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RESEARCH ABOUT PRODUCTIVE AND ECONOMIC PARAMETERS OF RSC ACTIVE POPULATION FROM THE BUCHAREST AREA OF MILK SUPPLY

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Abstract

This paper explores breed characteristics of the Romanian Spotted Cattle, as far as the parameters of milk production and economic ones from Pantelimon, Mogosoaia and Afumati farms. For the purpose of determining total duration of lactation, milk production on total and normal lactation, the proportion of protein on total and normal lactation, the proportion of fat on total and normal lactation have been calculated using the statistics indicators: average, the variation, standard deviation, standard error of the average and the coefficient of variability. The researches carried out showed that the highest total duration of lactation has been obtained by Romanian Spotted Cattle on the Afumati farm (334.68 ± 1.82 days) with approximately 2.5% higher than lowest total duration of lactation (326.46 ± 1.87 days) at the Mogosoaia farm. The best average production of milk has been obtained at the Pantelimon farm 8092.63 ± 35.53 kg, top with 6,45% than that of Afumati farm and 17.85% than milk production obtained in Mogosoaia farm. Regard to the results obtained on average quantity of milk on normal lactation, showed that again the Pantelimon farm have been reach out the best results. Regarding at the percentage of fat, it showed that the best results have been obtained in the Mogosoaia farm 3.9 ± 0.004% followed by Pantelimon farm 3.75 ± 0.003 % and Afumati farm with 3.7 ± 0.004 %. About the developments in the milk quantity, of the percentage of protein and a percentage and quantity of fat in relation to lactation, it is found that biological material from the farms named above has a good precocity in the direction of milk production.

Key words*: breed, cattle, farm, percentage of protein/normal lactation, percentage of fat/normal lactation.*

INTRODUCTION

Cattle were in the economy in general and agriculture in particular, an important socio-economic features that result from their main function, food function, as it provides 96% of the world production of milk, 30% of the world production of meat and over 90% of the world production of skins and directly participate in the growth, development and health insurance mankind (Georgescu, 1990; Georgescu, 1993; Pantazi, 2000).

This paper studies the characteristics of the Romanian Spotted Cattle breed, in terms of milk production and economic parameters in Pantelimon, Mogosoaia and Afumati farms.

MATERIALS AND METHODS

Milk production is the main objective pursued in milk production operation of the three farms analyzed.

For the purpose of determining total duration of lactation, milk production on total and normal lactation, the proportion of protein on total and normal lactation, the proportion of fat on total and normal lactation have been calculated using the statistics indicators: average, the variation, standard deviation, standard error of the average and the coefficient of variability (Bockisch et al., 1999; Calin et al., 1999).

Total lactation duration is the time elapsed from the time of birth and at weaning cows (Banica, 1995; Bordeianu, 1991).

RESULTS AND DISCUSSIONS

Data on total lactation length in relation to the sequence of lactations and average populations analyzed are described in tables 1, 2 and 3:

Table 1. Total lactation length in relation to the sequence of lactations of cows in the Pantelimon farm

Nr.crt	Specification	n	$x \pm s_x$	s	v%
1	First lactation	75	324.17±3.44	98.97	30.53
2	Second lactation	55	336.13±3.49	83.90	24.96
3	Third lactation	48	330.17±4.32	88.02	26.66
4	Forth lactation	24	336.22±5.63	94.41	28.08
5	Fifth lactation	16	333.15±7.54	101.79	30.53
6	Sixth lactation	12	318.23±10.57	110.87	34.84
Average		**-**	**329.68±1.90**	**94.72**	**28.73**

Table 2. Total lactation length in relation to the sequence of lactations of cows in the Mogosoaia farm

Nr.crt	Specification	n	$x \pm s_x$	s	v%
1	First lactation	124	320.12±3.44	97.26	30.38
2	Second lactation	84	333.84±4.49	84.65	25.36
3	Third Lactation	61	328.27±4.84	84.12	25.63
4	Forth Lactation	46	334.27±5.62	92.28	27.61
5	Fifth Lactation	22	325.05±6.64	98.68	30.36
6	Sixth Lactation	18	317.21±8.56	101.25	31.92
Average		**-**	**326.46±1.87**	**92.08**	**28.21**

Table.3. Total lactation length in relation to the sequence of lactations of cows in the Afumati farm

