

Formation of Phenotypic Characteristics of Imported "Holstein" Breed Cows with Similar Genotype In Adaptation to Climate

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Abstract: The method of selection of good genotypes from similarity genotypes of imported Holstein cattle typical of German and Slovenian breeding is accelerated in breeding. Selection-genetic indicators of cattle were studied according to breeding certificates of cattle. Genotype-environment interaction revealed the genetic potential of breeding and productivity of improving breeds.

Key words: Holstein, lactation, milk fat, lactation coefficient, body indices, service period, exterior, selection, breeding, breeding.

Experiments were carried out on Holstein cows imported from Germany and Slovenia at the breeding farm "Azizjon", Kibrai district, Tashkent region. The experimental cows were studied according to genotype parameters. The fertility and productivity indicators of their genotype were determined [5.6.7.].

Breeding and genetic indicators of cattle were studied according to breeding certificates of German and Slovenian Holstein cattle. The indicators of milk productivity and breeding qualities, as well as the quality of bull offspring, characteristic of their genotypes, were determined. Similar genotypic characteristics of Holstein cattle were observed [1.2.3.4.].

In the course of the experiments, selection-genetic and physiological methods accepted in zootechnics were used.

It is known that the manifestation of phenotypic qualities of productivity of cows with similar genotypes in new climatic conditions depends on their individual characteristics. Therefore, we studied the manifestation of milk productivity during the acclimatization of the experimental cows. Their phenotypic indicators were manifested in different degrees. Even though the genotypic parameters mentioned above are relatively similar, the heredity passed from the ancestors' generations to generations was not shown at a stable level. The influence of past factors in the priority of external environmental conditions had a negative impact on the manifestation of the heredity of animals. Genotype-environment interaction force revealed individual phenotypic indicators of animals.

Manifestation of milk productivity in the process of acclimatization of tested Holstein cows in the interaction of genotype and environment is presented in the following table.

Cows with high, medium and low phenotypic indicators are characteristic of different bull systems and similar genotypes, and the milk yield that formed them differed from each other at a high level of accuracy ($P > 0.999$).

Table 1
Formation of milk productivity of Holstein cows during acclimatization ($X \pm S_x$)

Indicators	Slovenian Holstein cows			German Holstein cows		
	Groups according to the formation of phenotypic indicators			Groups according to the formation of phenotypic indicators		
	I (high)	II (medium)	III (low)	I (high)	II (medium)	III (low)
Number of goods, n	13	14	14	13	12	12
Lactation	I	I	I	II	II	II

milking, кг	7563,4±96,9	6092,0±119,46	4832,3±80,98	7354,3±172,21	5587,5±125,83	3823,6±265,19
Fat content, %	3,96±0,09	3,88±0,05	3,81±0,06	4,09±0,06	4,08±0,05	4,07±0,07
Milk fat, kg	299,5±8,02	236,4±5,30	184,1±4,97	300,8±8,80	228,0±6,28	155,6±7,08
Live weight, kg	561,8	541,2	532,5	602,7	596,8	580,1
Dairy coefficient	1346,2	1125,6	907,5	1220,2	936,2	659,1

In particular, the milk yield of Slovenian Holstein cows in I-lactation of group I (highly expressed) cows was 1471.4 kg or 24.1% ($P>0.999$) higher than that of group II (moderately expressed), than that of group III (low expressed) is 2731.1 kg or 56.5% higher ($P>0.999$). Differences in milk fat were 116.2 and 63.1 percent, respectively ($P>0.999$). The difference of these parameters in German Holstein cows was 1766.8 kg or 31.6% and 3530.7 kg or 92.3% respectively ($P>0.999$). The live weight of cows in these groups was close to each other and produced different amounts of milk per 100 kg of live weight. In particular, 1347.7 kg, 1125.3 and 907.5 kg in groups of Slovenian Holstein cows, and 1220.8 kg, 936.2 and 659.1 kg respectively in German Holstein cows[8.9.].

