

## BEEF IN BIHOR COUNTY

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### **Abstract**

*In Romania, once with the integration in the Common Agriculture Market, a new perspective appears for the production of beef in general, and for calf/veal in special.*

*In the last 21 years, 1990 – 2011, the cattle effectives have been decimated without discernment as State and cooperative exploitations have been dissolved without replacement. In present breeding and cattle exploitation in the Bihor County, have their base in semi-subsistence farms and everything that this involves.*

### **INTRODUCTION**

Exploitations that have the medium dimension of 2 cows and 1.7 youngsters at fattening, cannot guarantee performance, quality and profit to breeders, reason why, the support for semi-subsistence farms is necessary. Dimensional structure of dairy farms and fattening of young livestock confirm exaggerated dispersion of effectives in semi-subsistence farms.

Analyzing the structure of the breed herd of cattle, we found that 90% of races and half-breed in use have the potential of meat production.

In the analyzed period, the number of cattle slaughtered fell by 9,056 heads (74%), and the meat processed in specialized units fell to 3610 (94%), which can be considered an alarming situation for both current cattle breeders, as for decision makers in a vital sector of the population for food safety.

At the end of 2011, in Bihor county there is an only trader who specializes in intensive cattle breeding and fattening, who owned 2185 heads with the following structure weight: 0-100 kg = 525 heads, 101-200 kg = 1360 ends, 201-300 heads = 271 kg, 301-400 kg = 29 heads.

Most breeders exploit their cattle live export-products through intermediaries in weights of 150-250 kg, thus the most expensive weight gain, in every aspect, is supported by the manufacturer and the cheapest by the importer. Finally, beef returns to Romanian consumers from import at prices beyond the reach of most people.

Bihor County has an area of 183,052 ha of natural grasslands (3.7% of the pastoral heritage of Romania), which may represent the natural support of growth and beef producing operation, offering scope for growth increases in maximum profitability conditions.

Small and medium farms, offer guaranteed minimum exploitation of investment opportunities with considerable profits. In a cattle farm, work is not hard or a lot, is very interesting, but has the disadvantage of being

continuous. A farm should be regarded as a family business and a way of life.

Currently, beef occupies 50% of world trade and there was an upward trend in consumption. Cattle for meat represent 60-65% in the U.S. and Australia, 50% in Canada and 40% in New Zealand.

At the same stage of fattening beef is rich in protein and has a lower fat content in relation to meat obtained from pigs and sheep. At the same time, the energy value of meat cattle is high, exceeding 2000 kcal / kg in adult cattle subject to conditions.

There are major concerns on defining the type of animal production in Europe that will ensure the consumer demand, in the sense of increasing the continuous living standards, a vital human optimal performance, in front of multiple challenges.

The factor that undoubtedly will decisively influence the future course of animal production at all levels in construction, acquisition, processing, and use of animal products, is and will be determined more than ever, by consumer demand.

Consumer demands have been and will be included in each stage in the evolution of society. They have been and must always be well received and evaluated by scientific research in zootechnics and food industry to find appropriate responses to these requirements.

Today, as in the future, European consumers demand cheap products, with no fat, of good quality and healthy. This request is associated, for some time, but strongly, with demand for products produced in farms with traditional systems of growth (organic), ensuring maximum comfort for the animals. Therefore, there is the problem of finding answers to these multiple demands, often contradictory, to provide animal products, with the image of a healthy-product (green).

The present, the perspective, and especially the future of cattle breeding, depends on the situation of milk and meat consumption, the supply-demand ratio and, not at least, the quality of these products. Thus, taking the average annual consumption of approx. 105 kg milk and 10 kg meat, registered worldwide, it is provided for perspective, an optimum of 300 kg milk and 30 kg of meat, a great merit having the organic products.

Certainly, cattle will maintain their place and a major role in animal production, with real possibilities of adaptation and breeding exploitation to the new changing demands of consumers. Beef production offers to the actual and potential breeders, profitable investment opportunities and secure market capitalization.