Nr. crt	Specification	n	$x \pm s_x$	s	v%
1	First lactation	155	325.32±3.21	96.54	29.68
2	Second lactation	126	341.86±3.68	89.62	26.22
3	Third lactation	71	340.42±4.73	84.95	24.95
4	Forth lactation	50	345.36±5.52	96.52	28.07
5	Fifth lactation	25	329.18±7.84	101.24	27.95
6	Sixth lactation	14	325.94±8.26	95.68	29.36
Average		**-**	**334.68±1.82**	**98.26**	**29.36**

Following research revealed that the highest total duration of lactation was achieved by herd on the Afumati farm, about 2.5% higher than the lowest total duration of lactation found in Mogosoaia farm.

The amount of milk is expressing in total lactation, normal lactation, in maturity equivalent and productive life.

The best average milk production was achieved in Pantelimon farm (8092.63 ± 35.53 kg), top with 490.18kg (ie 6.45%) than production in Afumati farm with 1225.87 kg (ie 17.85%) than the milk production achieved in Mogosoaia farm.

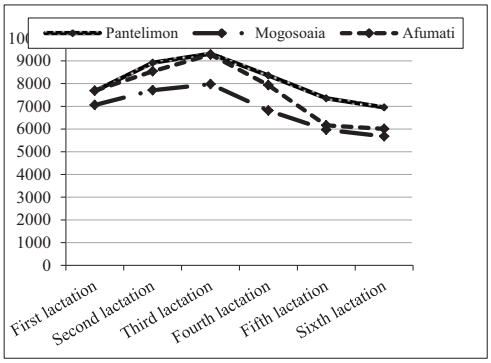

Figure 1.The variation of milk production / total lactation in lactating dairy cows succession from farms Pantelimon, Afumati and Mogosoaia (kg milk / total lactation)

The RSC cows achieved an average amount of milk / normal-lactation at 7178.37 ± 165.65 kg in Pantelimon farm, 6485.33 ± 142.34 kg in Afumati farm and 5641.16 ± 34.28 kg in Mogosoaia farm.

The milk production/normal lactation in Pantelimon farm is greater by approx. 10.75% dairying/normal lactation than Afumati farm and with approx. 27.24% than milk production/lactation normal in Mogosoaia farm and place the Pantelimon farm on top of the pyramid farm improvement, as performances are unique.

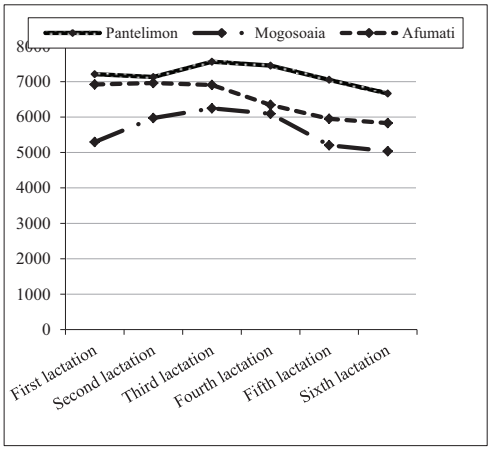

Figure 2.The variation of milk production / normal lactation in lactating dairy cows' succession from farms Pantelimon, Afumati and Mogosoaia (kg milk / normal lactation)

Fat percentage (among other parameters - milk protein, including casein, especially k-casein, somatic cell count, total plate count, etc.) was and is an important parameter that defines milk quality reflecting particularly in butter yield obtained after processing it.

After analyzing the data obtained from the three farms located in the study, the greater percentage of fat on total lactation was achieved in Mogosoaia farm (3.9 ± 0.004%), followed by Pantelimon farm with 3.75 ± 0.003% and Afumati farm with 3.7 ± 0.004%.

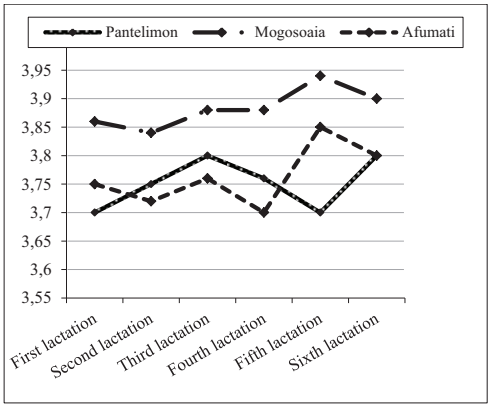

Figure 3.The variation of fat percentage / total lactation in lactating dairy cows succession from farms Pantelimon, Afumati and Mogosoaia

The highest average percentage of fat on normal lactation was found at Mogosoaia farm (3.88 ± 0.005%) with a lower value of the coefficient of variation 5.56% which shows a good homogeneity of biological material from this farm. Compared to the same indicator found in other farms located in the study, Mogosoaia farm fat percentage is superior to the one found on the Afumati farm (cca 2.37%) and 3.19% from Pantelimon farm.

