THE PRESENT AND THE PERSPECTIVE OF THE BUFFALO BREEDING IN BIHOR COUNTY

Pavel F.

Abstract

In the period 1990 – 2010, by the processing and interpretation of the information made availabe by Directia pentru Agricultura Bihor, Oficiul de Ameliorare si Reproductie in Zootehnie Bihor and the data collected from the breeding operators and milk and meat processors from the Bihor County, I am able to draw the following conclusions:

- the drastic reduction, in the last 10 years, of the number of buffalo, make me consider that the breed is vulnerable or in a critical state;

- the breeding is made in holdings of semi-subsistence which don't provide any perspective of revival and revitalization of the breed;

- the lack of official informations that concern the buffalo, shows an inexplicable indifference by the decision factors and an obvious irresponsibility towards the consequences of such a state of affair, imposible to estimate and quantify;

- the reduced weight of the artificial inseminations in the breeding activity and the total lack of the official control of production explains the breeds heterogeneity and the current level of breeding and reproduction parameters registered and estimated in this species

INTRODUCTION

The studies I have done in the past 20 years entitle me to say that the buffalo breed is for current and prospective breeders an opportunity with minimal investment and with considerably profit, highlighting, in this respect, these arguments:

- the buffalo harness very good the fibroase, grosiere and the low quality pastures;
- the breeds heterogeneity creates the premises of notable results in the activity of improvement and breeding with immediate effect in raising of the buffalo
- the exceptional quality and suitability of buffalo milk for making dairy products (eg Mozzarella cheese) are highly appreciated by consumers
- the pastoral heritage of Bihor County represented a cheap natural source of breeding the buffalo
- the loose housing may become an element of novelty and modernization of the buffalo growth

The buffalo history is part of the history of Romanian livestock, buffalo entering in the Carpathian-Danubian space once with the Huns and Avars migration through the southern, from Bulgaria, the Romanian buffalo

stood behind the existing herds of buffaloes currently in the European Community.

The tradition of the Buffalo growth in Bihor County comes from remote times, breeders of this species were poor people using buffalo for two approximately equal purposes: for milk production and work.

The buffalo area of growth in Bihor County is found in the hills of the south-east of the County, where brown and brown podzolic soils predominated with low quality pastures, even acidic.

In terms of morphological characters buffalo population is quite heterogeneous, because there weren't any papers in the direction of improvement of this breed, also we have no official data on body size and elements of performance or production, except for milk production and some indications of reproduction.

MATERIAL AND METHOD

Information on the evolution of herds of buffaloes, buffalo milk production (in equivalent milk cows) and how to exploit it were taken from the operational and technical reports (Agr.6a) prepared by Department of Agriculture Bihor, and those targeting reproduction and improvement of the buffalo I found in the records of the Office of Animal Breeding and Reproduction in Bihor.

In the official statistical records the are not found information on energy and buffalo meat production, which is why I had to collect my information from operators sown and processors of meat and milk from Bihor County.

During 1990 - 2010, I paid a special attention to buffaloes, considering them a vulnerable species or in a critical state, because the lack of reaction of the decision makers towards a situation, at least alarming, can generate consequences impossible to estimate.

REZULTS AND DISCUSSIONS

The first artificial insemination of buffalo species in Bihor County dates from 1992, when there were purchased 500 doses of MSC from the former S.C.P.C.B. Sercaia, then, since 1993, MSC was provided from Semtest Baia Mare.

In the last 20 years, buffalo herds have a tendency to decrease significantly, even more drastically than in the period 2002-2010, as evidenced by the data presented in Table 1.

Table 1

The evolution of the buffalo herds in the period 1990-2010

YEAR	TOTAL BUFFALO FEMALE	OUT OF WHICH QUEEN
1993	11.383	8.423
1994	10.594	7.850
1995	9.546	7.126
1996	8.775	6.780
1997	8.969	6.854
1998	8.751	6.546
1999	8.719	6.268
2000	8.280	6.170
2001	7.253	5.518
2002	6.990	5.162
2010	2.112	1.458

In the Bihor County buffaloes are bred in 37 city halls out of a total of 101 (36%), which is presented in Table 2.

