Ass's milk composition of Littoral-Dinaric breeds

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INTRODUCTION

- Littoral-dinaric donkey is one of three autochthonous donkey breeds in Croatia,
- with regard to size of body frame it belongs to the smallest donkey breeds in the world,
- Littoral-dinaric donkey belongs to the group of endangered breeds,
- tendency is to find efficient model of autochthonous genotypes use in food production (economic activation),
- the knowledge of the qualitative characteristics of ass's milk is important for the nutritional evaluation in human feeding and sustainable breed protection,
- **the object of this study was to determine qualitative characteristics of milk production of Littoral-Dinaric ass's.**

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Strategic Priority Area 2 - Sustainable Use and Development
Strategic Priority 5 and Strategic Priority 6

MATERIAL AND METHODES

- the animals used in the study were 15 Littoral-Dinaric donkey mares, 4 to 12 year old, ≈ 150 kg body mass,
- milk samples were collected from June till November 2007., every 20 days during lactation period (150 day),
- mares are feeding only with voluminous forage (pasture, hay),
- mares were manually milked, three hours after separations of foals,
- basic chemical composition and hygiene paremeters of ass's milk was established with laboratory analysis.

RESULTS

- average milk yield was 169.07 mL / milking.
- influence of lactation stage on milk yield and lactose content is not significant
  on protein and fat content is significant (P<0.01)
  on higiene parameters (SCC, MO) is significant (P<0.01)

Table 1. Chemical composition and hygiene parameters of ass's milk (g/100g)

	Mean	S_{EM}	Min.	Max.
Dry matter	**8,80**	*0,08*	6,61	10,63
Fat	**0,38**	*0,03*	0,12	1,45
Protein	**1,66**	*0,05*	1,03	3,43
Lactose	**6,07**	*0,05*	3,84	6,60
Somatic cells (log_{10}/mL)	**4,24**	*0,07*	3,00	5,72
Microorganism (/mL)	**5 691**	*581*	1 000	25 000

- Influence of mare's age on milk yield, chemical composition and hygiene parameters is not significant,
- Influence of lactation number on milk yield, chemical composition and hygiene parameters is not significant.

CONCLUSION

- milk yields which produces Littoral-Dinaric donkey is important and represents possible option for economic utilization (activation);
- the ass's milk as therapeutic food has been searched in Croatia;
- lactation stage has significant influence on chemically composition and hygienic parameters of ass's milk;
- first research result of production capacity of ass milk is a base for the design of economic sustainability programmes for this endangered breed (Littoral-Dinaric donkey).

