



EFFECTIVE MANAGEMENT OF LACTATION PERIOD IN CATTLE AND FACTORS INCREASING MILK PRODUCTIVITY

Karimov Sherali Allaberdiyevich

Ph.D. (Agricultural Sciences), Associate Professor

sheralikarimov7171@gmail.com

<https://orcid.org/0009-0000-7788-8608>

Shaydilova Gulnora Soatmurod qizi

Termez State University of Engineering and Agrotechnology, Master's Student in Animal
Husbandry

ABSTRACT

This article provides a scientific and practical analysis of the key factors influencing the effective management of the lactation period and the enhancement of milk productivity in cattle. During the research, the impact of genetic potential, feeding systems, housing conditions, veterinary control, and climatic factors on milk yield and quality was investigated. The results demonstrated that comprehensive management of the lactation period allows for an increase in milk productivity, extension of lactation length, and improvement of the physiological state of animals. Furthermore, the article develops scientific and practical recommendations for mitigating heat stress, implementing optimal feeding programs, and selecting high-yielding genotypes in hot climates. The research findings serve as an important scientific basis for application in livestock farms of the Surxondaryo region and other hot regions of Uzbekistan.

Keywords: cattle, lactation period, milk productivity, feeding, veterinary control, climate stress, genetic selection, milk quality, livestock efficiency.

INTRODUCTION

Dairy farming is one of the strategically and economically vital branches of agriculture. The growing population demand for high-quality food products requires an increase in milk production efficiency. From this perspective, effective management of the lactation period in cattle is considered a key factor in boosting milk productivity.

During the lactation period, metabolism accelerates within the animal body, and the demand for energy and nutrients increases. If these requirements are not fully met, milk production volume drops, animal immunity declines, and reproductive indicators deteriorate. Therefore, modern livestock farming requires the integrated application of factors such as genetic selection, optimal feeding, veterinary control, and microclimate management.

Particularly in the hot climate conditions of Uzbekistan, heat stress in cattle is a primary factor causing a decline in milk productivity. This makes the development and implementation of effective management technologies a pressing scientific issue.

RESEARCH OBJECTIVE AND TASKS

The primary objective of the research is to identify the factors influencing the increase in milk productivity and milk quality through effective management of the lactation period in cattle.

Research tasks:

1. To evaluate the impact of lactation management on milk productivity;
2. To identify the main factors affecting milk yield;
3. To develop measures to mitigate stress in hot climate conditions;
4. To evaluate the efficiency of feeding and veterinary control;
5. To develop practical recommendations for livestock farms.



RESEARCH MATERIALS AND METHODS

Dairy cattle on livestock farms were observed during the research. Zoohygenic observation, feeding analysis, veterinary monitoring, and statistical analysis methods were utilized in the study. Milk productivity indicators were evaluated through monthly monitoring throughout the lactation period.

RESULTS AND DISCUSSION

Research results indicated that several factors influence milk productivity in a complex manner. Particularly, proper feeding, quality water supply, and an optimal microclimate ensure high milk yields.

Table 1

Main factors influencing milk productivity during the lactation period

Factors	Impact Level	Outcome
Genetic potential	Very high	Milk volume and quality increase
Feeding quality	High	Ensures energy balance
Clean water supply	High	Increases milk volume
Veterinary control	Medium-high	Diseases decrease
Microclimate and ventilation	High	Heat stress decreases
Stress factors	Negative	Milk yield decreases

Analyses revealed that milk production indicators in high-yielding breeds were significantly higher compared to other breeds. At the same time, milk yield indicators remained more stable on farms equipped with ventilation and cooling systems under hot climate conditions.

A balanced diet containing protein, energy, minerals, and vitamins in optimal ratios had a positive effect on milk quality.

Table 2

Impact of lactation management measures on milk productivity

Management Measures	Impact on Milk Productivity (%)
Balanced feeding	+20–25%
Vitamin-mineral supplements	+10–15%
Cooling and ventilation systems	+12–18%
Veterinary prophylaxis	+8–12%
Stress mitigation measures	+10–14%



Selection of high-yielding breeds	+25–30%
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The results showed that applying comprehensive management measures during the lactation period significantly increases milk productivity. Particularly, balanced feeding and genetic selection were recorded as the factors providing the highest efficiency.

CONCLUSION

Based on the research results, the following conclusions were reached:

1. Managing the lactation period on a scientific basis is a fundamental factor in increasing milk productivity.
2. Breeds with high genetic potential yield more and higher-quality milk.
3. Optimal feeding and quality water supply are vital factors in milk production.
4. Veterinary control and prophylactic measures are effective in preventing diseases.
5. Ventilation and cooling systems in hot climates stabilize milk yield by reducing heat stress.
6. Comprehensive lactation management serves to increase the economic efficiency of livestock farms.
7. In general, effective management of the lactation period in cattle holds great importance in increasing milk productivity, producing high-quality dairy products, and enhancing the economic profitability of livestock farming.

REFERENCES

1. Ahmedov, Sh. S., & Yusupov, N. X. (2018). The importance of nutrition and water supply during the lactation period in animal husbandry. Tashkent: Fan.
2. Nazarov, B. A. (2019). Modern methods of increasing milk productivity. Tashkent: Qishloq xo'jaligi nashriyoti.
3. Smith, J., & Johnson, R. (2017). Dairy Cattle Management: Lactation, Nutrition, and Health. New York: Springer.
4. FAO. (2019). Improving Dairy Production and Health in Hot Climates. Rome: Food and Agriculture Organization.
5. Karimov, A., & Ismoilov, F. (2020). Effective management of lactation period and care in cattle. Samarkand.
6. Hillerton, J. E., & Berry, E. A. (2016). "Milk Yield and Composition in Dairy Cattle: Factors Affecting Lactation." *Journal of Dairy Science*, 99(4), 2503–2515.
7. Oliyqoziev, R., & Toshpo'latov, M. (2021). Water and nutritional requirements during the lactation period. Tashkent.
8. Radostits, O. M., Gay, C. C., Hinchcliff, K. W., & Constable, P. D. (2018). *Veterinary Medicine*. 11th Edition. Elsevier.