## MATERIAL AND METHOD

The information with general character, which stood at the base of preparing this paper, is taken from the scientific literature, according to the bellow presented bibliography. Those that concern the meat-cattle from Bihor County, are taken from the records of “Oficiul de ameliorare si reproducie in Zootehnie Bihor” (Office for Improvement and Reproduction in Zootechnics Bihor), respectively from the operative technical reports, made available by the “Directia pentru Agricultura Bihor”.

Especially helpful, was the data provided by Mr. Darabont Sandor, general manager at S.C. “ROMESPA” S.R.L., Santau Mic, the only specialized farm in breeding and exploitation of meat-cattle in Bihor County.

## RESULTS AND DISCUSSIONS

The bovine effectives in Bihor County, respectively the pastoral heritage of the County, represent the biological and natural support of beef production, to witch is added the opportunity offered by the numerical and qualitative evolution of stock, as well as a huge market for beef exploitation, in special organic exploitation.

In the last 21 years, 1990 – 2011, the cattle effectives have been decimated without discernment as State and cooperative exploitations have been dissolved without replacement. In present breeding and cattle exploitation in the Bihor County, have their base in semi-subsistence farms and everything that this involves (Table 1).

Table 1

*Evolution of cattle stock in the period 1990 – 2011*

<i>Specification</i>	<i>1990 Heads</i>	<i>2011 Heads</i>	<i>2011/1990</i>	
			<i>+/-</i>	<i>%</i>
Cattle total	192200	62613	- 129587	67
Queen total	88765	43229	- 45536	51
Fattening cattle	42850	15479	- 27371	63

At the beginning of 1990, in the Bihor County, there were 177 cooperative units, 14 state units, 4 breeding and fattening units of type AEI (Abram, Cadea, Nojorid and Osorhei), 4 units of fattening at the level of cooperative units (Tarcea, Tinca, Toboliu and Batar), and 2 units of fattening in the state sector (Osorhei and Alejd). By the cancellation of those mentioned above, the total bovine effective dropped with 129587 heads (67%), the one for intensive fattening with 27371 heads (63%), and the queens with 45536 heads (51%).

The dimensional structure of milk-cows exploitations and youth fattening on 31.12.2011 confirmed the exaggerated dispersion of stock in farms of semi-subsistence (Table 2 and 3).

Table 2

*The dimensional structure of milk-cows exploitations at 31.12.2011*

<i>Specification</i>	<i>Total Heads</i>	<i>1 – 5 Heads</i>	<i>6 – 10 Heads</i>	<i>11 – 20 Heads</i>	<i>21 – 50 Heads</i>	<i>51 – 100 Heads</i>	<i>over 100 Heads</i>
Exploitations number	20204	19722	342	126	8	2	4
Existing stock	41944	34157	2976	1812	843	165	1991
Heads/exploitation	2,0	1,7	8,7	14,3	42,8	82,5	497,7

Table 3

*The dimensional structure of youth-fattening exploitations*

<i>Specification</i>	<i>Total Heads</i>	<i>1 – 5 Heads</i>	<i>6 – 10 Heads</i>	<i>11 – 20 Heads</i>	<i>21 – 50 Heads</i>	<i>51 – 100 Heads</i>
Exploitations number	9109	9084	24	-	-	1
Existing stock	15479	12958	336	-	-	2185
Heads/exploitation	1,7	1,4	14,0	-	-	2185,0

Exploitations that have the medium dimension of 2 cows and 1.7 youngsters at fattening, cannot guarantee performance, quality and profit to breeders, reason why, the support for semi-subsistence farms is necessary.

Analyzing the race structure of the bull stock at 31.12.2011, we can notice that, 90% out of the half-breed in exploitation have a potential of meat production (Table 4).

Table 4

*The breed structure of cattle stock on 31.12.2011*

<i>Specification</i>		<i>Heads</i>	<i>%</i>
Clean race	Baltata romaneasca	45726	74,8
	Bruna	122	0,2
	Baltata cu negru romaneasca	5246	8,5
	Pinzgau	917	1,5
	TOTAL	52011	85,0
Half-breed	Baltata romaneasca	7810	12,8
	Bruna	81	0,1
	Baltata cu negru romaneasca	798	1,3
	Pinzgau	490	0,8
	TOTAL	9179	15,0
TOTAL		61190	100

Except for “Baltata cu negru romaneasca” breed (8,5%) and half-breed of this race (1,3%), all the other races and their half-breed have the known genetically potential for meat, something that creates the biological support for investing in an activity that seems to be profitable.

