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The importance for conservation of the Romanian Buffalo breed

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Abstract: Approved as a breed in 1987, the Romanian buffalo is far from being an unitary or single population. The Romanian buffalo populations are scattered in territory and tends to gain new economic importance. The differences between the type bred in the Danube area and the type bred in Transylvania are difficult to be established and clear criteria for separation of the different types are not defined. In order to preserve the important genetic resource, the productive potential and the valuable aptitudes of the breed, it is recommended to continue breeding Romanian buffalo in the actual geographic areas of distribution in order to preserve and develop the existing buffalo population as a valuable genetic heritage and biological resource.



Introduction

- Homologated as a Romanian breed in 1987 (on the basis of studies and background documents drawn up by Velea C.), the breed developed in wetter and poorer regions with less abundant vegetation, where harder work was required, and was initially spread in three large centres: Transylvania, the Danube Plain and Dobrogea. Today 97% of the herd is found in the counties: Salaj, Cluj, Braşov, Bihor, Maramureş, Sibiu and Bistriţa-Năsăud counties, the rest being spread in Teleorman, Gił, Ilfov, Vâlcea, Gorj, Tulcea and less in Vrancea, Bacău and Suceava counties.
- Currently in our country buffalo herd is continuously decreasing. In this context, conservation of genetic resources represents an extremely important action. Loss of genetic diversity is the main cause of the disappearance of populations or their entrance in the area of vulnerable or endangered risk status.
- Within the breed there are two original types, ecological and morphological:
 - 1. Transylvanian buffalo: taller, with a waist of 132 cm, relatively short trunk length of 139 cm, short body size 107%, shallower thorax with a depth index of 54%, medium-sized udder, longer and thicker limbs of 21 cm, with an appearance closer to that of the draught animal.
 - 2. Danube plains buffalo: less tall, 129 cm waist, 110% rectangular body shape, deeper thorax with 55% depth index, more developed udder, thinner limbs, drier appearance

Material and Methods

The sources of information for the present paper are represented by the data collected from the Transylvanian Buffalo Breeders Association, the accredited association holding the Herd Book of the Romanian Buffalo, the Research and development station for the breeding of buffaloes in Şercaia, the Genetic Heritage Catalogue held by ANZ (National Agency for Animal Husbandry), the Country Report carried out together with specialists from the National Commission for the Management of Genetic Resources and the Directorate for the Protection of Animal Genetic Resources and the national breeding program for bubalines.

Year	Specification	Country area							TOTAL
		NW	SE	SM	SWO	W	NW	Centre	
2015	Total	15	14	821	60	1071	11392	5011	18384
	female buffaloes	1	14	756	42	913	9420	3467	14613
2016	Total	2	0	996	0	1343	12097	5842	20280
	female buffaloes	0	0	894	0	976	9656	4402	15928
2017	Total	0	0	976	0	1161	11520	5162	18819
	female buffaloes	0	0	855	0	907	9173	4092	15027
2018	Total	30	0	879	0	1146	11326	5694	19075
	female buffaloes	21	0	741	0	862	8674	4474	14772
2019	Total	0	12	35	0	1147	11775	6052	19021
	female buffaloes	0	8	0	0	938	8527	4536	14009
2020	Total	0	85	392	0	1053	12136	6256	19922
	female buffaloes	0	0	392	0	978	9200	4708	15278

NW = north-west; SE = south-east; SM = south Muntenia; SWO = south-west Oltenia; W = west; NW = north-west.

Results and discussions

- Directions and objectives for improvement and conservation.
- Breed improvement - modification of the genetic potential of the populations for milk production traits through the selection of breeders with breeding value based on their own characteristics and appropriate matching of matings, in correlation with the controlled breeding of the young and ensuring optimal living conditions.
- Breed conservation - maintaining genetic diversity to ensure the conservation of animal genetic resources, preserving, maintaining, breeding and preventing their extinction, increasing the number of animals, avoiding crossbreeding and inbreeding, generating pure-bred products and, extending them to as many breeders as possible:
 - modification of the morpho-productive type, increased production, precocity, resistance to natural factors, diseases, etc.
 - definition of conservation directions and objectives.
 - criteria for the purity of animal genetic resources
 - actions and technical measures to increase herds and their production.

Specification	UM	Reference year						
		2014	2015	2016	2017	2018	2019	2020
Pure-bred breeding female buffalo registered in the herdbook, main section	heads	80	90	100	150	200	250	300
Animals included in the herdbook, secondary section	heads	400	450	500	550	600	650	700
Number of buffalo breeders with animals in the main section	nr.	2	4	6	8	10	12	14

Specification	UM	Value
a. Weight of economic characters		
- Milk	%	50
- Meat	%	20
- Reproduction - Fitness	%	30
b. Average production per normal lactation		
- Milk	Kg	1500
- Fat	%	7,70
	kg	115
- Protein	%	4,5
	kg	65
c. Early milk production - age at first lactation	months	42
d. Buffaloes in official control of milk production (COP)	heads	20000
e. Average birth rate	%	90
f. average survival during the birth period - first birth	%	85
g. average exploitation period at reproduction		
	females	years
	males	years
		8

Conclusions

They represent about 10% of the world's cattle population. In large breeding countries, buffaloes make an important economic contribution, while other cattle species are unsuitable or achieve lower levels of productivity. They have an important genetic strength in adapting to the harshest of growing and farming conditions, especially for the swamp and lake areas of the world. They are also animals with a longer productive life than taurines, living around 30 years. Productions from buffaloes with minimal maintenance costs can be a solution for certain areas of the world. Buffalo milk is an important source of protein, successfully used in the preparation of cheeses of higher quality than those made from the milk of other species. Last but not least, the meat of young fattened animals is a real delicacy, with a high content of unsaturated fatty acids and iron.