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SELECTION OF COWS BY DIFFERENT METHODS AND PURPOSES

By the conducted researches it was determined that at the enterprises producing milk it is advisable to divide the herd of dairy cows by their working purpose: breeding cows, the production group and the spoiled ones. It is necessary to use pure breeding and heterogeneous-group selection that will significantly increase the milk productivity of heifers.

***Key words**: homogeneous selection, heterogeneous selection, cows, bull-sires, use, breeding cows, production group, efficiency.*

Setting the problem. In the selection at the enterprises producing milk a special place is given to the division into breeding cows, the production group and the spoiled ones. Bull-sires were selected for all of them [1].

It is advisable to take into account that the sires with similar productive characteristics are selected for highly productive cows, while the low productive or spoiled cows of the Ukrainian black and white dairy breed are attached to the beef bulls in order to produce ancestors with high productive characteristics [2].

But the use of breeding cows in the herd is possible when applying different types of selection. That will allow determining the appropriate selection of pairs by homogenous-individual or group type, individual type or heterogeneous-group or individual one. They can be used in pure breeding or industrial crossing. At the same time, these methods are applied insufficiently in the production environment.

It is topical to study the use of different methods in cattle selection at milk producing commercial enterprises. That will allow using rationally genetic characteristics of Ukrainian black and white dairy cows [3].

According to the prospective development of Ukrainian black and white dairy breed it is necessary to stabilize it by economic and breeding characteristics, especially at the enterprises producing milk. Thus solving the problem of cows' proper use depends on the direction of improving the efficiency of cattle production (milk and beef) [4]. Therefore, the research when using different types of selection of bull-sires and cows by their purpose will enable to select efficiently for breeding cows, the production group and the spoiled ones.

The aim of research was to evaluate the use of homogeneous and heterogeneous-group selection to breeding cows and those of the production group.

Material and methods of researches. The researches were conducted on breeding cows at the Private Limited Company "Podillia" of the branch "Kryzhopil", the village of Dzhuhastra, Kryzhopil district by the materials of accounting. The breeding group included 80 cows with the average milk production of 5026 kg per lactation; 40 cows with the average milk yield of 4376 kg were selected to the production group.

According to the principle of groups-analogues and in order to study homogeneous-group selection 10 breeding cows in the third lactation and older with regard to medium yields of 5118 kg were selected. The experimental group (production group) included cows-analogues with milk yields of 4415 kg per lactation. Milk productivity of bull's mother was 5256 kg in the control and

4486 kg in the experimental group.

The studies by using heterogeneous-group selection were conducted on 20 cows, where the control group included 10 cows with milk yield of 5038 kg per lactation, and the experimental group – 4135 kg (10 cows).

The comparison of milk productivity of cows with that of their heifers when using homogeneous and heterogeneous selection in the breeding and the production groups was done.

The materials of researches were studied by using the methods of variation statistics with the probable level of $P<0.05$.

Results of researches. The milk productivity of bull's mother in breeding cows by using homogeneous-group selection was 5356 kg. It is close to the milk yields of 10 Ukrainian black and white dairy cows, which was 5118 kg of milk per lactation in the average (table 1).

Table 1

Different types of selection for breeding cows and production group *n=10, X±S$_x$*

Indicator	Cows' purpose	
	breeding cows	production group
Homogeneous-group selection		
Cow's milk yield per lactation, kg	5118±38,5	4415±28,6
Bull's mother milk yield per lactation, kg	5256	4486
Heifers' milk yield per lactation, kg	5215±37,7	4465±32,4
Milk fat of heifers, %	3,58±0,027	3,66±0,034
Milk fat of heifers, kg	186,7±4,11	163,4±3,23
Heterogeneous-group selection		
Cow's milk yield per lactation, kg	5038±56,3	4135±48,6
Bull's mother milk yield per lactation, kg	8535	6186
Heifers' milk yield per lactation, kg	6786±66,4	5160±50,3
Milk fat of heifers, %	3,87±0,036	3,72±0,059
Milk fat of heifers, kg	262,6±5,13	191,9±4,15

The resulting milk productivity of heifers in the third lactation has shown that they provide 5215 kg of milk in the average that is only by 1.89% more than in the lactation of cows. It proves that milk yields of cows were preserved in their heifers.

The production group of cows had milk yields of 4415 kg that is by 15.92% lower than the breeding cows. Therefore, the bull-sire with mother's milk productivity of 4486 kg was used in the homogeneous-group selection. The heifers from these cows and the bull provide milk yields of 4465 kg that is close to their mothers' productivity.

Thus, the cows' milk productivity was preserved and shown up in the heifers when using the homogeneous-group selection in breeding cows and those of the production group.

The use of heterogeneous-group selection by breeding cows and those of the production group and the bull-sire with mother's high milk productivity of 8535 kg for breeding cows and 6186 kg for the production group has significantly increased the yield of their heifers. So, from the breeding cows with milk yields of 5038 kg we obtained heifers, whose yields increased to 6786 kg or by 34.47% and in cows of the production group by 49.60% (5160 kg).

The comparative evaluation of milk yields in breeding heifers and those of the production group by using homogeneous-group selection compared with heterogeneous-group showed significant difference at $P<0.001$. This proves that using the heterogeneous-group selection is

effective at milk producing commercial enterprises.

Conclusion. At the enterprises producing milk it is advisable to divide the herd of dairy cows by their working purpose: breeding cows, the production group and the spoiled ones. It is necessary to use pure breeding and heterogeneous-group selection that will significantly increase the milk productivity of heifers.

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СЕЛЕКЦІЯ КОРІВ ЗА РІЗНИМ ПІДБОРОМ ТА ПРИЗНАЧЕННЯМ

Проведеними дослідженнями встановлено, що у підприємствах з виробництва молока доцільно розділяти молочне стадо за виробничим призначенням корів на племінне ядро, виробничу групу, брак та застосовувати до корів племінного ядра та виробничої групи чистопорідне розведення і гетерогенний груповий підбір, що дозволить суттєво підвищити молочну продуктивність у дочок.

Ключові слова: підбір гомогенний, гетерогенний, корови, бугаї плідники, використання, племінне ядро,виробнича група, ефективність

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СЕЛЕКЦИЯ КОРОВ ЗА РАЗНЫМ ПОДБОРОМ И НАЗНАЧЕНИЕМ

Проведенными исследованиями установлено, что на предприятиях из производства молока целесообразно разделять молочное стадо за производственным назначением коров на племенное ядро, производственную группу, брак и применять к коровам племенного ядра и производственной группы чистопородное разведение и гетерогенный групповой подбор, который позволит существенно повысить молочную продуктивность у дочок.

Ключевые слова: подбор гомогенный, гетерогенный, коровы, бугаї производители, племенное ядро, производственная группа, эффективность.

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