

## EVALUATION OF DAIRY PRODUCTIVITY AND INTENSITY OF MILK YIELD IN GOATS

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**Keywords:** production of milk of goats, duration of milking, intensity of milking, one-time milk yield.

The development of the goat breeding is accompanied by the introduction of modern animal rearing technologies, the improvement of the technical equipment of farms, mechanized milking of goats [1,6].

Creating optimal conditions for high speed of milk flow is one of the most important technological tasks of machine milking [3, 4].

The most important technological indicators of the udder are the intensity of milk yields, which provides rapid and intensive removal of milk and determines the high efficiency of machine milking.

As the intensity of milking determines the duration of goat's milking, and hence the time of stay in the milking hall [2, 5].

**The aim** of the research was to study the milk productivity of Saanen goats and the indicators of milk yield, the percentage and absolute content of fat and protein in milk, the duration of milking and the intensity of milk yield of goats, depending on age in lactation.

**Material and methods of research.** The study was conducted at the farm "Babyny kozy" Tetiiv district, Kyiv region. Experimental goats (135 heads) by age in lactation were divided into 3 groups: the first group was goats of the first lactation, the second – goats of the second lactation and the third group – goats of the third and more lactations. Milking of goats was conducted at milking plant type "UDA-10". Dairy productivity in goats was determined after complete lactation. Milk yield was evaluated during control milking at the beginning of the second month of lactation. The duration of milking and the intensity of milk yields were also determined.

**Research results and their discussion.** According to the results of the research, the milk productivity of goats first lactation was 605.8 kg. The yield of milk of goats second lactation was 714. 8 kg, which is by 109 kg or 18% ( $P < 0.05$ ) more compared to animals first lactation. The goats of the third lactation had yield of milk of 768.4 kg, which is 162.6 kg or 26.8% ( $P < 0.05$ ) more than that of the first lactation, and compared to the goats at the age of the second lactation, the yield was higher by 53. 6 kg or 7.0%.

Indispensable parameters for assessing the milk productivity of goats is the mass fraction of fat and protein in milk. Experimental goats did not have

significant differences in the percentage of milk fat and protein in milk, depending on lactation.

Duration of milking of goats was almost equal. According to this indicator, goats at the age of the third lactation were inferior to the animals of the second and first lactation by 0.1 min (Table 1).

The duration of machine-milking in goats of the second and third lactations was 0.1 min or 5.6% longer compared to the first lactation goats that were adequate to the yield.

**Table 1**

Indicators of flow milk in goats, depending on age in lactation

Indicator	Group		
	I (n=18)	II (n=9)	III (n=14)
Duration of milking, min	2.1±0.15	2.1±0.23	2.0±0.18
duration of machine milking, min	1.80±0.114	1.90±0.132	1.90±0.176
One-time milk yield, kg	1.9±0.11	2.3±0.17	2.4±0.15
machine yield of milk, kg	1.7±0.11	2.1±0.12	2.3±0.13
Average intensity of milk flow, kg/min	0.94±0.104	1.10±0.092	1.21±0.085

By the size of a one-time yield of goats at the age of the second lactation was increased first lactation goats by 0.4 kg or 21%, and the third and higher lactation was increased by 0.5 kg or 26.3%. One-time yield in animals of the third lactation was 0.1 kg or 4.3% higher than of the second lactation goats.

The intensity of milk flow of goats in the second lactation was higher than goats of the first lactation by 0.16 kg/min or 17.0%, and the goats of the third and higher lactation – by 0.27 kg/min or 28.7%. The difference in this indicator between the goats of the third and second lactations was 0.11 kg/min or 10.0%.

**Conclusions:**

1. The milk productivity of goats increases with each following lactation. The highest dairy productivity was found in goats at the age of the third and higher lactation. The mass fraction of fat and protein in milk of goats with age is almost unchanged.

2. The intensity of milk flow of goats was at the level of 0.94–1.21 kg/min. The tendency to increase the intensity of milk flow of goats with age was revealed. Probably, the physiological activity of the udder in goats increases with age. The highest level of the intensity of milk flow was in goats at the age of the third and higher lactation (1.21 kg/min).

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