The amount of fat is a basic criterion in the selection of dairy cows because it offers synthetically information about both the quantity and quality of milk. Data analysis showed that the greatest amount of fat / total lactation was obtained at Pantelimon farm 305.55 ± 1.39 kg, recording a high variability (23.32%).

The pure fat is superior to other elite farms of cows in the country, but is lower than that achieved by other strains Holstein-Friesian (by 46% compared to the American Holstein, by 34% compared with Israeli Frieze, by 16-18% from European strains Danish, Dutch, German, Swedish and Italian Frieze).

In other farms located in the study, the average amount of fat / total lactation ranged between 266.67 ± 1.42 kg at Mogosoaia farm and 285.47 ± 1.46 kg at Afumati farm.

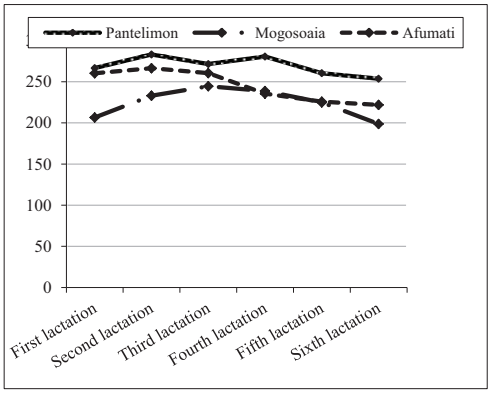

Figure 4.The variation of fat quantity (kg) / normal lactation in lactating dairy cows succession from farms Pantelimon, Afumati and Mogosoaia

The amount of fat on normal lactation in Pantelimon farm was 269.34 ± 4.45 kg, Afumati farm to 245.09 ± 4.52 kg, and the smallest amount of fat obtained was at Mogosoaia farm (224.4 ± 3.37 kg).

The cow populations breed and improved from farm Pantelimon is a plus version; it is

not situated in the amount of fat made by RSC, which are active populations subject to improvement of performance from animal husbandry countries.

CONCLUSIONS

From research done we have a number of useful conclusions on the state of knowledge of RSC breed improvement in our country:

- amount of milk varied in relation to the total duration of lactation, the cows in the herd analyzed varied between 334 days to Afumati farm, 329 days Pantelimon farm to and 326 days Mogosoaia farm. The data regarding the real total lactation milk production shown a balance obtained between 8029 kg at Pantelimon farm and 6866 kg at Mogosoaia farm and on normal lactation milk yields varied between 7187 kg milk at Pantelimon farm and 5641 kg milk at Mogosoaia farm;
- the evolution of the amount of milk in relation to the lactation certify a good early in lactation milk production of biological material from the analyzed farms, which produces 37 to 46.5% more than the average RSC active population in the country;
- milk fat content / total lactation from the population analyzed cows varied within relatively close: in Mogosoaia farm was obtained 3.9 ± 0.004%, in Pantelimon farm 3.75 ± 0.003 and in Afumati farm 3.7% ± 0.004%; the fat percentage in normal lactation varied between 3.76% at Pantelimon farm and 3.88% at Mogosoaia farm;
- the total amount of fat on total lactation varies between 266 kg in Mogosoaia farm and 305 kg to Pantelimon farm; the total amount of fat on normal lactation gets the most amount of fat in Pantelimon farm 269.34 ± 4.45 kg fat / normal lactation, in Afumati farm were obtained 245.09 ± 4.52 kg fat / normal lactation and lowest amount of fat was obtained in Mogosoaia farm 224.4 ± 3.37 kg (with about 20.02% lower than Pantelimonfarm and approx. 9.22% lower than in Afumati farm). Both fat percentage and the amount of pure fat are much lower than those achieved in Western European countries, ie 1-18% and 91-199%.

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