

EVALUATION OF THE SEASONAL EFFECT ON THE MILK PERFORMANCE OF COW'S AND GOAT'S

Viktoria Szuts^{1,2}, Judit Márki^{1,3}, Zsolt Szegletes², Zoltán Deim⁴, Attila Koller⁶, Rita Szűts⁷, Ferenc Otvos⁸, Zita Seres⁹, Balázs P. Szabó¹, Antal Véha¹, József Csanádi¹

¹ Department of Food and Engineering, Faculty of Engineering, University of Szeged, Szeged, Hungary

² Biological Research Centre, Academy of Science, Szeged, Hungary,

³ Palmfood Kft. Company, Szekszárd, Hungary

⁴ Department of Biotechnology, Faculty of Science and Informatics, University of Szeged, Szeged, Hungary

⁵ TOLNATEJ Zrt Company, Szekszárd, Hungary

⁶ Auditor of Guider of Quality, Hungary

⁷ University of Novi Sad, Faculty of Technology, Novi Sad, Serbia

szutsv@hotmail.com

Abstract

The overwhelming part of cow's milk is processed in dairy plants but only a few one make milk products from goat's milk in Hungary. In case of cow's milk, the seasonal changes in the amount and the composition of processed milk follow the calving regime because of the intensive breeding. But in case of goat's milk, these parameters are determined by the usual changes during the lactation. In this study the *goal* was a long term monitoring for the parameters of raw milk and compare between cow and goat.

Aim: Our aim was to evaluate data of the amount and composition of cow's and goat's milk from a dairy firm and from two goat farms.

Materials and Methods: Data of dairy firm represents a yearly purchasing while the milking performance of goats was investigated during lactation. We examined the quantitative changes in the indicators of nutritional values in raw milk from Holstein Friesian cow's samples collected by Szekszárdi Tolnatej Zrt. Company during one year and monitored seasonal changes of the content values. But the data of goat's milk from a Hungarian White goat flock and a crossbred Hungarian native (mixed) goat flocks were investigated.

Results: During one year, we validated amount of protein, carbohydrates, lipids and other parameters changing of the raw milk in the seasons of both animals. In case of cow's milk, the seasonal changes in the amount and the composition of processed milk follow the calving regime because of the intensive breeding. The values of proteins and lipids of raw milk were growing periodically between early summer and December in cows. The trend of changes in the amount and the composition of goat's milk during lactation partly met the expectations. The lactation mean of fat-, protein content and fat/protein ration of Hungarian White goat's milk were 4.09%, 3.82% and 1.11, while in milk from mixed flock 5.04%, 3.41% and 1.41, respectively. Comparing these data of milking goats to those in literature, we determined low level of lactation milk yields per capita in both of flocks, 254.4 litres and 317.3 litres in case of Hungarian White and of mixed flock. This might be caused by the lack of feeding, weather conditions and the different milking frequency.

Key words: raw milk of cow's and goat's, seasonal changes, composition

Acknowledgements: The authors are thankful for the financial support provided by the Szekszárdi Tolnatej Zrt. Company Szekszard, Hungary; NKFIH-112688 and OTKA K112688 grants.