https://cejsr.academicjournal.io

Holstein Cows of Various Selections' Milk Production and Macroelement Composition

Z. F. Mahkamova
Master student, Samarkand State University of Veterinary Medicine, Animal Husbandry and Biotechnology

L. A. Xujanova
Doctor of Biological Sciences, (PhD) assistant, Samarkand State University of Veterinary Medicine, Animal Husbandry and Biotechnology

Norboev Sh. B., Zayniev Sh. Sh.
Student, Samarkand State University of Veterinary Medicine, Animal Husbandry and Biotechnology

ABSTRACT

The article describes the milk yield of Holstein cows of German and Polish breeding and its macroelement composition. Information on the effect of the amount of extracted milk and its components on the duration of the lactation period of cows is given.

KEYWORDS: *silage, service period, fiber, total nitrogen, protein nitrogen, dry matter, macroelement, lactation period.*

Relevance of the research. In cows brought from abroad to cattle farms that are adapted to milk production, the issues with fertilization and the causes of its origin are known to be studied in the first year of adaptation. Their productivity and fertility are impacted by the quantity and quality of milk that is collected from cows over time. The birth, productivity, service, breed, individual, and physiological traits of cows all affect their fertility indicators. The conditions of giving birth, the age of giving birth, and how they are kept in the barn all have an impact on the cows' fertility indicators. The fertility and productivity of cows are influenced by a wide range of genetic, physiological, and paratypic (ecological) factors that demand the serious attention of experts.

The purpose of the research. to research the role that individual and paratypical factors play in breeding cows with high live weight lactating longer than usual.

Methodology. At the Chortut cattle-breeding farm in the Pastdargom district of the Samarkand region, measurements of cow milk productivity indicators and some milk macroelement content were made. For the experiments, 15 German breed cows with a live weight of 600–620 kg and Polish breed cows with a live weight of 700–720 kg were divided into experimental and control groups. In farm settings, cows were fed the same kind of silage.

It is well known that the higher lipid and higher sugar content of silage foods set them apart from other foods. The research was conducted using the following methods of verification.

- Based on monthly milking control, the milk yield of cows was calculated prior to morning feeding. The amount of milk produced in a single day was multiplied by 30 days to get the total amount produced each month.

- The total of the monthly milk amount was used to calculate the amount of milk produced during the milking period, or milk yield.
- To analyze milk, samples were collected in accordance with GOST 26809-86. For research purposes, morning and evening milk samples from each cow were combined to create a single mixture. Utilizing chemical analysis, the indicators of total fat and protein content were identified in this mixture.
- dry substance - by drying the sample for 5 hours at a temperature of 105^0C;
- protein - by K'eldal's method;
- oil - by sulfuric acid method;
- calcium - trilonometric (according to A.T. Usovich);
- phosphorus - photocolorimetric method (according to A.T. Usovich);

On the current farm, live weight measurements were taken of Holstein cows of German and Polish selection. We have investigated the connection between a cow's post-calving fertility traits.

Result and Discussion: In comparison to animals with low and average productivity levels, high-yielding animals are reportedly much more demanding in terms of feeding and care requirements. The main metabolic trait of large dairy animals is the absence of neurohumoral and hormonal regulation of food intake and milk synthesis. The first two months of lactation, which are also the months when cow productivity peaks, are when the majority of diseases in dairy cows manifest. The disruption of metabolism during the transition period is what makes all of this possible.

Animal productivity declines as a result of disturbed metabolism, which also causes acidosis, a reduction in natural resistance, and hypofunction of the ovaries. Particularly severe stomach acidosis results in low food intake, a reduction in the amount of food that can be digested and the body's alkaline reserve, a reduction in calcium and phosphorus absorption, activity of the mammary glands (mastitis, paresis), reproductive organs (metritis, placental retention, child throwing up, infertility), and the main causes of acidosis can be being overweight or underweight or feeding with open silage. The syndrome of decreased milk fat content is one of the signs of subclinical acidosis. Breeding cows' lactation periods are longer in proportion to their milk production. We considered the amount of milk the cows in both groups produced during one lactation to account for this. We calculated the proportion of substances milk contained after being separated from the cow's body.

Table 1 Separated components in the milk of experimental cows belonging to different breeding, kg

Indicators	Groups	
	Control (Polsha)	Experience (Germaniya)
The amount of milk produced during the 305-day lactation period	6636±90,3	8007±120,7
Components separated by milk		
dry matter,	789,6±18,9	968,1±21,8
Mass fraction of fats,	234,86±2,9	282,91±2,9
Mass fraction of proteins	201,3±1,7	253,36±2,2

During the 305 days of lactation, the control group's cows secreted 234.86 2.9 kg and 201.3 1.7 kg of milk fat and protein, respectively, whereas the experimental group's Holstein experimental group cows of Polish selection with high live weight secreted 282.91 2.9 kg and 253.36 2.2 kg, or 20.6 and 26.0% more milk fat and protein, respectively.

https://cejsr.academicjournal.io

Figure 1

Table 2 Composition of some macroelements of experimental cows' milk

Indicators	Groups		As a % relative to control
	Control	Experiment	
Calcium, mg/l	863,0±56,4	909,0±59,4	5,1
Phosphorus, mg/l	609,7±39,89	678,0±44,3	10,1
Sodium, mg/l	346,8±22,65	338,1±22,09	-2,60
Potassium, mg/l	1109,8±72,4	1546,9±101,09	28,26

The cows in the experimental group had the highest indicators of the storage of milk's macroelements, such as calcium and phosphorus, among the compared groups, at 909.0 and 59.4 mg/l and 678.0 and 44.3 mg/l, respectively. 5.1 and 10.1% more than in the control group, respectively, were found for the indicator. The situation for other elements was similar.

Conclusion. We arrived at the following conclusions using the data mentioned above.

1. Dairy Holstein cows with high live weights produce more milk and take longer to wean.
2. Breeding cows with high live weight and productivity experience a decline in immunity and fertility as a result of a large amount of macroelements leaving the body with the milk.

References:

1. Крюков В.С., Зиновьев СВ. Управления кормлением коров в переходный период//ж-л.Зооиндустрия, 2007, 6, 8-12.
2. Багиров В.А. Сохранение и рациональное использование генофонда животных В.А. Багиров, Ш.Н. Насибов, П.М. Кленовицкий и др. // Доклады РАСХН. –2009. - №2. – с. 37 – 40.
3. Балаш Л. Содержание, кормление и важнейшие вопросы при разведении голштино-фризкой породы скота/ Л.Балаш, Г.Батиз, Е.Бридл и др.// Будапешт Агрота,1994.49-52

4. Борознов С.Л. Анализ причин выбытия и решение проблемы сохранности высокопродуктивных коров/С.Л.Борознов., А.А.Мацинович // Учен. зап. УО ВГЛВМ, 2006,- с.142-144.
5. Xo‘jamov J.N. Turli zot va zotdorlikdagi sigirlarning sut mahsuldorligini oshirish yo‘llari./Avtoref.falsafa doktori(PhD) darajasini olish uchun tayyor diss.//Samarqand,2019. 40 b.
6. Xo‘jamov J.N., Narbaeva.M.K. Kaxxarov.A.K. Golshtin va golishtinlashtirilgan sigirlarning sut mahsuldorligi //Zootexniya,Toshkent, 2017.№3,10-13b.