

## CONTRIBUTIONS TO THE KNOWLEDGE OF THE MAIN PRODUCTIVE INDICES IN PRIMIPAROUS ROUMANIAN SPOTTED BREED

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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 Cluj. 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. The entire research herd, 340 heifer cow's in first lactation from four farms was analysed and interpreted, thus : 220 head of cow farm, SC Agrotrust, 30 head from cow farm, S.C. Agrolact, 25 head from cow farm, S.C. Unichim and 65 heads from cow farm S.C. Crisan. In presenting and interpreting the results of research with regarding to milk production traits, was used the data obtained from official control of milk production (OCP). Thus, average milk production is too variable but depending on the farm between 3342 and 5001 kg milk for normal lactation. Best performances were achieved in SC CRIȘAN cow farm with a herd of 65 head cow milk, where milk production achieved in normal lactation was 5001.36 kg, 3.97% fat and 3.21% protein, corresponding to an average lactation length of 300 days. Age of first calving was 1004.93 days (33 months and 2 days) with a pronounced variability of this precocity cattle trait ( $V = 16.06\%$ ). In conclusion, after finish the research study we can to say, milk production results were quite good, comparison with Romanian Yellow Spotted standard bred performances.*

**Key words:** farms, cow milk, milk production

### INTRODUCTION

The milk production level from Romania is very low comparative with EU country with correspondence in Romanian global milk production, because decreasing the number of dairy cows and dairy farms, small production / head cow milk and other reasons [2]. Desiderate of actual Romanian animal husbandry is: "increased quantity and improved significantly the quality of milk produced". In the context of realization animals production and to satisfy the intern consumption and export availability of the specific conditions of market economy, in Romania is necessary to increase the actual cattle herd number with appropriate structure and adequate breed with a high genetic value, adjustable of market economy in present and future. Increase the genetically potential and breeds productivity, concomitantly with optimizing exploitation technology in small and medium family farm, optimization management and economic good administration, represents important ways to increase milk and beef

production, up profits along with increased the actual number of effective and improving milk and beef quality [3].

### MATERIALS AND METHODS

The researches were effectuated during 2006 – 2007 years, on the Romanian Yellow Spotted breed, exploited in four private farms from Alba and Cluj counties. The farms taken in the study was a form of organization the state ownership and transforming farms units in companies with private capital after Romanian revolution from 1989. All these farms have a good technical basis necessary for materialization of modern technologies of breeding and exploiting cattle and all farm herds however have received different conditions, but properly regarding to feeding and housing. According to the desired purpose, on the research herd, we wanted to put focus on the productive performance of dairy cows in first lactation from farms of different sizes. All research was effectuated on 340 heads from four farms: 220 heads

cows from SC Agrotrust farm, 30 heads cows from SC Agrolact farm, 25 head cows from SC Unichim farm and 65 heads from SC Crisan farm. Our researches have been based on data obtained from official control of milk production (OCP), and the sheets, data base designed for this purpose. In presenting and interpreting the research results 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 from research were processed statistically using the following parameters: mean ( $\bar{x}$ ), standard error of the mean ( $\pm s_x$ ), coefficient of variation (V %), minimum (m), maximum (M).

## RESULTS AND DISCUSSIONS

The main production traits that characterize the dairy cows herd refer to age of first calving (in months), service period and the total and normal lactation. Average values of the main indices of production are presented in table 2 and refer to the quantity of milk produced for duration of lactation, the percentage of fat and protein produced. Related research and the obtained results of the main traits of milk production, regardless of origin, the farms included in the study, in decreasing order of rank are as follows: SC Crisan, SC Agrotrust SC Agrolact and SC Unichim.

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

Farms	Unichim	Agrolact	Agrotrust	Crișan
Crișan	1658,48***	1645,75***	1081,26***	-
Agrotrust	577,22	564,5	-	
Agrolact	12,72	-		
Unichim	-			

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

## CONCLUSIONS

Researches conducted and results obtained regarding dairy cattle breeding on various-size farms, led to a series of conclusions and the most important and significant can be synthesized as follows:

✓ Comparative analysis of the four populations of cows in first lactation, Romanian spotted cows from two counties, reflect the age at first calving of 33 months, over the normal, which show defect growth of young cattle on during investment period, a general characteristic of cattle breeding for recent years;

✓ Quantitative production of milk and fat is over the mean on Romanian country but still low compared to EU countries, with values of milk production for normal lactation between 3342 kg milk and 5001 kg milk [1] ;

✓ The best milk production are obtained in SC CRIȘAN farm which owns a herd of 65 heads dairy cow, where milk production for normal lactation was 5001,36 kg. with 3,97% fat and 3,21% protein, corresponding to an average lactation length of 300 days;

✓ These issues reflect the technological differences between farms in terms of feeding equipment, maintenance, milking equipment, etc. but also differences in the genetic effect of the use of bulls through the induction of progress in cattle populations.

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Table 2  
 Milk productive performance of the farms performed by the Romanian Yellow Spotted breed of first lactation

Lactation	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 UNICHIM ROM	$\bar{X}$	302,84	3434,88	124,94	3,65	111,21	3,11	281,09	3342,88	121,06	3,63	107,21	3,09
	$\pm s \bar{x}$	6,94	151,55	5,23	0,06	6,28	0,05	4,07	133,36	4,48	0,06	5,16	0,05
SC AGRO-LACT	$\bar{X}$	336,70	3724,71	145,97	3,88	146,70	3,22	288,30	3355,60	130,65	3,84	131,75	3,19
	$\pm s \bar{x}$	15,47	280,50	12,59	0,06	11,14	0,07	4,13	251,30	11,74	0,07	11,24	0,07
SC AGROTRUST	$\bar{X}$	330,14	4310,36	164,0	3,85	135,01	3,13	298,31	3920,10	149,06	3,79	123,10	3,14
	$\pm s \bar{x}$	17,26	130,15	6,15	0,03	7,60	0,02	4,52	162,70	4,56	0,03	4,56	0,02
SC CRISAN SRL	$\bar{X}$	341,35	5356,04	214,91	3,99	186,57	3,24	300,50	5001,36	199,32	3,97	172,77	3,21
	$\pm s \bar{x}$	10,15	227,69	0,03	9,73	0,02	5,47	1,68	198,31	0,03	8,33	0,02	3,92