Unfortunately, the existent biological material does not benefit of high specialty technical services, respectively, artificial insemination, and the consequences derived from this, affected the productive performances in milk and meat. For many cows the share of artificial insemination in the reproduction activity for 2011, was of 63%, and for calf, just 65% come from artificial insemination, activity that at buffaloes is not practiced anymore in the Bihor County.

The way that the beef was obtained and capitalized in the period 2005-2011, It shows a total lack of concern for an essential product for human consumption (Table 5).

Table 5

**Obtaining and capitalizing of beef in the period 2005-2011**

<b>Specification</b>	<b>2005</b>			<b>2011</b>			<b>2005/2011</b>	
	<b>Heads</b>	<b>Tons</b>	<b>%</b>	<b>Heads</b>	<b>Tons</b>	<b>%</b>	<b>+/-</b>	<b>%</b>
TOTAL	31999	12222	100	8299	3166	100	-9056	74
Family consumption	9940	3529	29	3386	1186	39	-2343	66
Direct capitalization	12211	4870	40	4416	1767	55	-3103	63
Processing	9848	3823	31	497	213	6	-3610	94

In the analyzed period, 2005-2011, herds of cattle slaughtered fell by 9,056 heads (74%), and processed meat in specialized units fell to 3610 (94%), an alarming situation that can be considered both for current cattle breeders, and for policy makers in a vital sector for food security of the population.

At the end of 2011, in Bihor county there is a single trader who specializes in intensive cattle breeding and fattening, respectively S.C. ” ROMESPA ” S.R.L. Santau Mic, who owned 2185 ends with the following structure weight: 0-100 kg = 525 heads, 101-200 kg = 1360 heads = 271 heads 201-300 kg, 301-400 kg = 29 heads.

Most breeders realize their cattle live export products through intermediaries at weights of 150-250 kg, thus the most expensive weight gain in all aspects, is supported by the manufacturer, and the cheapest is supported by the importer. Finally, beef is imported back to Romanian consumers at prices beyond the reach of most people.

Pastoral heritage of Romania, consisting of 4845,4 ha, of which, 3355 thousand hectares of natural pastures, and hayfields 1490,4 ha, represents 34% of total national agricultural area and is a huge potential for vegetative

mass, providing, on average, 56% of its feeding stuffs, in green mass equivalent, so that in hilly and mountainous areas this ratio should exceed 65-70% of the consumption of wild cattle and sheep.

In terms of area occupied by natural grasslands, Romania ranks 5th, after France, Britain, Spain and Germany. The area of 4845,4 ha pastures and hayfields, plus 1 to 1.2 million hectares planted annually to feeding stuffs, in arable land, added together, they represent the agricultural areas from Belgium, Holland and Switzerland, together.

Bihor County has an area of 183052 ha of natural grasslands (3.7% of the pastoral heritage of Romania), which can be the natural support of the growth and operation of cattle for meat, offering scope for growth gains in conditions of maximum profitability (Table 6).

Table 6

***Pastoral heritage of Romania and of Bihor County***

<b><i>Specification</i></b>	<b><i>UM</i></b>	<b><i>Pastoral heritage</i></b>	<b><i>Out of:</i></b>	
			<b><i>Natural hayfields</i></b>	<b><i>Natural grasslands</i></b>
Romania	Ha	4845354	3354970	1490384
	%	100	100	100
Bihor County	Ha	183052	138384	44668
	%	3,7	4,1	3,0

Establishing the necessary measures to improve natural grasslands depends largely on the distribution of these surfaces, on forms of relief, through possibilities of mechanization and the existence of limiting factors for increasing production of green mass.

