Milk Productivity of Crossbreed Generation Received from Black and White and Golshtin Breeds

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Abstract: The article presents information about crossbreed generation received from black and white and golshtin breeds, milk productivity of cows during the lactation in each month, fat indicators of milk and fat expenses.

Keywords: cattle in milk direction, black and white breed, golshtin breed, lactation, monthly milk productivity, average milk productivity, milk fatness.

Introduction. At the present time, changing into the use of industrial technology in the dairy industry is fastening and in the first place the demand for high-productive cattle, which are adapted to such technologies, is growing.

In our situation, it is of practical importance to increase the number of productive livestock on farms, increase the productivity of dairy cattle, make full use of their genetic potential.

In order to increase the breeding quality of cattle in our Republic high productive breeds with a good breeeding quality are being imported from foreign countries and crossbreeds received from these types are being improved with genetical features.

Methodological copulating of animals is important in breeding as well as animal selection. Receiving crossbreeds as a result of selection and copulating, crossing selection peculiarities of different breeds, and transfering these features to them are one of the main problems.

Today, the main tasks of farms in the direction of animal husbandry are creating and keeping productive and breeding cattle, increasing milk and meat production by improving their productivity, using pastures effectively.

The main part of requirement for milk and meat consists of cattle breeding in our country. In account of this branch, requirements of people are satisfied. In the period of changing into market economics it is expedient and necessary to use black and white, golshtino-friz, red desert, red eston types of cattle in our Republic in increasing products received from cattle and improving their actions. It is important to manifold these breeds, crossbreed them, improve productivity of their generation and effectively using their genetical origin. In recent years some actions have been conducted on improving useful features of famous breeds and their crossbreeds, and organizing them.

The actuality of the theme. In the sharp continental climate of the Republic of Karakalpakstan, the demand for meat and dairy products is very high, so increasing the number of livestock, dramatically increasing the production of animal husbandry products, increasing the supply of dairy products, improving the breeding quality of livestock, widely using achievements of breeding and selection, and the necessity of using new ways are the actual problems of today.

Also, in order to increase the productivity of cattle, first of all, with special emphasis on the improvement of their breed, it is important to study and introduce foreign experience in the country, especially in the regions, create modern farms and import high productive cattle, which are adaptable to climate conditions of our republic, from foreign countries.

Scientific-research works. Today the most widely spread breed of cattle is black and white type. This breed has been crossing with golshtino-friz for some years, the main aim of this crossbreeding is

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improving its live weight, milk productivity, technological features, receiving good crossbreed in the future and creating high productive cattle in account of them.

Milk and other household peculiarities of crossbreed cows were not studied, taking into conderation this, the practical value of the research is studying live weight, milk productivity, the content of fat in milk, duration of lactation and food expenses of III generation of crossbreed of black and white and golshtin types.

The object of research. Cattle in milk direction, black and white, golshtin breed, lactation, daily milk productivity, average milk productivity, milk fatness.

The method of research. Zootechnical and biological methods.

Received results. Improving breeding qualities and increasing productivity of cattle in each household are carried out with the help of breeding works. As a result of organizing breeding actions it is important to use biological and household zones in selection and copulating. It is required to study all features of the breed in order to produce them. Today the most widely spread types of cattle is black and white breed. This breed has been crossing with golshtino-friz for some years, the main aim of this crossbreeding is improving its live weight, milk productivity, technological features, receiving good crossbreed in the future and creating high productive cattle in account of them.

Milk and other household peculiarities of crossbreed cows were not studied, taking into conderation this, experimental works of crossbreed of black and white and golshtin types were conducted on breeding farms.

10 crossbreed III generation cows were chosen for the experiment. They were cross breed of black and white and golshtin types. The following characteristics of crossbreed cows (black and white x golshtin) were studied in the experiment.

1. Live weight
2. Milk productivity
3. Amount of fat in the content of milk
4. Duration of lactation

1. Live weight of III generation of crossbreed cows were studied by measuring on the scale. They were measured before feeding.

2. Observation of milk productivity of crossbreed cows was determined by milking the amount of milk in the morning and evening in every 10 days. Milk, which was received during the lactation, was compared with breed standard and average indicator of the herd.