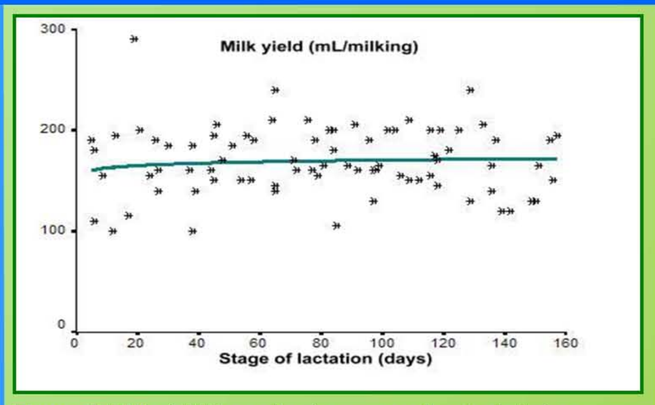

Figure 1. Milk yield (logarithmic curve estimation) during lactation period

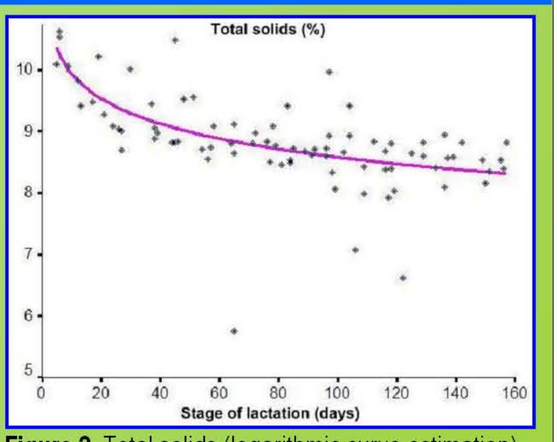

Figure 2. Total solids (logarithmic curve estimation) during lactation period

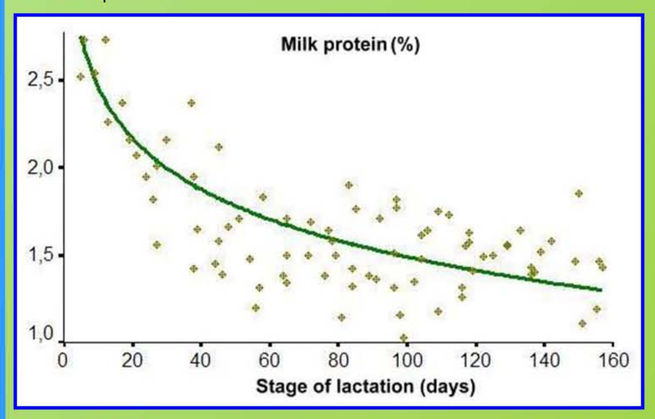

Figure 3. Milk protein content (logarithmic curve estimation) during lactation period

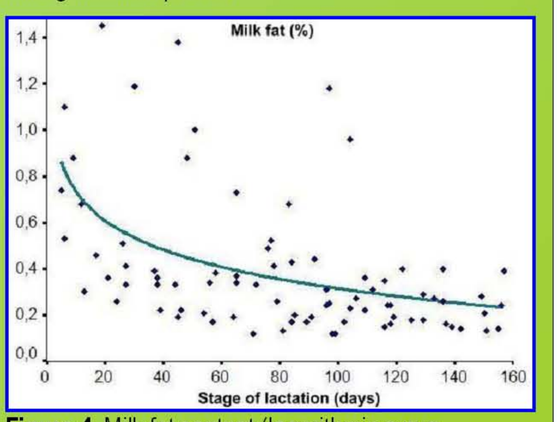

Figure 4. Milk fat content (logarithmic curve estimation) during lactation period

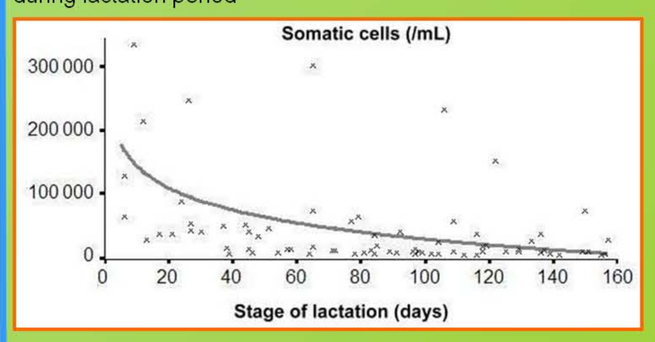

Figure 5. Number of somatic cells (logarithmic curve estimation) during lactation period

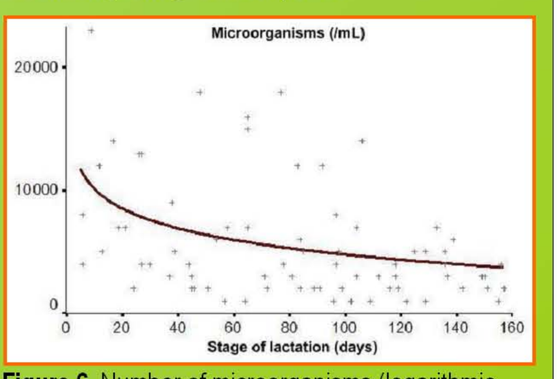

Figure 6. Number of microorganisms (logarithmic curve estimation) during lactation period