It is observed that the coefficient of milk yield is higher in Slovenian Holstein cows compared to German Holstein cows.

By comparing the milk yield of the tested Holstein cows with the indices of their mothers and the indices of the maternal ancestors, we determined the degree of differentiation or the norm of the manifestation of the productivity of the ancestors in the indices of the offspring (Table 2).

Table-2
Holstein cows show milk yield relative to maternal and sire indices

Indicators	Slovenian Holstein cows			German Holstein cows		
	Groups according to the formation of phenotypic indicators			Groups according to the formation of phenotypic indicators		
	I (high)	II (medium)	III (low)	I (high)	II (medium)	III (low)
Exposure to maternal indicators, %						
Milking	79,3	71,5	50,0	82,7	71,5	43,7
Dairy milk	78,9	71,2	51,2	87,6	71,2	46,4
Manifestation relative to Ancestry Index, %						
Milking	74,5	63,9	47,1	75,1	63,9	40,3
Milk fat	74,5	62,8	47,3	79,2	60,1	39,9

As can be seen from the data in the table, cows imported to other climatic conditions gave less milk compared to their ancestors. It is observed more in all groups and especially in group III. Even when optimal storage and feeding conditions were created, imported offspring could not reach the level of performance of their maternal ancestors [1.2.11].

These are highlighted in the research results of a number of scientists. But some cows in the experiment had much higher milk fat than their mothers. In particular, the milk fat of Slovenian Holstein cows numbered 32353 and 93833 was 102 and 117 percent compared to that of their mothers. In German Holsteins, cows numbered 21346 and 37703 are 105 and 115 percent higher. They gave milk from 7200-8040 kilograms, milk fat equals 298-364 kilograms. The mothers of their mothers were high-milk (10054-13340 kg) and buttermilk (4.03-4.85%), and their fathers belonged to the high-level "improver" category[4.5.6.7.].

The genetic stability embodied in the positive genetic combination of ancestors showed its positive effect even under the influence of the external environment in cows that showed high productivity characteristics. This positive heredity effect may have been relatively weak in cows exhibiting relatively low productivity. Therefore, cattle with good genotypes should be selected from among good phenotypes in selection work [2.5.8.10.].

Productive herds were formed based on the selection of high-phenotype cattle from imported cattle.

According to the results of our experiments, Slovenian Holstein cows of group I achieved the productivity index of their mothers by 78.9-79.3%, while those of group II reached 71.2-71.5%. These indicators were 74.5 and 62.9 percent compared to the ancestral index. Indicators in group III equaled only 50.0-51.2 and 47.1-47.3 percent, respectively. The above cases are also observed in groups of German Holstein cows. Group I was dominant in their indicators compared to Slovenian Holsteins (82.7-87.6 and 78.9-79.3 and 75.1-79.2 and 74.5%, respectively), and equal indicators were shown in group II. has been The superiority of Slovenian Holsteins in III-groups is clear (50-51.2 and 43.7-46.4 and 47.1-47.3 and 39.9-40.3%, respectively)[4.7.8].

Taking into account the food consumption by groups, 0.94-0.98 food units per kg of milk production in group I, 1.08-1.09 in group II and 1.07-1.15 food units in group III spent. The feed unit spent on cows in group I was 7120 in Slovenian Holstein cows and 7190 in German Holsteins, 6669 and 6013 in group II, 5156 and 4382 in group III.

In the type of feeds consumed, concentrate feeds corresponded to 44.1 and 43.6% in groups I, 47.0 and 52.2% in groups II, and 61.0 and 71.1% in group III. Concentrates were the main part of the consumed feeds. Formulated feeding rations are aimed at feeding the cows as much as they want, and this activity has had a positive effect in identifying cows with a high phenotype.

Thus, the creation of optimal storage and feeding conditions for imported cattle, as well as the correct use of milking techniques, the selection of daily measures to protect against the negative effects of the weather, will make it possible to increase the productivity of cattle.

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