3. The amount of fat in milk content was defined once a month. Average amount of fat of yearly milk was determined by adding the amount of fat defined in the lactation months and this standard of breed compared with indicators of herd.

4. Milk giving days of each crossbreed cow, i.e. duration of lactation was determined. For this every cow was observed and the average was found.

Information received from the experiment identified biometric method and their average value, square changing and regression coefficient, clear criteria, selectional index and other indicators.

One of the main features which shows the growth and development of animals is their live weight. One of the factors which influence on the milk productivity of cows and selectional indicators is live weight of milking cows. Live weight of crossbreed cows was measured after a month of their birth in the experiment. Measuring is conducted before feeding and giving water. Average live weight of crossbreed cows (10) in the experiment was 515 kg, and this was the indicator which was intended for the I class of breed standard of 10 animals (500 kg). This shows that cows grow and develop correctly and in the degree of zootechnical requirements when they feed according to the norm in the period of individual development (ontogenesis).

Milk is a complex product of cows, hereditary and immortal factors influence on its amount and quality. Factors which affect milk product consist of cows' breed, genotype, constitution, type of the nerve system, endocrine glands, condition of hormones, form of udder, its size amd individual peculiarities of animals. Also, immortal factors consist of live weight of cows, age of giving birth, long or short duration of lactation, physiological condition of organism, the period of service and not giving milk, feeding and keeping, udder massage, milking technics and others.

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Milk productivity of cows is compared with first class minimal indicators of breed standard. For this comparison the amount of milk and fat should be taken into account. Final value of milk productivity is determined by how many amount of milk, fat (kg) and the amount of fat from the requirements of breed standard (%). The standard requirement for the amount of fat in milk of black and white breed in Uzbekistan is 3,6 percent and the amount of protein is 3,2 percent.

The main product of cows is milk. Milked milk and the amount of fat in its content. Milk productivity of cows in the experiment is given in the following table.

Table 1

Milk productivity of crossbreed cows in each month during the lactation in the experiment

Inventory number	1st month, kg	2nd month, kg	3rd month, kg	4th month, kg	5th month, kg	6th month, kg	7th month, kg	8th month, kg	9th month, kg	10th month, kg	Total milk during the lactation, kg
№1	400	460	460	440	420	400	350	300	250	200	3680
№2	430	450	460	435	400	330	300	280	250	200	3535
№3	430	460	470	420	400	350	330	300	250	200	3610
№4	420	450	460	430	410	370	340	300	280	200	3660
№5	380	420	460	430	400	380	350	310	280	250	3660
№6	435	460	460	420	400	380	340	310	270	220	3695
№7	370	400	450	430	400	350	330	300	250	200	3480
№8	445	460	480	460	420	400	350	300	200	180	3695
№9	440	460	460	450	420	400	360	340	300	200	3830
№10	430	460	460	450	420	380	350	300	250	200	3700
Average	418	448	462	436	409	374	340	304	258	205	3654

According to the information of the table every crossbreed cow gave average 3654 kg of milk. When we compare it with the I class requirement of the breed each of the crossbreed cows give 154 kg of more milk has the indicator more by 4,5 %. This indicator is one of the main selectional features of milk productivity, and they fully meet the requirements of breed in the new condition without losing their characteristics.

