamu Mare Commune	4.329	5.069	3.100	410
Jebel Commune	3.228	3.860	1.540	280
Liebling Commune	2.486	2.760	700	258
Livezile Commune	1.120	1.340	640	75
Moravița Commune	2.751	3.060	980	240
Pădureni Commune	980	1.050	360	35
Voiteg Commune	2.595	2.547	876	135
Total	**41.406**	**42.089**	**24.741**	**4.379**

Source: Author's processed data fom the city councils in the Timiş-Torontal Microregion

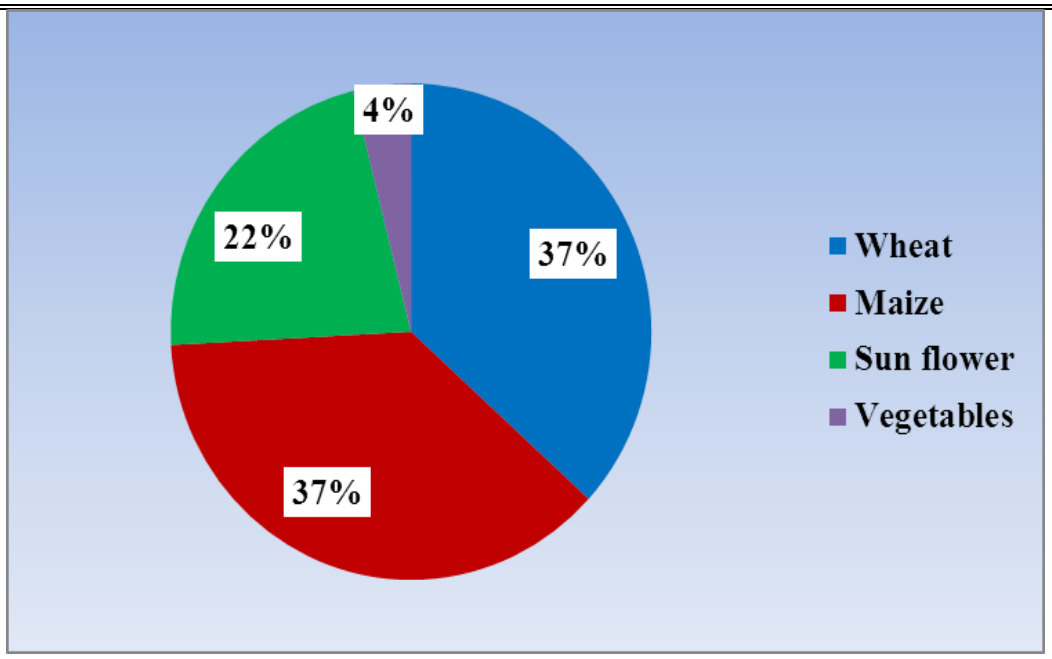

Fig. 3. Culture stucture

The transition affected both annualy cultivated surfaces and the effects of works and technologies used for obtaining productions. Therefore, if until the year 1997 any surface was cultivated and exploited as intensive as possible, today a large part of the terrains is being unexploited for years. This fact conducted to a decontaminatin of the pesticide terrains, which can allow them to be ecologically cultivated.

The size and form of terrain exploitation suffered alterations after 1989, from small exploitations of 1-5 ha to 200-300 ha, while a number of 14 agricultural exploitations hold over 1000 ha of arable land.

The table and figure below show the number of the tractor and agricultural machineries in the Timiş-Torontal Microregion.

Table 4

Tractor and agricultural machinery park in the Torontal Microregion

Year	Tractors	Ploughs	Seeding machines	Autopropelling Combines
2002	1.984	1.533	960	454
2012	2.300	1.855	1.198	313

Source: Author's processed data fom the city councils in the Timiş-Torontal Microregion

