Fertility Characteristics of Cows Belonging to Different Selections

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Annatation. *This article provides information on the indicators of replenishment of the herd of Holstein cattle of various breeding works. The bodies of the German selection had a significant advantage over the cattle of the Polish and Belarusian selection in terms of the age of the first calving, live weight, duration of the service period and the fertilization index.*

Key words: *Cattle, cows, insemination age, insemination index, insemination, service period.*

Relevance of the topic. The demand of the population of our republic in livestock products requires further development of animal husbandry to meet growing needs. In this regard, an important task is to improve the breeds of each type of farm animals, zoned for breeding on the territory of our republic.

One of the important breeds zoned for breeding in our republic is the Holstein breed. This breed is widespread not only in our republic, but also on many continents of the world, and cows are distinguished by high milk and meat productivity, udder-fertility characteristics, the degree of feed coverage with milk and meat, rapid growth rates of young animals and the difference in a number of other important economically useful features.

The development of methods for creating a new herd of productive cows based on various breeding groups is of particular importance not only for improving the breed, but also for increasing their numbers and expanding their distribution area. Therefore, in recent years, scientific research aimed at improving the breed, productivity, fertility and other breeding traits of cattle in farms and large breeding enterprises of the breeding category has become relevant. Modern, innovative, intensive technologies occupy a special place in the further expansion of the scope of such research. Increasing the volume of milk production due to new innovative intensive technologies, which is of great practical importance and is considered relevant in filling the table of our people. On the basis of the Decree of the President of the Republic of Uzbekistan dated February 8, 2022 No. DP-121 “On measures to further develop animal husbandry and strengthen the fodder base of animal husbandry”, together with the State Committee for Veterinary Medicine and Livestock Development 2022-2023, the organization of the delivery of livestock and the processing and sale of agricultural products to farms of the population in a cooperative way by at least 1 enterprise for the production and processing of meat and dairy products in each district; in areas where there is a shortage of irrigated land for growing fodder, in order to fully satisfy consumer needs for meat and dairy products, the production and processing of meat and dairy products is being developed in a cooperative way[1].

Purpose of the study. It consists in studying the influence of environmental factors on the productivity and fertility of Holstein cows of various selections in the conditions of the Surkhan oasis and the analysis of other indicators.

[1] Decree of the President of the Republic of Uzbekistan No. DP-121 "On measures for the further development of animal husbandry and strengthening the fodder base of animal husbandry." February 8, 2022

Object and method of research. The object of the study is the livestock farm of the Navruz-breeding complex, owned by "Uzbekistan Temir Yollari" JSC, located in the Termez district of the Surkhandarya region. The study used analytical methods based on zootechnical documents.

Discussion of the obtained results. The origin of the cows of the experimental groups and their belonging to different selections were studied according to the primary documents, that is, according to the breeding documents of each cow (Milk - 2 forms).

We studied the fertility characteristics of Holstein cows from different breeding works and presented them in Table 1 below.

According to the table, the study of the age of the first calving of Holstein cows of different breeding groups in the experimental groups showed that the age of the first calving of cows of the Holstein breed of German selection (group I) was higher than that of Polish cows (group II) by 5.0 (P >0.99) and 2.9 (P>0.95) days shorter than that of the Belarusian selection, and it was noted that the body weight at the first calving was 10.0 (P>0.99) and 15.5 (P>0.999) kg is higher in group I bodies than in their peers of groups II and III. The calving period in group I heifers was shorter by 16 days compared to group II, and in group III there was no significant difference. Also, the age of the first calving was 20.9 (P> 0.999) and 16.9 days (P> 0.99) less in cows of group II than in their peers of groups I and III, respectively, and it was noted that their live weight was 26.7 (P>0.99) and 35.1 (P>0.999) kg higher in cows of group I than in cows of groups II and III.

12-month-old Holstein females imported from Germany were divided into 3 groups according to the type of pairs-analogues. The first group (15 heads) was based on a diet composed of feed available on the farm, the females of the second group (n=15) were given 30 g of the "Imnamak" preparation per head per day with concentrated feed for 30 days. In the group that received "Imnamak", the duration of the service period and the level of fertility of cattle improved[2].

Table 1. Fertility indicators of cows belonging to different breeding breeds

Indicators	Groups					
	I		II		III	
	X ± Sx	C_v, %	X ± Sx	C_v, %	X ± Sx	C_v, %
Age at first conception, days	552,2 ± 5,8	5,78	557,2 ± 4,7	2,67	555,1 ± 7,2	4,07
Live weight at first conception, kg	372,5 ± 1,7	1,45	362,5 ± 3,3	2,85	357,0 ± 2,4	2,11
Duration of pregnancy, days	283,3 ± 8,5	9,53	299,3 ± 11,6	9,53	284,4 + 8,2	9,15
Age at first birth, days	835,5 ± 11,4	4,31	856,4 ± 9,4	3,46	839,5 ± 3,7	1,40
Live weight at first birth, kg	465,0 ± 7,1	4,84	438,1 ± 6,5	4,69	429,9 ± 3,4	2,49
Service period duration, days	78,8 ± 1,3	5,28	81,1 ± 1,6	6,16	79,5 ± 1,5	5,85
Fertility rate from the 1st cycle, %	76	-	72	-	70	-
Fertilization index	1,38	-	1,53	-	1,41	-

It was noted that the duration of the service period of cows of group I was 2.3 (P> 0.99) and 0.7 days shorter than that of peers of groups II and III, respectively, these indicators are due to the fact that cows in all groups have good fertility characteristics.

There was no significant intergroup difference between the age of cows at the first calving, the duration of calving, the duration of the service period, the degree of calving from the first calving and the calving index of cows in all groups. This indicates that cows of all groups have similar performance in the same conditions of feeding and housing and are well adapted to the conditions of housing.

[2] Akhtamov M. T., Mamatov, H. A. and Chatparov Sh. T. (2022). indicators of feeding, live weight gain and milk production of Holstein cattle. Scientific Journal of Agrobiotechnology and Veterinary Medicine, 513-516.

Conclusion. Our studies have shown that the fertility rates of Holstein cows of various breeding works are at the level of the biological norm. This indicates the need for their effective use in the dairy herd.

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