Table 2

Growth area of the buffaloes in Bihor County

No.	CITY HALL	BUFFALO NUMBER	
		TOTAL	OUT OF WHICH QUEEN
1	Alesd	30	21
2	Astileu	35	24
3	Auseu	68	40
4	Borod	67	40
5	Bratca	70	42
6	Bulz	45	31
7	Ineu	5	3
8	Magesti	65	38
9	Suncuius	50	30
10	Tetchea	75	49
11	Tileagd	60	37
12	Vadu Crisului	19	9
13	Varciorog	90	74
*	**Alesd Area**	**679**	**438**
1	Beius	10	5
2	Buduresa	100	85
3	Buntesti	110	85
4	Cabesti	10	4
5	Carpinet	41	37
6	Campani	45	39
7	Curatele	115	90

8	Draganesti	21	9
9	Finis	10	4
10	Lazuri de Beius	30	21
11	Lunca	90	62
12	Pietroasa	38	18
13	Remetea	91	40
14	Rieni	90	70
15	Vascau	80	50
16	Uileac de Beius	40	21
*****	**Beius Area**	**921**	**640**
1	Ceica	92	70
2	Copacel	115	90
3	Dobresti	100	86
4	Dragesti	20	12
5	Hidiselul de Sus	6	4
6	Lazareni	9	5
7	Pomezau	110	85
8	Sambata	60	28
*****	**Ceica Area**	**512**	**380**
37	**TOTAL COUNTY**	**2112**	**1458**

The share of artificial insemination in breeding activity of buffalo in the period 2005-2010 is shown in Table 3.

Table 3

IA share of the buffalo breeding activities in 2005-2008

Specification		**2005**	**2008**	**2010**
Queens	Total	5511	2833	1971
	IA	259	119	165
	% IA	4,69%	4,20%	8,37%
Calfs	Total	3184	2444	1321
	IA	196	117	140
	% IA	6,11%	4,78%	10,5%

The share of the artificial insemination is between 4.69% - 8.37% for mounts made and between 6.11% - 10.5% at byproducts obtained, which highlights the lack of concern for improving Buffalo.

Some clarifications are necessary:

- In 73 City Halls (72.7%) out of 101, there are 95 PIAV in activity (22.0% - from 430 localities of Bihor County);
- in 12 PIAV (12,6%) out of 95 PIAV in activity, artificial inseminations are made for buffaloes;

- only in 9 (24.3%) of the 37 City Halls currently there are buffaloes exploited, there are no PIAV organized, and we can say that there are conditions increasing the share of artificial insemination, but indifference and disinterest put their unwanted mark on the improvement of the species.

Evaluating the buffalo breeding activity based on information received from OARZ Bihor, we could quantify the issuing of the following signs:

- conception rate is between 50-70%;
- number of mounts (IA) for a fruitful pregnancy varies between 1 and 4;
- birth rate is around 90% turnover;
- the service-period varies between 75 and 175 days with an average of 135 days;
- the mammary rest, even if it hasn't the same importance as the cow, buffalos wean alone after a short lactation, is on average 250 days;
- calving interval, varies depending on age of the buffaloes and the organization of breeding activity, recording values between 480-600 days, with an average of 533 days.

The organization of breeding activity is the key to success and artificial insemination is the pressure element, essential to the improvement of the species.

The evolution of the milk production of buffaloes and how to exploit it in the period 2005-2010 is presented in Table 4.

Table 4

Evolution and turning buffalo milk (cow's milk-equivalent) during 2005-2010.

