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## Study of Productivity Indicators of Saanen Goats

### Abstract

The experiments were carried out in the breeding goat farm of "BMS Agro" LLC, Aghjabedi region of the Republic of Azerbaijan. The results of the study show that the use of Saanen dairy goats to improve the milk production and milk quality. The goat breeding helps to significantly increase the milk production of local goat breeds. The milk yield of purebred goats are breeding on the farm is 4.05, the milk yield of hybrid goats is 885 kg on average, and the milk yield of hybrid goats with 4.15% fat is 708 and 453 kg, respectively, more than local goats. Lactation yield is 177 kg of milk with a fat content of 4.37%. The results of the study show that the breeding value of Saanen goats is high. It is appropriate to use these breeds to increase the milk and meat productivity of local goat breeds.

**Keywords:** goat, productivity, pure blood Saanen goat, hybrid goat, local goat breed of Azerbaijan, live weight, lactation period

### Introduction

One of the profitable areas of animal husbandry is goat farming. Goat farming has been developing rapidly all over the world in recent years. Meat, vitamin-rich milk, leather and wool products are obtained in the goat farming sector. Goats are not very demanding on feed, and compared to other animals, they have the ability to use various plant species (more than 600 plant species). The extremely favorable natural climatic conditions of Azerbaijan and pastures rich in various types of feed allow the development of goat farming in our homeland (Abbasov, 2011).

Goat breeding leads to the efficient use of pasture, and valuable raw materials, such as wool, mohair and leather, as well as food products such as milk and meat, are obtained from them. In its pure form, very high-quality mahud, carpets are made from goat wool, and high-quality fabrics, mahud, carpets, and woolen covers are made from sheep wool. Goat skin is used in the leather industry and fur production (Sadigov, 2022). Processed goat skin is very strong, elastic, light, and dyes very well. Like sheep, goats have elongated faces, mobile lips, and sharp teeth that break and eat grass from the very bottom. Goats' stomachs are more accustomed to roughage. The wool cover consists of mohair and hair, and the mohair and hair do not change at the same time. Mohair is usually obtained from goats by combing, and hair is obtained by shearing (Gozelov, 2018).

## Research

Goat breeding leads to the efficient use of pasture, and valuable raw materials, such as wool, mohair and leather, as well as food products - milk and meat, are obtained from them. Goat mohair is used in wool processing enterprises, in the mohair and felt industries. In its pure form, goat wool is used to make very high-quality mahud, carpets and high-quality fabrics, such as mahud, carpets, blankets, plush velvet and decorative fabrics, mixed with sheep wool. Goat skin is used in the leather industry, in the production of fur, in the production of very valuable leather - chevro, suede, safyan. Processed goat skin is very strong, elastic, light, and dyes very well (Abdullayev, 2014).

According to research scientists, 50% of the numerous goat breeds bred in the world are dairy breeds. The main product obtained from these goats is milk with high nutritional value. In general, goat milk is very rich in nutrients, especially high-value proteins, vitamins, and macro- and microelements. The diameter of the fat globules in goat milk is 2 times smaller than in cow's milk and the ideal ratio of minerals allows it to be well digested and assimilated by infants and young children (Vladimirov, 2010).

It is a goat breed bred in the Saanen Valley of Switzerland and widely distributed there. This breed has been taken to all parts of the world. It is generally a breed with high adaptability and a strong constitution. Saanen goats are brown, and the males are horned. As a similar feature, the goats have earlobes, short and white hair. It is a cassava-type blue pea mammal with the udder (umbilicus) well located between the two thighs. It has a high growth rate, milk and fertility. Thanks to its ability to adapt to different climatic conditions, it adapts very quickly to the places it is taken to (Abbasov, 2015).

Saanen goats are very sensitive to feeding and nutrition conditions. High productivity (productivity) is achieved only under good care and feeding conditions. Saanen goats have a high feed utilization capacity, reach sexual maturity at an early age and reproduce quickly. This is the most important breeding advantage of the Saanen breed. The breed with high fertility usually gives birth to twins or triplets (Revyakin, 2010).