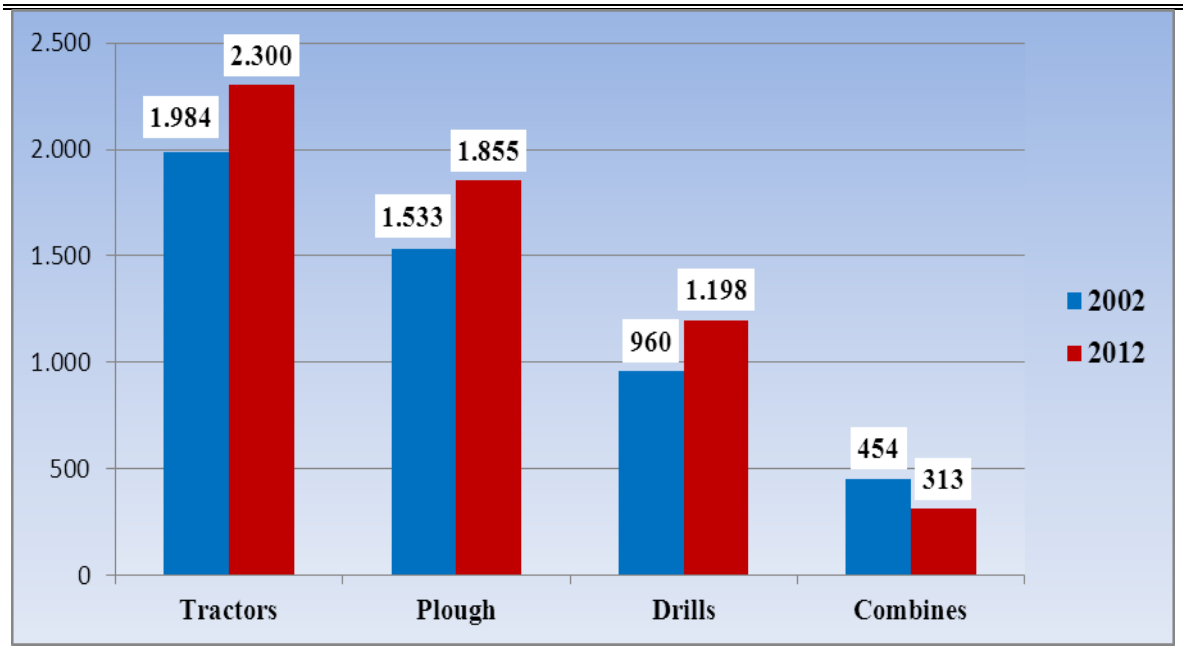

Fig. 4 Number of tractors and main agricultural machines in the Timiş-Torontal Microregion

The tractor and agricultural machinery park has registered a continuous rise in the analysed period. Only the number of autopropelling combines has decreased from 454 in 2002 to 313 in 2012. However, the number of tractors and agricultural machines is insufficient, most of them being morally and phisically overused. The bulk on a tractor is 63 ha, much over the EU average, as well as the national average, which is 57 ha per tractor. Therefore, over 60% of the tractors and 70% of the existing combines have an exploitation age of over 10 years.

The level of endowment with tractors and agricultural machinery is not enough to ensure that the mechanical works are done in the optimal period for the culture technologies, which determines a high harvest loss. However, the rising interest towards agriculture causes an increase of the number of farm implements.

Considering the workforce involved in this process, the problem consists in its qualification, which is highly necessary for ensuring a better usage of the agricultural machinery and endowments. This aspects will accentuate more in the nearby future.

Speciality assistance in the agricultural domain is ensured through the Agricultural Rooms, which are subordinated to the Agricultural Direction of the Timiş County.

Breeding animals occupies an important part in the agricultural domain, the main animals breeded being pigs, sheep and cattle.

In the countries of the European Union farms are private, each farmer owning its land, the buildings existing on it, the animal effectives and the agricultural machinery and endowments.

Most farms belong to the household type, over 805 of them totally relying on the work done by family members and the assistance offered by agricultural consultants.

In accordance to the structure of the agricultural exploitation in the European Union and Romania it will be necessary that most of the animal production, destined for the consumption market, to be made in zootechnical exploitation households. This type of exploitation cannot appear and develop from thin air. If the state administration can contribute to the apparition of zootechnical exploitation households, through its juridical and economical levers, the universitary environment can contribute to its development through extension programs.

Considering the limited support that was offered to agricultural producers, through financial and material means, from the state budget or funds offered by international organisms, the importance of intensifying the concern for developing and creating exploitations of viable and efficient dimensions is obvious. In Romania, the correct direction is only the organization of zootechnical exploitations of a size that allows apllying performant technolgies and management techniques, thus obtaining productions in conditions of maximum economical efficiency.

In our local social and economical environment, breeding animals in conditions of performance, competitivity and profitability must be based on the household exploitations, in which the farmers exploit the animal effective and land surface directly, alone or together with their family members. In the zootechnical exploitation household, the farmer must have knowledge of technologies (nutritional, reproduction, selection, constructions, machinery and installations, zoohyigene, etc.), management and marketing, which he has to refresh constantly, with the purpose of practicing complex, performant and profitable activities.

Animal breeding, a very important domain of agriculture, will soon have to become a huge national treasure. In this purpose, strategical programs, well sustained financially, must ensure the numeric rise of animal effectives as well as the productivity per animal, the productivity quality and the economical efficiency, determined by te creation and valorification of the animal products.

In order to achieve this, the process of genetical enhancement of animal effectives must be implemented (through applying national programs and wiring up to the global gene fund), using modern reproduction biotechnologies (artificial insemination and using embryos), introducing a new concept of animal nutrition in accordance to the physiological needs of each animal category, using equipment, machinery and endowments of high productivity that do not affect the functional integrity of the animal organism and the salubrity of the products. The animal effectives represent the total of domesticated animals that are bred for production, reproduction and labour.

The animal effectives in the microregion are in a continuous decrease since 1989. The main cause of this decrease is represented by the harshening of the environment conditions and the alignment to the European standars and slaughtering centers, determining a decrease in the animal eefctives belonging to households and prIvate units. Another cause of this decrease was the buy-out of the former Comtim.

