

Project Name: №AP08956241 «Indicators for Full Value Ration for Dairy Cows Feeding»

Relevance:

High milk productivity of dairy cows with inadequate feeding levels is the cause of many animal diseases. For example, violations of protein metabolism may occur, which leads to a decrease in milk production, a deterioration in reproduction rates, and, as a consequence, to a short life span of animals. To prevent such undesirable changes, it is necessary to use various indicators, according to the values of which it is possible to promptly adjust the feeding and maintenance parameters.

Monitoring the level of feeding and the state of metabolism will significantly save funds for the treatment of clinical diseases, maintain reproductive performance, improve the reproduction of young animals, reduce the level of lost products and extend the terms of economic use of animals.

Purpose: To develop a methodology for monitoring the level of feeding and the health of dairy cows in commercial dairy farms in terms of the content of the main components in milk (fat, protein, urea).

Expected and achieved results:

The analysis of the level of milk productivity and the milk composition of cows in the basic farm for 305 days of lactation was carried out; feeding and the maintenance of basic nutrients in the diets of the basic farm;

- the relationship was established between the content of energy and basic nutrients in the diet of animals (protein, fat, sugar) and the content of the main components of milk (protein, fat, urea);

- Recommendations for monitoring the level of feeding and the health status of dairy cows in dairy farms have been developed and published in terms of the milk composition (fat, protein, urea).

- Seminars were held on the topic “Indicators for Full Value Ration for Dairy Cows Feeding. Fundamentals of the Dairy Herd Improvement Program” for laboratory employees for zootechnical analysis of milk and agricultural producers.

- 2 articles published: S. Bostanova, D. Aitmukhanbetov, K. Bayazitova, D. Zhantleuov Indicators of full value feeding rations for dairy cows. 2021 г. <https://doi.org/10.1590/1519-6984.254111> and D.K. Aitmukhanbetov, S.K. Bostanova, M.F.Valieva, G. Sharipova. Influence of dairy cows feeding on the content urea in milk. Science Bulletin of the Kazakh Agro-Technical University named after Saken Seifullin No. 3 (110) 2021 4-10 pp.

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List of publications and patents published within the framework of this project (with links to them):

- Aitmukhanbetov D.K., Bostanova S.K., Saduov N. Recommendations for monitoring the level of feeding and health status of dairy cows in dairy farms in terms of milk composition (fat, protein, urea). - 2021.- 16 p.

- S. Bostanova, D. Aitmukhanbetov, K. Bayazitova, D. Zhantleuov Indicators of full value feeding rations for dairy cows. 2021 г. <https://doi.org/10.1590/1519-6984.254111>

- D.K. Aitmukhanbetov, S.K. Bostanova, M.F.Valieva, G. Sharipova. Influence of dairy cows feeding on the content urea in milk. Science Bulletin of the Kazakh Agro-Technical University named after Saken Seifullin No. 3 (110) 2021,4-10pp.

<http://bulletinofscience.kazatu.edu.kz/index.php/bulletinofscience/issue/view/30/9>

Information for potential users:

The use of indicators of milk composition as indicators of the level of feeding and the health of dairy cows according to the analysis of control milking will make it possible to regularly adjust the feeding rations in terms of crude protein content, as well as control the risks of acidosis / ketosis, thereby rationally use protein feed and improve the herd.

Additional Information

The proposed methodology for monitoring the level of feeding and the health of dairy cows by the content of the main components in milk (fat, protein, urea) is based on the experience of implementing the Dairy Herd Improvement program in Western Europe and North America.