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In pedigree farm of Cherkasy region, in the modern highly mechanized technologies of milk production, research on studying influence of sires' heredity on the duration of use and lifetime productivity of their daughters was conducted. The research materials were withdrawn livestock of daughters of Ukrainian Black-and-White and Holstein sires in the amount of 784 head.

Duration of lactation, milk yield, content and yield of milk fat for the entire lactation were recorded for each lactation. The following indicators were studied: lifetime, duration of economic use, lifetime milk yield, lifetime milk fat yield, average lifetime fat content in milk, average milk yield per day, average milk yield for a day of economic use and the number of used lactations.

On assessing lifetime, the best were daughters of Ukrainian Black-and-White Dairy sires with indicators 3589 and 3303 days. A reliable difference in their favor in comparison with the average for the herd was 1351 and 1065 days ($P < 0.001$). Comparison of progeny of native sires and Holstein sires also showed significant predominance in lifetime of daughters in their favor, which ranged from 373 to 1841 days ($P < 0.001$), and duration of productive use – from 438 to 1815 days ($P < 0.001$).

Variability in the number of used lactations varied widely from 1.7 to 6.1 units. In the ranking on the ground of number of used lactations the first and second were sires of domestic breeding – Fajans (6.1 lact.) and Avans (5.2 lact.). Most daughters of Holstein sires were used less than the average for the herd.

Highly reliable negative correlation between milk yield during the first lactation and the use duration indicators, the lack of correlation between the first lactation yield and lifetime yield obtained in our studies on experimental livestock of 784 head, gives grounds to assert that high milk yield during the first lactation leads to reduction in duration of use and does not always guarantee high figures of lifetime productivity.

Milk yield for a day of economic use has a high positive correlation with yield in the first lactation ($r = 0.438$), lifetime milk yield ($r = 0.325$), lifetime milk fat yield ($r = 0.283$) and, especially, yield for a day of life ($r = 0.701$). With traits of lifetime, economic use duration and CEU, milk yield per day of life has slight negative correlation.

Thus, according to figures of use duration and lifetime productivity for progeny of estimated sires of different origin, it is possible to make the generalization that improvement of Ukrainian dairy breeds should be based on the best genetic resources of sires of domestic breeding. When you use foreign breeding sires it is advisable to combine their breeding qualities with assessment of longevity.

According to the research should make the following conclusions. The duration of use and lifetime productivity of Ukrainian Black-and-White Dairy cows in the breeding herd are determined by of sires' individual heredity. High level of milk yield during the first lactation in estimated sires' progeny does not guarantee an increase in traits of economic use and lifetime productivity. Progeny of domestic breeding bulls was better by traits of productive longevity than purebred progeny of Holstein sires.

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