

# COMPARATIVE RESEARCHES CONCERNING THE MILK PRODUCTION TRAITS ON BLACK AND WHITE CATTLE HERD OF FIRST CALVING, BREEDED IN PRIVATE FARMS FROM TRANSYLVANIA

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## Abstract

*In this study we will present some comparative elements regarding cow's milk production in first lactation breeding and exploited in some private farms from the counties of Alba and Mureș. The researches for main milk production trait were orientated to analyse the content and quantity of fat and protein, corresponding to normal and total lactation. According to purpose, a plan for conducting research work, especially depending on the present evidence in different farms, on the herd investigated, we wanted to put highlights the production performance of dairy cows bred in different farms sizes. The effective included in the research is about 596 head of cows bred in two counties from Transylvania: Alba and Mures respectively farms SC Stazoo with 145 heads, SC Unichim with 68 heads, SC Ambisco with 233 heads, and SC Agrocriș with 150 heads.*

**Key words:** cattle, milk, production

## INTRODUCTION

Trends for to increasing quality and individual performance of the biological material existing in exploitation is one motivation of the increase the individual production with the main effects in to increase the milk total production. In this direction, comparative with milk production level which is obtained at present, the farmer's trends are going to improve the cattle populations, at the same time with specialization in milk or beef production. In this orientation is good to mention two significant aspects with application in perspective, in sense that after implementation of technical-material good conditions for milk production in our farms is necessary and favorable to expected and preferred the breeds specialized for milk production. From these considerations we have been to reduced significant the different populations, as Pinzgauer cattle and Romanian buffalo but with predominate breeds followed depending on the agricultural area, Romanian Black and White, Romanian Yellow Spotted, Simmental type and Romanian Brown breeds, Schwitz

type and several breed, especially Ayrshire "breeds of butter" and Red Holstein used for improvement [2]. These several trends and possibilities of realization, represents elements to make open wide to more efficient cattle breeding, including specialization in the direction of milk or beef production, is one of the priorities in the current breeding process for development and modernization.

## MATERIALS AND METHODS

The research were conducted during 2006 – 2007, on the Romanian black and white breed, exploited in four private farms. The effective included in the research is about 596 heads of cows exploited in the two counties in the Transylvania area: Alba and Mures respectively SC Stazoo with 145 head, SC Unichim with 68 heads, SC Ambisco with 233 heads, and SC Agrocriș with 150 heads. The research has been perform based on data obtained from official control of milk production (OCP), and the sheets designed for this purpose with data base. In presenting and interpreting the results of research on the main traits of milk production were taken into account indicators

of milk production as: age of first insemination, age of first calving, lactation length, milk production for normal and total lactation. Data obtained from each farm were analyzed by one-way ANOVA, and mean values were compared by Tukey test (Table 1).

## RESULTS AND DISCUSSIONS

The research has allowed to establish the main quantitative and qualitative traits of milk production, precocity and reproductions, structured on farms, and the results preelucrated and statistically analyzed in averaged for the four farms are shown in Table 2.

Table 1  
 Difference and significance of difference for milk production between cattle farms

Farms	SC STAZOO	SC UNICHIM	SC AMBISCO	SC AGROCRIS
SC AGROCRIS	1178***	30,16	740,72***	-
SC AMBISCO	437,33*	770,89***	-	
SC UNICHIM	1208,22***	-		
SC STAZOO	-			

ns –  $p > 0,05$ ; \* -  $p < 0,05$ ; \*\* -  $p < 0,01$ ; \*\*\* -  $p < 0,001$

Compared average yields of primiparous cows in these farms, with milk production at the counties level, Romanian black and white realized average performance of 3835 kg milk in Alba and 4371 kg in Mureș county, compared with 4633 kg milk average on Romanian country. [1]. For all cow farms with Romanian Black Spotted breed from these counties, variability estimated reflects very heterogeneous populations and very low a selection level, with not rigorous selection and multiplication for the most valuable genotypes and the strong influence of technological factors regarding to milk productivity.

## CONCLUSIONS

The counties taken in the study are large cattle milk producers regarding to their geographical location, production conditions and traditions. The present and future conditions of Romanian agriculture involving privatizing and the increase in the number of small and medium farms size will be

improvement of the biologic material quality and genetic amelioration being thus essential element, similar to all countries with tradition in cattle breeding. The major and exclusive problem of breeding technologies resides in the improvement and perfecting of breeding and exploitation technologies, of environmental conditions and makes a primary reference to the breeder's intervention in directing and controlling heats, microclimate and nutrition levels. Researches conducted and results obtained regarding dairy cattle breeding on various-size farms, show a series of conclusions and the most important and significant can be synthesized as follows:

- Milk production in the Transylvania area greatly originates in the private sector (99% of the total production), with the average milk production around of 4000 kg/cow.

Table 2  
 Milk productive performance of the farms performed by the Romanian Black cow of first lactation

Farms	Statistics	Total lactation						Normal lactation					
		Length (days)	Milk (kg)	Fat (kg)	Fat (%)	Protein (kg)	Protein (%)	Length (days)	Milk (kg)	Fat (kg)	Fat (%)	Protein (kg)	Protein (%)
SC STAZOO	$\bar{X}$	321,41	5493,36	213,35	3,90	174,39	3,18	278,24	5159,72	198,77	3,86	163,83	3,18
	$\pm s \bar{x}$	7,47	174,45	6,43	0,02	5,42	0,02	2,61	110,03	4,00	0,02	3,40	0,02
SC UNICHIM	$\bar{X}$	359,76	4718,11	176,04	3,73	149,74	3,11	283,50	3951,50	146,96	3,72	122,42	3,10
	$\pm s \bar{x}$	13,36	250,54	9,54	0,04	9,33	0,03	3,04	122,33	4,86	0,04	4,59	0,03
SC AMBISCO	$\bar{X}$	314,61	5099,70	200,84	3,95	160,08	3,14	270,46	4722,39	185,27	3,93	148,28	3,14
	$\pm s \bar{x}$	9,64	190,54	7,62	0,03	6,08	0,03	4,27	111,39	4,63	0,03	3,78	0,03
SC AGROCRIS	$\bar{X}$	295,36	4203,88	159,98	3,81	129,32	3,07	264,71	3981,67	151,05	3,80	122,22	3,07
	$\pm s \bar{x}$	9,61	176,20	6,82	0,03	5,57	0,02	6,33	80,43	3,15	0,03	2,44	0,03

- Family micro-farms for dairy cattle are subject to a continuous modelling evolution throughout their aspects, according to the following elements: cattle stocks and their purpose, fodder sources and possibilities for their substitution, fodder quantity and quality, fodder varieties from dairy cattle specific ration, the practiced maintenance system, etc. All these factors are one big influence on the economic efficiency of family dairy cattle micro-farms.
- Regarding the productive performances, Romanian black and white populations in the our counties take the study researches belonging to private-individual cows farms, these farms are continual process of conversion and genetic amelioration. Genetic amelioration process takes place slowly, while technological factors for exploitation and management are yet deficient.
- For Alba county the milk production on normal lactation recorded by the cow included in OCP was 5159 kg milk for the population breded in the SC Stazoo farm, and 3951 kg milk for the black and white spotted population of the SC Unichim farm
- For Mures county, milk production according to normal lactation registered for OCP cows was 4722 kg for the population breded in S.C. Ambisco farm and 3981 kg for the Romanian spotted population from S.C. Agrocris farm
- Following these analyses, the production performances obtained represent a clear consequence of the breeding and exploitation technologies adapted to each farm analysed, namely the existing technical-economic basis.

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