



## Influence of haylage type of feeding on some physico-chemical properties of milk of high-yielding dairy cows

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### ABSTRACT

The biometric examination of the physico-chemical parameters of milk from German Holstein cows fed as haylage is presented in this paper. It has been found that maintaining imported cows under nutritious feeding circumstances helps to generate a high-quality dairy product during the adaptation period.

### Keywords:

Shivery Acidity, Lactase, Consistency, Analog, Microflora, Somatic Cell, Macronutrients, Total Acidity.

### Relevance of the topic:

Improvements in high-tech biotechnology procedures are gaining traction in tackling the worldwide challenge of food security. This strategy, however, is 15% more effective in obtaining high milk production. A variety of statistics reveal that 60% of cows receive individual feeding types to attain this goal.

### Materials and methods research.

The study took place on the "Chortut" cow farm in the Samarkand region. In the laboratory of the "Siyob Shavkat Orzu" milk processing farm in Taylak district, physicochemical parameters of high-yielding cow's milk were determined. The control and experimental groups were divided into 15 heads of analog cows from the German selection, 2nd generation, with a live weight of 620-650 kg. Silo feeding is the first control group. The second experimental group was fed haylage.

The following was found in the milk:

- protein - by the Keldal method;
- fat - by the sulfuric acid method;
- lactase - Using Felling fluid;
- dry matter - by drying the sample at 105°C for 5 hours;
- density - with a milky ariometer;
- total acidity - by titrometry;

As early as the first month of lactation, differences in the amount of daily milk supply of cows in equivalent groups in the experiment were found. By comparing the consistency of the milk from both groups of cows, by using the same liquid, taste, and odor without sediment or bubbles: - clean, with no additional scents or foreign tastes, as fresh milked milk should be: - There were no differences in whiteness between the two groups.

It is known that the study of properties such as density and sourness of milk are indicators used in the selection of quality milk for dairy processing enterprises in cattle breeding. The data obtained show that the density of cow's milk in the compared groups (1027-1029 g/cm<sup>3</sup>) is within the required

norms in cattle, indicating that the quality of milk from cows is high. This is evidenced by the fact that the titratable acidity of cow's milk is at 16-17 °T and the active reaction (pH) of weak acidity varies from  $6.74 \pm 0.03$  to  $6.83 \pm 0.1$ . In addition to preservation, it is a testament to the development of beneficial and harmful substances in milk, a positive effect on the heat resistance of milk (Table 1)

**Table 1**  
**Physicochemical properties of experimental cow's milk fed with different types of nutrition**

Indicators	Groups	
	Control	Experience
Density, g/cm <sup>3</sup>	1029,7±0,003	1027,9±0,008
Sourness, °T	16,5±0,10	16,8±0,10
Active acidity (pH range) in units	6,74±0,03	6,83±0,1
Dry matter, %	11,9±0,09	12,1±0,09
Mass fraction of fats, %	3,7±0,03	5,09±0,02**
Mass fraction of proteins, %	4,23±0,02	4,46±0,02
Freezing temperature, °C	0,527±0,01	0,526±0,12
Somatic cells, cm <sup>3</sup> /thousand	143±26	125±22
Skimmed milk powder. (MPR), %	8,16±0,12	8,3±0,10

\*\*.-P<0,01; The difference in performance compared to group 1 cows is reliable.

The milk freezing point was almost the same in both groups, within the normal range. This means that water does not mix with the milk during the milking process. The fact that the content of somatic cells in the milk of cows of the control group is 12.6% higher than in the milk of cows of the experimental group, indicates that in the body of animals of this group there are some negative conditions associated with mineral metabolism.

**Table 2**  
**Some macronutrient content of cow's milk in the experiment.**

Indicators	Groups		Percentage of control
	Control	Experience	
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±7,2,4	1546,9±101,09	28,26

Among the groups compared, the highest indicators of milk retention of macronutrients such as calcium and phosphorus were  $909.0 \pm 59.4$  mg /l and  $678.0 \pm 44.3$  mg/l in the experimental group of cows, which is consistent with the control group were found to be 5.1 and 10.1% higher, respectively.

### Conclusion.

Haylage-type feeding increases the heat resistance of the product, as the ratio of calcium and phosphorus in the milk of dairy cows is higher by 5.1 and 10.1%, respectively.

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