In Romania, 1561581 ha (32%) natural grasslands are found in the mountains, at altitudes above 600 m, operating with limited natural resources of green mass. In Bihor County there are still large areas of natural grasslands in mountains, 23514 ha (14%), resources that can provide feeding for cattle growth in general, and for cows of meat especially (Table 7).

Table 7

***Surface distribution of natural grassland by areas of relief***

<b><i>Specification</i></b>	<b><i>UM</i></b>	<b><i>Total</i></b>	<b><i>Out of:</i></b>		
			<b><i>Plains:</i></b>	<b><i>Hills:</i></b>	<b><i>Mountains:</i></b>
TOTAL Country	Thousand ha	4845,4	1026,1	2257,7	1561,6
	%	100	21	47	32
Bihor County	Thousand ha	183,0	57,0	102,0	24,0
	%	100	31	55	14

Efficient exploitation and pragmatic pastoral heritage is, above all, a moral obligation coupled with a vital necessity for the future of livestock and Romanian countryside.

Most breeders of cattle in Bihor County have one to three cows, which they keep in a linked system,

milking them by hand, and has no cooling tank, does not disinfect nipples before and after milking, produce usually a milk that has a high load of microbes, and often, a greater number of somatic cells, than the allowed quality standards. Everyone understood that such milk cannot be taken by collection points for processing it. In this situation, small dairy farmer will not be able to sell milk and therefore he is forced by circumstances to sell the animals, depriving practically his only source of income.

In such a context, the breeder is forced to sell the animals or use them to produce live meat. To achieve the passing efficiently, from the production of milk to the production of meat, the farmer must first change the way his herd of cows reproduces. Second, it must improve production and storage of feeding stuffs. Thirdly, the farmer will have to change the way that he keeps the cows, and the calves that he gets from them.

All these changes are not too expensive and do not require much physical effort to achieve them. On the contrary, with their help, the breeder makes his life easier and can have more free time for himself and his family, and, why not, to improve professionally.

Hybridization is the key to success in beef processing. From the beef cattle breeds that are suitable to be used in crosses with existing cows in Romania, respectively in Bihor County, I mention Charolaise, Limousine, White Blue Belgian, Piemontese and Aberdeen Angus.

All these have one common feature: they grow quickly, they capitalize feeding stuffs very well, have high quality casings, and the proportion of meat in the carcass is obviously higher than other races.

The experimental research that some successful farmers from western part of the country, among them Darabont Sandor, from Santau Mic farm, in Bihor County, to convince themselves of the efficiency of the bulls hybridization from the breed Charolaise, Piemontese and White Blue Belgian, revealed that the hybrids derived from such crosses are significantly different from the breed of mothers, but similar to the breed to which their fathers belong. Not only that they have muscle hypertrophy in all body regions (very strong muscles on the top line of the body and the anterior and posterior regions train), but half of the descendants show the characteristic "double thigh". Byproducts derived from such crosses have the appearance of meat breeds, which raises the value and certainly makes them more attractive for processors. Such calves are sold at a price far higher than those of purebred.

In order not to contaminate the local races and not to diminish the power to adapt or lower their resistance to disease, they have to be used only as a "machine" to produce only hybrid calves and cattle for sale. This means that cows should be reproduced in "pure race". Each cow has to be replaced by a daughter of its. The remaining calves, the cows will produce, will be all hybrids derived from crossing to bulls of beef breeds. It is understood that such technology cannot be implemented in practice only by artificial insemination with frozen semen. This is easily possible now, because every village is ascribed to an inseminating technician.

Beef cattle farms in system "loose housing", become the means of exploitation of a minimum investment opportunity with significant revenue. In this firm, it is not hard work, nor a lot, is very interesting and has the disadvantage of being continuous, and their character should become, in exclusivity one familial, and to constitute, in the true sense, another way of life, generator of a decent and respectable level.