Table 5

Animal effectives in the year 2011

Localitaty	Pigs	Cattle	Sheep	Birds
Ciacova Town	5.800	1.558	10.009	40.000
Deta Town	1.150	120	2.814	11.940
Gătaia Town	18.585	1.525	7.500	40.000
Banloc Commune	1.440	1.157	8.223	19.500
Birda Commune	13.100	180	2.800	18.000
Denta Commune	1.452	420	2.950	19.000
Giera Commune	960	320	4.807	17.200
Ghilad Commune	970	310	3.820	16.500
Jamu Mare Commune	1.159	390	10.423	9.530
Jebel Commune	1.642	480	3787	65.164
Liebling Commune	915	560	4.064	47.150
Livezile Commune	850	330	6.800	17.560
Moravița Commune	1.170	280	6.976	18.050
Pădureni Commune	14.800	270	2.800	16.125
Voiteg Commune	15.200	210	2.125	15.000
Total	**79.193**	**8.110**	**79.898**	**370.719**

Source: Author's processed data fom the city councils in the Timiş-Torontal Microregion

Zootechnology, as a main branch of the local economy, is unevenly distributed, being locally centered on species. This is why a series of PIG farms belonging to SC SMITHFIELD FARMS are build in the communes Pădureni, Voiteg, Birda, Jebel and the town of Gătaia. Large cattle effectives are concentrated in the communes Giera, Livezile, Banloc and Moravița, while the sheep effectives are spread everywhere.

In the microregion, raising pigs holds a first rank in Romania, through SC. SMITHFIELD S.A., which annualy produces approximately 800.000 pigs. The breeding and fattening of cattle of sacrification is also well represented, in the Denta commune being a cattle meat farm with an effective of 400 mother cows and in Jamu Mare an effective of 200 cows. The milk cow effective has drastically decreased after 1989, most of them being found in a small number of 1 to 5 cows per household, thus being necessary to create medium sized farms for milk cows.

Table 6

Productions obtained from the main animal species in the year 2011

Locality	Meat production (tons of live weight)	Milk production (hl)	Wool production (kg)	Egg production (thousand pieces)
Ciacova Town	2.615	27.134	36.020	1.440
Deta Town	288	6.370	5.800	1.260
Gătaia Town	1.317	24.394	17.500	3.640
Banloc Commune	767	27.281	24.815	1.323
Comuna Denta	503	11.219	11.700	2.100
Giera Commune	345	13.973	9.030	1.089
Jamu Mare Commune	473	14.213	19.900	1.120
Jebel Commune	3.554	25.443	10.640	6.761
Liebling Commune	784	10.800	11.006	2.070
Moravița Commune	432	10.482	20.620	1.570
Voiteg Commune	403	5.447	6.640	1.300
Total	**11.481**	**176.756**	**173.671**	**23.673**

Source: Author's processed data fom the city councils in the Timiş-Torontal Microregion

Within the agricultural production in our contry, zootechnology is ranked on the second place. In the future it is forseen that the factor weight of the anima production will exceed 50% of the total productions obtained in the agricultural sphere..

Extending the zootechnological production is imposed for various reasons, some of them being generally valid for all types of property, while others being imposed mostly in exploitation of the household-private type.

Extending the animal production is required firstly by the need to convert part of the vegetal procuction into an animal one .

The conversion process implies a consumption of material and human resources, which determines a rise of the value of zootechnological products and the profit obtained.

Large quantities of vegetal products obtained from agricultural enterprises (straws, corn cobs, legume spindle, beet posts) come to complete the possibilities of zootechnical production development.

Unfortunately, I have to mention that there many issues with some citizens, animal owners, who did not declare the correct number of animals, trying to avoid paying the grazing tax. In general, they are tracked down and forced to pay.

It is very important that the majority of animal breeders are members of profile associations, respectively bovine and ovine associations. Such a cattle association is existent at the level of the Giera commune and Livezile commune, the breeders being members of county associations.

CONCLUSIONS

- Agriculture, through favorable conditions and the owned workforce, must become competitive with the agriculture of the European Union. There are 18 agricultural exploitations of large dimensions that concentrate a large part of the arable land in the area.
- Unfortunately there is a lot of uncultivated terrain that should be rented or sold by the owners with no possibility of cultivating it. Medium sized farms should also be founded as they lack in the area.
- From the total surface of the Timiş- Torontal Microregion, respectively 167.755 ha, 146.423 ha are held by the agicultural terrain (87%), which represents a valuable agricultural potential. From the analysis of the agricultural syrface it can be observed that the highest weight factor is held by the arable land, with 79%, followed by meadows with 17%. The surfaces planted with grape vine and orchards are very small, in many localities the grape vine is even missing. In the Jamu Mare commune there ar many grape vine

plantations, summing up 275 ha, which mostly belong to foreign investors. As far as the culture stucture is concerned, the main cultures are formed by wheat, barley, corn and sunflower. In the past years, large farms introduced large areas with rapeseed cultures.

- Zootechnology, as a main branch of the local economy, is unevenly distributed, being concentrated on species. Therefore, a series of pig farms belonging to SC SMITHFIELD FARMS are build in the communes of Pădureni, Voiteg, Birda, Jebel and Gătaia City. Large cattle effectives are concentrated in the communes of Giera, Livezile, Banloc and Moravița, while sheep effectives are distributed everywhere.

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