Specification	**UM**	**2005**	**2008**	**2010**
Average effective fed	Heads	3240	2326	1405
Average effective milked	Heads	2176	1514	1308
Buffalo milk in cow milk equivalent	Hl	77930	53820	21405
Medium production/ milked effective	l/head	3581	3554	1636
Medium production/ fed effective	l/head	2405	2313	1523

Technologic consumption	Hl	14010	3710	1342
	%	18	7	6
Family consumption	Hl	26560	20250	17415
	%	34	37	81
Marked capitalized	Hl	37360	29860	2648
	%	48	58	13
Processed milk	Hl	*	*	*
	%	*	*	*

During 2005-2010, the average number of buffaloes fed decreased from 3240 heads to 1405 heads (56%) and the average number of milking buffaloes decreased by 868 heads (40%). Clearly the milk production decreased and average milk yield per buffalo fed and milked.

During the analyzed period, 6-18% of milk production was used for raising cattle, 34-81% for family consumption and 13-56% was valued in the market directly. Note that buffalo milk was not processed in specialized units, which highlights the lack of interest for a strategic product and an irreplaceable foodstuff in the diet the human race.

The specificity of production characters at buffaloes exploited in Bihor County.

In milk production:

- short lactation period, but variable (210-305 days);
- the milk quantity is variable (500-2500 kg);
- the milk quality is superior to cow milk (density 1,030-1,032, medium, water 82.5 %, 17,5% dry substance, 7,9% fat, 4,9 lactose, 4,0% protein and0,7% minerals);
- high biological value (84%);
- high share of fat in milk, until 8 %;
- very good suitability of the milk for making dairy products (cream, yogurt and cheese – „Mozzarella", Homorod cheese. Buffalo feta, etc...)

În meat production:

- live weight at meat capitalization, variable (300-600 kg);
- daily medium increase (300-730 g/zi);
- the food consumption per kg increase of 7-12 UN;
- carcass weight in general until 200 kg;
- performance at cutting variable (45-53%);
- meat quality differs in function of age, sex and the fattening system.

CONCLUSIONS

1. In the Bihor County buffalo growth is performed extensively in the semi-subsistence farms (1-2 heads / farm), increasingly rare holdings of 3-4 the buffalo heads can be found.
2. Buffalo population in Bihor is heterogeneous, because they did not work in improving this species, there is little information on body size and productive performance, except a few items related to milk production and some indices of breeding.
3. Indications of breeding activity Buffalo County Bihor: 50-70% conception rate, number of mounts (IA) / 1-4 gestation, birth 90%; average 250 days resting mammary; the service Period between 75-175 days with an average of 135 days; calving interval between 480-600 days with an average of 533 days.
4. During 2005-2010, the share of artificial insemination of buffalo breeding activity in Bihor County was 4.69 to 8.37% and the percentage of product obtained in the same way ranged from 6.11 to 10.5% limits, which highlights the lack of concern for improving the species
5. Buffalo milk is a profitable investment opportunity.

In the past 20 years, buffalo herds from Bihar had a significant downward trend (end-2112 11382 heads), even more dramatic between 2000 - 2010 (end – 2112, end 8280).

RECOMANDATIONS

1. The support by all legal means the establishment, consolidation and development of private buffalo farms of sizes able to ensure productive performance, quality and profit
2. The current and potential buffalo breeders must always be concerned with finding the most effective and pragmatic solutions reported to the concrete conditions from the farm to harmonize the operational environment of growth and productive capacity of animals, in full compliance with European standards of animal welfare code compliance and best practices in animal physical production process.
3. Growth and buffalo operation must take into account the sustainable development of agriculture and rural Romanian, a process through which this needs without compromising the ability of future generations to meet their needs in terms of economics, the social and environmental.
4. Pastoral heritage of Bihor County (138384 ha of natural pastures and hayfields 44,668 = 3.7% of the Romanian pastoral heritage) may represent an inexhaustible natural resource of buffalo breeding with the condition of increasing efficiency and sustainable use.

5. Loose housing element must represent the modernization element of exploiting buffalo, indispensable factor for productivity growth and economic efficiency of buffalo farms.
6. The generalization of artificial insemination in breeding activity of Buffalo, exercising a strong pressure on the selection of the current population of buffaloes in order to homogenize the morphological, productive and reproductive parameters of the race, along with the increase of effective contained in the official control of the production, until the minimum level of 30% from the queen.

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