## CONCLUSIONS

1. During 1990-2011, cattle herds were decimated without judgment, state and cooperative farms were dissolved without putting something in place, currently increasing and cattle exploitation in Bihor County is based on holdings of semi-subsistence with all the consequences deriving from this fact.
2. In 21 years the total number of cattle decreased by 129587 heads (67%), the intensive and semi-intensive fattening with 27371 heads (63%), and the queen was reduced by 45536 head (51%).
3. Dimensional structure of dairy farms and fattening youth on 31.12.2011, confirm the excessive dispersion of staff in semi-subsistence farms with an average size of 2 cows and 1.7 fat youth.
4. Analyzing the structure of the breed herd of cattle on 31.12.2011, we find that, 90% of the races of half-breeds in use have the potential for meat.
5. Except for the Baltata cu negru romaneasca (8.5%) and it's crossbred breed (1.3%), all other existing breeds and their crossbred, have known and recognized genetic potential for meat, this creates a biological support for investment activity and is expected to be profitable.
6. Existing biological material, do not benefit from highly specialized technical services, respectively artificial insemination, as expected, and the consequences emphasize the bad performance of production of meat and milk cows. At mating cows and calves, artificial insemination proportion in breeding activity, for the year 2011, was 63% and 65%, and only 65% in calves from artificial insemination, activity that at cattle is no longer practiced in Bihor County.



7. The way beef was obtained and exploited during 2005-2011, shows a total lack of concern for an essential product for human consumption. In the analyzed period, the number of cattle slaughtered fell by 9056 heads (74%), and processed meat in specialized units fell to 3610 (94%), it can be considered an alarming situation both for current cattle breeders, as well as for policy makers in a vital sector of the population for food safety.
8. At the end of 2011, in Bihor county there was only one trader specialized in intensive cattle breeding and fattening, S.C. "ROMESPA" S.R.L. Santau Mic, who owned 2185 ends, with the following structure by weight: 0-100 kg = 525 heads, 101-200 kg = 1360 heads = 271 heads 201-300 kg, 301-400 kg = 29 heads.
9. Most breeders exploit their cattle live export-products through intermediaries in weights of 150-250 kg, thus the most expensive weight gain, in every aspect, is supported by the manufacturer and the cheapest by the importer. Finally, beef returns to Romanian consumers from import at prices beyond the reach of most people.
10. Bihor County has an area of 183,052 ha of natural grasslands (3.7% of the pastoral heritage of Romania), which may represent the natural support of growth and beef producing operation, offering scope for growth increases in maximum profitability conditions.
11. In Romania, 1561581 ha (32%) natural grasslands are found in the mountains, at altitudes above 600 m, operating with limited natural resources of green mass. In Bihor County there are still large areas of natural grasslands in mountains, 23514 ha (14%), resources that can provide feeding for cattle growth in general, and for cows of meat especially.

The present, the perspective, and future growth of beef cattle exploitation in Bihor County, depends on how the current and potential farmers will support, and look at the farm like a family business and, not at last as a way of life.

### **Proposals**

1. Establishing, strengthening, and developing "holdings" capable of productive performance, quality and profit, in compliance with current and potential consumer requirements.
2. Refurbishing, revival and revitalization of the processing system of live animal productions in accordance with the imposed demands of the Agriculture Market standards.
3. Creating some connections between the breeders and the processors through professional production associations and producers groups.

4. Sustaining, in real terms, of private cooperation, as essential element for taking, processing and capitalizing of live animal production (growth and service modules),
5. Directing all financial support coming from the state budget to increase holdings with a minimum size equivalent to the average European Union member countries.
6. The continuous development of the capacity of absorption of comunitary funds, indispensable to development of Romanian zootechnics in the context of EU integration.
7. Generalization of artificial insemination as the main tool to animal improvement, while increasing herds included in the official control of production, up to a minimum of 30% from the effective of the queen.
8. Reorganizing the Agenția Națională de Ameliorare și Reproducție în Zootehnie (ANARZ). Awarding official control of production to the professional associations, and creating a state inspection to ensure the implementation of National Programme for Improvement for all breeds of animals.
9. Using research in zootechnics to support a more robust agricultural advisory, efficient, pragmatic and an eventual integration with zootechnical university education.
10. International and regional in the field of improvement and exploitation of animals in response to globalization.



***“Cattle fattening, the minimal investment opportunity with considerable profit”.(Florian PAVEL, 2012)***

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