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Total amount of milk during the lactation, kg
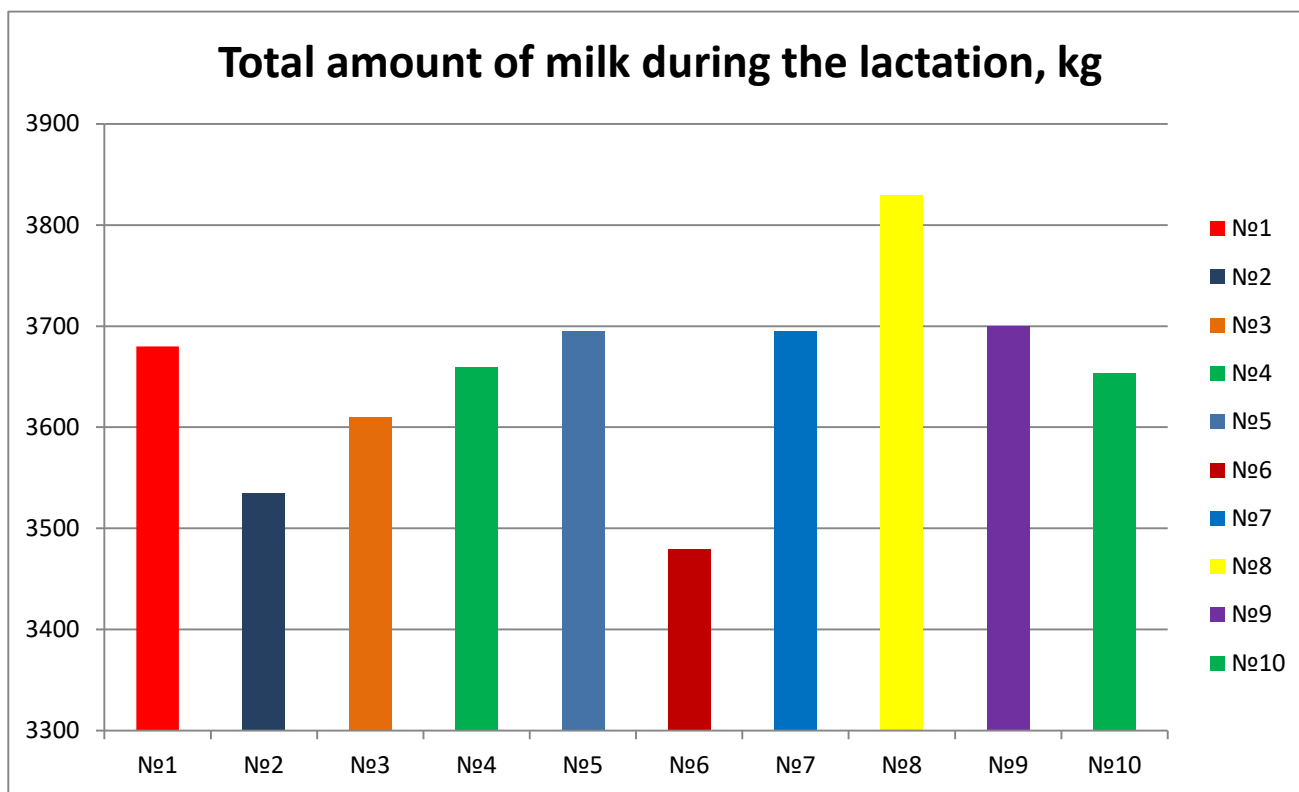
One of the main indicators of milk is the fat in its content %. Internal and external factors influence on the fat of milk

Table 2

Milk productivity of crossbreed cows in the experiment and the amount of fat in the structure of milk, %

Age of giving birth	Real milked milk, kg	Fat in milk, %	Real fat expenses, kg
III	3654±61	3,8±0,03	139,3±2,2

Fat degree of milk of cows in the experiment is 3,8 %. This shows that it is higher by 0,25 % comparing to the I class requirements of breed standard (3,6%). The reason is that fat in milk of animals which live in the hot climate condition is higher than others. It is a biological regulation.

Another indicator of milk is the amount of fat in milk. Average fat expenses in milk of cows in the experiment for each cow is 139,3 kg. This indicator is more by 13,3 kg than I class requirement of breed standard (126 kg). The more the fat in milk, the more fat expenses of milk. In conclusion, all of the crossbreed cows in the experiment have much higher indicators than breed standard accoring to milk productivity and its main indicators (fat expenses). The reason is that the breed adapted to hot climate condition during 10-12 years and kept the main selectional features.

Conslusion. If we conclude about milk productivity and its indicators of crossbreed cows in the experiment, information got form the experiment show that milk, fat in milk %, fat expenses, milky coefficient and other indicators are higher than breed standard. This means that the breed is adapted to the climate conditions.

Recommendation. Manifolding the number of crossbreed cows and creating zootechnical conditions give opportunity to keep their household and selectional features and increase economical effectiveness of the farm.

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