**Location, material and methodology of the study.** 330 Saanen goats, the famous Swiss dairy Saanen goats, were brought to the breeding goat farm of "BMS Agro" LLC in the Aghabeyli village of the Agjabadi region. It is planned to increase the number of goats to 4,000 heads. After the goats of this breed multiply, they will be sold to households, family peasants and individual farms. They will be used to improve the breed composition of goats in Azerbaijan. A large goat breeding complex has been built and put into operation in the village of Aghabeyli. The Swiss dairy Saanen goat breed is used to increase the productivity of local goats bred in the breeding goat farm of "BMS Agro" LLC. Saanen goats were first bred in Switzerland. Currently, it is bred in many European countries and also in the Republic of Turkey. The Saanen breed is white and cream in color, short-haired and hornless. Its skin is thin, elastic and pink in color. Its hair is short, shiny and dense (Tagiyev, Mammadov, Suleymanov, 2023). In females, the head is delicate, the eyes are large and bright, the ears are thin and slightly drooping or erect. The body structure is deep and long and wide towards the back, the neck is thin and long. The udder is well developed in accordance with the direction of milk, and spreads under the belly and towards the hind legs. Saanen goats are dairy goats. During the lactation period, they give 750-1000 kg of milk. The fat content of the milk is 4.4-4.6%. The live weight of the female goats is 50-55 kg, and the live weight of the males (goats) is 70-75 kg. 170-180 goats are obtained from every 100 female goats. The meat of Saanen goats is lean. The net meat yield of young goats of medium fatness is 48-50%. They easily adapt to different climatic conditions (Abdullayev, Aliyev, 2012).

**Discussion of results.** The results of a long-term study conducted at the breeding goat farm of "BMS Agro" LLC in Agjabadi district show that the use of the Swiss dairy Saanen goat breed, both

in breeding and in improving the low-yielding local goat breed of Azerbaijan, leads to an increase in the milk and meat productivity of the local goat breed and the marketable quality of the products obtained. The results of the experiment are given in the table below (table 1).

Table 1.  
**Productivity indicators of experimental animals.**

Type and sex of animals	Fertility indicators of experimental animals (average 1 head)						
	Number of experimental animals	Live weight (kg)	Milk yield during lactation (kg)	Fat percentage of milk	4% fat milk (kg)	Increase in weight compared to local breed-kg	
						Milk	Live weight
Purebred Saanen goat	5	58	885	4,05	896	708	20
Hybrid goat	5	52	630	4,15	653	453	14
Local goat breed of Azerbaijan	5	38	177	4,37	193	-	-

Table 1 shows that 885 kg of milk with 4.05% fat content was obtained from the Swiss Saanen goats bred on the farm during the milking period, and 630 kg of milk with 4.15% fat content was obtained from the crossbred goats, which resulted in 708 and 453 kg of additional milk production compared to the local breed, respectively (Vladimirov, Yerokhin, Karasyov, Yuldashbayev, Vladimirova, 2010).

The use of Saanen goats in the improvement of local goats leads to an increase in the live weight of local goats and an increase in the calving ability. In order to increase the milk yield of goats and improve the quality of milk, it is necessary to organize full-value feeding of goats throughout the year (Zeynalov, 2008).

### Conclusion

Our research work has shown that improving the local goat breed allows us to increase the marketable quality and nutritional value of the produced goat milk and provide our people with high-quality milk and dairy products. It is possible to feed these goats indoors. 0.75-1 sq.m. is enough for one goat, 1.25-1.5 sq.m. for a goat with kids, 3.4 sq.m. for heifers, and 1.5 sq.m. for full-grown goats. Saanen goats give milk for 270-280 days a year, the fat content of the milk is more than 3 percent. Saanen goats, which have high calving rates, give birth to one calf in the first birth and 2-3 calves in subsequent births. In a farm of 25 heads, the number of goats reaches about 150 in two years. In this regard, keeping Saanen goats is considered profitable for farmers. Farms with Saanen goats imported from abroad have already been established in many regions of Azerbaijan. The high demand for goat milk and goat cheese ensures that these farms operate profitably.

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